

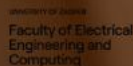
ART-INSPIRED TEACHING HANDBOOK

A methodological guide for teachers



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1. INTRODUCTION

The “ART-INSPIRED TEACHING HANDBOOK. A methodological guide for teachers” is a tool that complements and develops a Science, Technology, Engineering, Arts, and Mathematics (STEAM)-based curriculum in the field of culture and heritage. It is developed within the CULT – Culture & Technology project support teachers in guiding students in the design of digital and gamified solutions for cultural heritage.

Its methodological approach is based on the combined use of art-based coaching, game-based learning and work-based learning (WBL). These approaches are not presented as separate techniques, but as complementary ways of guiding learning processes that require reflection, experimentation and applied problem-solving. Coaching provides a framework for the learning process, while tools such as As-Is/To-Be provide a framework for the final project’s development. Within this framework, artistic practices serve as a bridge between the cultural and humanistic and the technological, and are used to stimulate awareness, critical thinking and creative exploration from a STEAM perspective. This approach is based on Kolb’s experiential learning model, which reconfigures the teacher-student relationship and is defined as non-directive guidance that positions the student as an active agent in their own development. Game-based approaches encourage participation and iterative design. Gamification is justified as a mechanism to foster participatory learning. The pedagogical challenge lies in balancing historical accuracy with interaction mechanics, allowing complex narratives to be translated into interactive experiences that facilitate the audience’s emotional and critical engagement. Finally, WBL and organisational analysis link classroom learning to real organisational and cultural contexts, paying particular attention to As-Is/To-Be analysis as a structured tool for diagnosing contexts and identifying opportunities for improvement. Together, these elements provide a pedagogical foundation for fostering creativity, whilst maintaining a clear focus on the implementation and transferability of acquired technological knowledge to real-world cultural settings.

The handbook is addressed primarily to teachers, trainers and facilitators involved in the education of students with cultural, creative or interdisciplinary backgrounds. It can be a particularly relevant manual in contexts where students do not necessarily come from STEM-oriented backgrounds and therefore benefit from structured yet flexible support when tackling digital innovation, cultural analysis and solution design. In this context, the handbook also contributes to the empowerment of women in ICT by emphasising inclusive pedagogies, creative confidence and the activation of women’s participation in technology-mediated cultural innovation processes.

The manual is designed to be used both as a planning resource and as a practical guide during facilitation, project development and evaluation. In practice, the manual should be used as a step-by-step reference throughout the entire learning journey, supporting teachers in structuring activities, guiding reflection and accompanying students in the development of their projects. This methodological design ensures that theory is transcended, preparing the teacher to orchestrate a learning environment that culminates in a tangible professional intervention.

The manual is structured into five sections. Following the introduction, Section 2 provides the conceptual and methodological foundations, including coaching as a pedagogical framework, art-based coaching, the role of the facilitator, the phases of the artistic coaching journey, and a variety of techniques and tools. This section establishes the pedagogical framework that should guide the foundational training and defines the role of the ‘teacher-coach’ as a process facilitator. Section 3 connects these foundations with the training modules presented in the STEAM curriculum and demonstrates how art-based activities can support learning throughout the programme. Section 4 introduces work-based learning (WBL) as a diagnostic tool. Teachers will instruct students in the use of ‘As-Is / To-Be’

analysis to evaluate real cultural organisations, identifying gaps between the current situation and the potential for digital and green innovation. Section 5 guides the development of the final project including its phases, quality standards, mandatory deliverables and up to eight case studies providing examples of implementation that can guide and inspire both teachers and students. The final project constitutes a comprehensive and practical professional simulation integrating all the skills acquired to design a functional prototype that is technically, culturally and ethically sound.

This handbook has been produced as part of the CULT – Culture & Technology project (2024-1-IT02-KA220-HED-000249904), co-funded by the European Commission's Erasmus+ Programme and implemented by a consortium of eight partners: Università di Camerino and CONFORM S.c.a.r.l., Culturalink, Econcult (University of Valencia), the University of Tirana, SciDEV, the University of Zagreb and the Université Côte d'Azur. The project presents a training programme focused on the field of culture and heritage from a STEAM perspective, enabling the creation of more inclusive, personalised and sensorially enriched experiences.

The project aims to present a STEAM curriculum targeted at women with a humanities background, complementing their prior knowledge with technological competences and enabling them to develop digital and gamified solutions for the communication and promotion of tangible and intangible cultural heritage. The curriculum consists of six technical training modules organised around four types of competencies: analytical competence (Modules 1 and 2), technical competence (Modules 3, 4 and 5), creative competence as a cross-cutting dimension, and ethical competence (Module 6), ensuring inclusion and gender equality in design processes. In addition, the curriculum incorporates eight microlearning modules and one gamified scenario to support the development of students' digital skills in cultural context. The handbook is designed to facilitate the planning, delivery and assessment of the learning pathways contained within the modules, the microlearning modules and the gamified scenario.

Within the ecosystem of the cultural and creative industries, digitalisation should not be understood as a mere change of medium, but as a structural redefinition of the processes through which culture is created, interpreted and legitimised. In this context, the handbook proposes that the arts act as a mediator for integrating the social dimension, contributing to a 'Triple Transition': digital, green and social. Cultural innovation achieves sustainability when technological efficiency is balanced with environmental responsibility and social justice, transforming culture into a dynamic system of meanings and participation. The educational impact of the handbook aims to reinforce the pedagogical use of arts-based methods, support the digital valorisation of cultural heritage, conscious technological mediation and promote inclusive forms of innovation aligned with the objectives of social, digital and ecological transition, protecting cultural authenticity against purely technocratic approaches.

The ultimate vision of this handbook is reflected in two key dimensions. For the teacher it supports their development as reflective facilitator adopting non-directive approach and fostering educational environments that enable deep and meaningful learning. For students, it contributes to the development of a responsible professional identity, capable of designing solutions that respect cultural authenticity and promote inclusion. By addressing gender gaps as the result of systemic biases rather than individual deficits, the handbook supports the development of students' interpretative agency, ensuring that cultural innovation remains human-centred, ethical and sustainable over time.

2. FOUNDATION

2.1. The Coaching Process as a Pedagogical Framework

Within contemporary debates on educational innovation, **coaching has emerged as a relevant pedagogical approach for supporting complex learning processes**, particularly those aimed at the development of transversal competences, creativity, and learner autonomy. Its integration into educational contexts responds to the need to move beyond teaching models focused exclusively on content transmission, advancing towards approaches that conceive learning as an active, reflective, and situated process.

From a pedagogical standpoint, educational coaching should not be understood as an isolated technique or an ancillary motivational tool, but rather **as a comprehensive pedagogical framework that structures the educational relationship and informs the design of learning experiences**. This framework aligns with the principles of constructivism, experiential learning, and person-centred pedagogies, insofar as it positions the learner as an active agent in the construction of knowledge and in their own personal and professional development.

The coaching process is grounded in the assumption that learning involves **becoming aware of one's own experience, engaging in critical reflection upon it, and mobilising personal resources for purposeful action**. These dimensions are particularly salient in educational contexts characterised by uncertainty, exploration, and openness, such as **those associated with creativity, artistic practices, and the design of innovative solutions**. In such settings, learning does not follow linear trajectories or fully predetermined outcomes; rather, it emerges from the dynamic interplay between experience, reflection, and experimentation.

Adopting coaching as a pedagogical framework also entails a reconfiguration of the teaching role. Educators move beyond the exclusive position of knowledge transmitters **to assume a role focused on accompanying the learning process, deliberately creating conditions that foster reflection, dialogue, and learner autonomy**. This shift supports educational processes oriented towards the holistic development of learners, **integrating cognitive, emotional, and metacognitive dimensions** that are essential for addressing contemporary challenges in education **and cultural innovation**.

2.1.1. Overview of Coaching in Education

Educational coaching may be defined as a structured process of pedagogical accompaniment designed to facilitate learning, foster personal development, and support the attainment of meaningful goals within educational contexts. In contrast to directive or predominantly instructional approaches, coaching is grounded in a non-hierarchical, dialogical relationship in which learners assume an active and accountable role in defining, monitoring, and regulating their own learning processes.

A widely cited and influential definition characterises coaching as “unlocking a person’s potential to maximise their own performance, helping them to learn rather than teaching them” (Whitmore, 2017). This formulation is particularly relevant to education insofar as it reorients pedagogical action away from the transmission of predetermined answers and towards the systematic development of learners’ potential—an assumption that resonates with learner-centred pedagogies and competency-based approaches.

From a theoretical standpoint, educational coaching draws on consolidated contributions from both psychology and educational theory. Humanistic psychology, as articulated by Rogers (1961), highlights the pedagogical value of an educational relationship grounded in empathy, unconditional positive regard, and authenticity—conditions that enable meaningful learning to occur. Complementarily, Kolb’s (1984) experiential learning model provides a robust

conceptual lens through which coaching can be understood as an iterative cycle that integrates concrete experience, reflective observation, abstract conceptualisation, and active experimentation, thereby linking experience and action through structured reflection.

Empirical research further indicates that coaching implemented in educational settings is associated with the development of key learning-related variables, including motivation, self-regulation, self-efficacy, and academic engagement, among both learners and educators (Grant, 2014; van Nieuwerburgh, 2012). Such findings have contributed to the progressive incorporation of coaching practices in higher education and in training programmes aimed at strengthening transversal competences, leadership capacities, and creativity.

From a rigorous conceptual perspective, educational coaching should be clearly distinguished from adjacent practices such as tutoring, mentoring, and consultancy (see Table 1). Coaching does not entail the provision of solutions or expert advice; rather, it is characterised by a non-directive stance, the centrality of the learner in decision-making, and the systematic use of reflective dialogue as a catalyst for learning and action. This differentiation is essential to safeguarding the pedagogical coherence of coaching and to preventing reductive or instrumental uses of the concept.

Table 1. Comparison of tutoring, mentoring, consulting and coaching

	Tutoring	Mentoring	Consulting	Coaching (Educational)
 Main aim	Support academic learning	Support development through experience	Provide expert solutions	Facilitate learning and awareness
 Relationship	Hierarchical	Asymmetrical	Hierarchical	Non-hierarchical
 Role of educator	Instructor / guide	Role model / advisor	Expert / problem-solver	Facilitator of reflection
 Solutions	Provided by tutor	Suggested by mentor	Proposed by consultant	Generated by the learner
 Level of directivity	High	Medium	High	Low (non-directive)
 Learner's role	Follows guidance	Learns from advice	Implements recommendations	Takes responsibility for learning

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In creative and arts-based educational contexts, coaching is particularly well suited to supporting processes of exploration, symbolic expression, and meaning-making, in which learning emerges through experience and personal interpretation. Consequently, educational coaching can be conceptualised as a robust pedagogical framework for designing learning experiences oriented towards creativity, innovation, and the holistic development of learners.

2.1.2. Core Coaching Competencies

The adoption of coaching as a pedagogical framework within creative educational contexts requires the precise identification of the core competences that underpin its practice. These competences should not be conceived as a collection of discrete techniques, but rather as integrated relational, cognitive, and ethical capacities that give structure and coherence to the process of accompanying learning.

The specialised literature on educational coaching consistently emphasises that these competences are oriented towards fostering awareness, autonomous learning, and the development of learners' potential, in alignment with person-centred pedagogical approaches and experiential learning models (Whitmore, 2017; van Nieuwerburgh, 2012). In art-inspired creative workshops, these competences acquire particular relevance, as such learning environments are inherently open-ended, non-linear, and characterised by exploration and ambiguity.

1. A foundational competence within educational coaching is the ability to establish a pedagogical relationship grounded in **trust and psychological safety**. This relational foundation enables learners to engage in creative risk-taking, experiment with emergent ideas, and articulate personal interpretations without fear of judgement. Research in educational coaching highlights that the quality of this relationship plays a decisive role in promoting meaningful learning and supporting the development of learner autonomy (Bécart & Ramírez Garrido, 2016).
2. **Active and deep listening** constitutes another core coaching competence. This capacity involves attending not only to the explicit content of learners' discourse, but also to implicit meanings, emotions, metaphors, and narrative patterns that emerge through experience. In creative and arts-based learning contexts, active listening is particularly important for recognising symbolic processes that are integral to creative thinking and to the construction of meaning (Valcárcel Marsà, 2014).
3. Educational coaching also relies centrally on the formulation of **open, reflective, and generative questions**. Such questions do not fulfil evaluative or directive functions; instead, they are designed to broaden learners' perspectives, encourage critical reflection, and stimulate divergent thinking. The literature identifies this form of questioning as a key mechanism for supporting experiential learning and the self-regulation of learning processes (Kolb, 1984; Whitmore, 2017).
4. Another essential competence concerns the **facilitation of goal clarification and action planning**, consistently respecting learner autonomy. In educational contexts, this competence involves supporting learners in articulating meaningful learning goals and in identifying coherent strategies for action, while assuming responsibility for their own learning trajectories. Empirical evidence suggests that this orientation contributes to the development of motivation and self-efficacy (Grant, 2014).
5. Finally, **the ethical management of the coaching process** is indispensable. This includes respect for the boundaries of the teacher-coach role, the safeguarding of confidentiality, and coherence between pedagogical principles and educational practice. Ethical practice in educational coaching ensures that the process remains centred on learners' learning and development, thereby preventing instrumental or prescriptive uses of pedagogical accompaniment (ASESCO, 2018).

2.1.3. Integrating Coaching into Creative Workshop Facilitation

The integration of coaching into the facilitation of creative workshops entails a methodological approach focused on accompanying the learning process, rather than on the transmission of fixed or predefined content. Within the scope of this manual, coaching is conceptualised as a pedagogical facilitation framework that informs the design, implementation, and evaluation of art-inspired workshops aimed at developing learners' creative potential.

Creative workshops grounded in artistic practices constitute learning environments that are particularly conducive to the application of coaching, as they are characterised by exploration, experimentation, and the construction of meaning. In such contexts, the role of the educator is redefined as that of a teacher–coach, whose primary responsibility is to create conditions that foster reflection, dialogue, and learner autonomy, without directing or predetermining the outcomes of the creative process.

The literature on educational coaching within arts education highlights that coaching enables the articulation of artistic experience with processes of conscious reflection, thereby supporting learning that emerges from experience itself rather than exclusively from the final artefact (Valcárcel Marsà, 2012). This articulation is particularly relevant in workshops oriented towards the design of game-based solutions for communicating tangible and intangible cultural assets, where the creative process is as pedagogically significant as the resulting product.

From a methodological standpoint, the facilitation of creative workshops through coaching is organised around iterative cycles of experience and reflection, consistent with experiential learning models. The teacher–coach designs learning situations that invite artistic experimentation, facilitates spaces for reflective dialogue, and accompanies learners in identifying emergent learning outcomes and potential areas for improvement, while deliberately refraining from imposing external interpretations or evaluative judgements (Kolb, 1984).

Within the framework of Work-Based Learning (WBL), coaching fulfils an additional function as a tool for the analysis of real-world contexts. Through structured questioning and guided reflective dynamics, the teacher–coach supports learners in examining cultural organisations “as they are” and in envisioning scenarios “as they could be”, thereby enabling the identification of areas for improvement related to the twin transition, encompassing both digital and sustainable dimensions. This approach contributes to the development of analytical, creative, and strategic competences that are essential for cultural innovation.

2.2. The Art-Based Coaching

2.2.1. Definition of Art-Based Coaching

Art-based coaching is conceptualized as an approach within educational coaching and professional development that integrates artistic practices and aesthetic resources as mediators of the reflective process, with the aim of fostering awareness, meaning-making, and a deliberate orientation toward action. This conceptualization is grounded in contemporary approaches to learning that understand it as an experiential process (Kolb, 1984), situated and deeply connected to lived experience, in which reflection extends beyond verbal language and exclusively propositional thinking (Barsalou, 2008; Arnheim, 1969).

From this perspective, the use of artistic resources in coaching responds to the need to incorporate alternative modes of representing and understanding experience, capable of accessing perceptual, emotional, and symbolic dimensions that are not always readily verbalizable. Research on visual thinking and embodied cognition has shown that perception, action, and imagination constitute legitimate forms of reasoning and knowledge generation, particularly relevant in contexts of complex learning and personal or professional change (Arnheim, 1969; Barsalou, 2008).

From a theoretical standpoint, art-based coaching can be defined as a non-directive accompaniment process that uses artistic creation—visual, narrative, metaphorical, or embodied—as an epistemological device to externalize subjective experience, explore tacit dimensions of knowledge, and facilitate processes of re-signification. In line with the principles of humanistic and educational coaching, this approach positions the coachee as an active agent in their own learning and development process, promoting autonomous reflection and responsibility for action (Rogers, 1961; Whitmore, 2017).

In this context, art is not conceived as content nor as an educational end, but rather as a means of reflective inquiry integrated into the architecture of the coaching process. This mediating function of art has been widely documented in the field of arts-based research, where its capacity to generate knowledge, facilitate understanding of experience, and produce new forms of meaning is well established (Barone & Eisner, 2012; Leavy, 2015).

A central foundation of this approach lies in experiential learning theory, which conceives learning as a cyclical process that articulates concrete experience, reflection, conceptualization, and active experimentation (Kolb, 1984). Artistic practices enhance this cycle by offering tangible and symbolic forms of representing experience, enabling its observation, analysis, and reinterpretation from multiple perspectives.

Likewise, art-based coaching draws on the notion of visual thinking, according to which images and perception are not merely illustrative supports for thought, but forms of reasoning with the capacity to structure and transform experience (Arnheim, 1969). The artistic products generated during the coaching process thus function as symbolic objects that make visible patterns, tensions, and possibilities for change, facilitating deeper and more situated reflection.

Work with metaphors and narratives constitutes another key theoretical axis. Conceptual metaphor theory holds that individuals understand and organize their experience through metaphorical systems that shape their ways of thinking and acting (Lakoff & Johnson, 2003). From this perspective, narrative approaches to coaching emphasize the importance of revisiting and reconstructing personal and professional stories as pathways to learning and development (Drake, 2007; Stelter, 2014). Artistic practices intensify this process by providing symbolic supports that facilitate the emergence, exploration, and reconfiguration of these narratives.

From an empirical perspective, various studies have shown that art-based coaching fosters high levels of reflection by promoting emotional exploration, tolerance of ambiguity, and the generation of insight through symbolic creation (Ramos-Volz, 2018; van Collier-Peter & Olinger, 2022). Specific tools, such as collage, have been analysed as effective resources for representing complex processes and supporting the clarification of goals, decisions, and professional transitions (Watts, 2023).

2.2.2. Origins and International Approaches

Art-based coaching should be understood as the outcome of a progressive convergence of theoretical and practical traditions developed across diverse international contexts, rather than as the emergence of an autonomous or self-contained methodology. Its configuration is grounded in conceptions of learning and human development that share a non-directive, experiential, and situated understanding of knowledge, in which reflection is constructed through the interpretation of lived experience. This orientation draws on experiential learning theory, arts-based research, and narrative approaches to change, which collectively provide a coherent epistemological foundation for this field (Kolb, 1984; Barone & Eisner, 2012; Leavy, 2015).

One of the primary antecedents of art-based coaching lies in the evolution of coaching as an educational and professional practice, particularly within Anglo-Saxon and European contexts. From its earliest formulations, coaching has been conceptualized as an accompaniment process aimed at facilitating learning, awareness, and self-directed action, shifting the focus away from the transmission of content toward the individual's responsibility for their own development process (Rogers, 1961; Whitmore, 2017). This conceptual framing is especially pertinent in creative and educational settings characterized by exploration, uncertainty, and the absence of predefined solutions.

A second foundational axis can be identified in the international consolidation of arts-based methodologies, which recognize art as a legitimate mode of inquiry and knowledge production. Within this perspective, artistic practices function as research processes capable of integrating experience, reflection, and understanding in a non-reductive manner. The contributions of Barone and Eisner (2012) and Leavy (2015) have been particularly influential in establishing the epistemological legitimacy of art within educational and formative contexts, thereby providing a robust theoretical basis for its incorporation as a reflective mediator in learning and development processes.

In parallel, narrative, metaphorical, and visual approaches to learning and change have played a decisive role in shaping the international development of this field. Conceptual metaphor theory demonstrates that individuals structure their understanding of the world and orient their actions through metaphorical systems that are deeply embedded in cognitive processes (Lakoff & Johnson, 2003). Likewise, narrative approaches to coaching emphasize the role of personal and professional stories in the construction of identity and meaning, highlighting their transformative potential when subjected to critical and reflexive examination (Drake, 2007; Stelter, 2014).

Within this broader framework, the contributions of visual thinking and embodied cognition have been especially significant. Arnheim (1969) argues that visual perception constitutes a form of thinking with structuring and generative capacity, while Barsalou (2008) demonstrates that cognitive processes are intrinsically linked to perception, action, and bodily experience. Together, these perspectives reinforce the legitimacy of incorporating images, movement, and symbolic creation as central resources for reflection and learning in educational, organizational, and professional contexts.

The explicit articulation of these traditions begins to take shape in proposals that integrate artistic practices into coaching processes oriented toward personal and professional development. Ramos-Volz (2018) offers one of the earliest systematic formulations of a model that employs symbolic creation as a means of exploring processes of change and transition. Subsequent studies, such as that of van Coller-Peter and Olinger (2022), contribute empirical evidence regarding the conditions and factors that intensify reflective processes when artistic practices are incorporated into accompaniment-based interventions.

From an international perspective, these approaches have been developed primarily within contexts related to higher education, organizational development, leadership, and creative training, with particularly strong contributions from Anglo-Saxon and European traditions and a gradual expansion into other cultural settings. Rather than constituting a unified or homogeneous school of thought, art-based coaching is best understood as an emerging and context-sensitive field, characterized by the coherent integration of well-established theoretical frameworks.

In conclusion, the international origins and approaches of art-based coaching can be understood as the result of a convergence of traditions that share a conception of learning as a reflective, situated, and symbolically mediated experience. This genealogical perspective allows art-based coaching to be positioned as a coherent evolution—rather than an ad hoc innovation—of contributions that have been extensively validated within the fields of coaching, education, and arts-based methodologies.

2.2.3. Theoretical Principles: embodied learning, visual thinking, metaphors, storytelling

Art-based coaching is grounded in a set of theoretical principles that extend traditional understandings of learning and change by recognizing that meaning-making is not confined to verbal and propositional reasoning. From this perspective, the body, perception, imagery, symbolism, and narrative play a constitutive role in reflective processes. This orientation is supported by experiential learning theory (Kolb, 1984), developments in embodied cognition (Barsalou, 2008), and arts-based research, which legitimizes aesthetic languages as modes of knowledge production (Barone & Eisner, 2012; Leavy, 2015).

Embodied learning and situated cognition

Embodied learning is based on the premise that cognitive processes are intrinsically linked to bodily, perceptual, and affective experience. Grounded cognition theory posits that understanding and reasoning involve the activation of sensory and motor simulations anchored in lived experience, rather than the exclusive manipulation of abstract representations (Barsalou, 2008). This framework provides a robust theoretical foundation for methodologies that integrate materials, action, and perception as supports for reflection, as it enables access to tacit dimensions of knowledge that are difficult to articulate through analytical language alone.

Visual thinking

Visual thinking constitutes a mode of reasoning that organizes experience through perceptual configurations and spatial relationships. Arnheim (1969) demonstrated that visual perception is a form of thinking with the capacity to abstract and structure meaning, thereby challenging the traditional subordination of image to language. From this standpoint, visual productions function as cognitive artefacts that externalize experience and facilitate reflective analysis by rendering visible patterns, tensions, and implicit hierarchies embedded in complex situations.

Metaphor and the conceptual structure of meaning

Conceptual metaphor theory holds that human thought is organized through metaphorical systems that structure the understanding of experience and orient action. Lakoff and Johnson (2003) showed that metaphors are not ancillary rhetorical devices, but fundamental cognitive mechanisms that shape the interpretive frameworks through which problems and possibilities are defined. Reflective work with metaphors enables the identification and reorganization of these frameworks, a process that is intensified when metaphors are materialized in visual or symbolic forms that can be examined and transformed.

Storytelling and meaning construction

Narrative constitutes a central mode through which experience is organized and identity is constructed. Bruner (1990) argued that narrative thinking provides coherence and continuity to experience, complementing logical–paradigmatic reasoning. Within the field of coaching, narrative approaches have demonstrated that processes of change involve the revision and reconfiguration of the personal and professional stories that structure individuals' perceptions of themselves and their environments (Drake, 2007). The narrative–collaborative perspective developed by Stelter (2014) emphasizes the dialogical nature of meaning construction, positioning storytelling as a space for reflective exploration oriented toward action.

Articulation of principles

Taken together, these principles provide a coherent theoretical foundation for understanding the value of art-based coaching. Embodied learning grounds work with bodily and sensory experience; visual thinking legitimizes the externalization and reorganization of complex relationships; metaphor explains the conceptual structure of meaning and its transformative potential; and narrative accounts for the processes through which identity and orientation toward action are constructed. This articulation makes it possible to position artistic practices as conceptually grounded mediators for deepening reflection and accompanying processes of learning and change in educational and professional contexts.

Embodied learning, visual thinking, conceptual metaphor, and narrative together constitute an integrated theoretical framework that explains the function of artistic practices as mediators of reflection and meaning-making. From embodied and visual cognition (Arnheim, 1969; Barsalou, 2008), through the metaphorical structuring of thought (Lakoff & Johnson, 2003), to the narrative organization of experience and identity (Bruner, 1990; Drake, 2007; Stelter, 2014), these principles underpin art-based coaching as an experiential and symbolically mediated approach, consistent with a conception of learning oriented toward reflection and action (Kolb, 1984).

2.3. Use of Arts in Smart Culture

The concept of smart culture is situated at the intersection of cultural knowledge management, processes of symbolic mediation, and the technological capacities that reshape the production, circulation, and experience of culture in contemporary digital and urban environments. Although the term has not yet reached a single, stabilized definition within the academic literature, a growing body of research converges in framing it as an emerging paradigm that accounts for the reconfiguration of cultural ecosystems through dynamics of interaction, participation, and the co-production of meaning mediated by digital technologies (Romero López, 2018).

Within digital cultural studies and transdisciplinary approaches to culture and technology, smart culture is associated with a departure from linear models of cultural transmission toward open, networked systems in which artistic, technological, and social forms of knowledge intersect. In this sense, Romero López (2018) argues that digital transformation involves not merely a change of medium, but a structural redefinition of the processes through which culture is created, interpreted, and legitimized. This shift enables transdisciplinary frameworks that integrate artistic practice, technological innovation, and critical reflection as interconnected dimensions of cultural production.

Complementary perspectives on digital transformation emphasize that cultural intelligence does not reside primarily in technological infrastructure, but in the capacity of cultural systems to generate reflective, adaptive, and collaborative processes. Such processes activate cultural heritage—both tangible and intangible—as a dynamic resource for knowledge production, identity formation, and social cohesion within complex urban contexts (García

Canclini, 2014; Romero López, 2018). From this viewpoint, smart culture foregrounds the relational and processual dimensions of culture as key drivers of urban resilience and sustainability.

In the context of smart cities, smart culture is increasingly recognized as a core component of sustainable urban development, contributing to quality of life, civic engagement, and social innovation. Culture is thus no longer conceived as a discrete policy sector, but as an integral dimension of urban strategies that articulate technology, creativity, and citizenship. These strategies acknowledge cultural practices as catalysts for participatory processes, collective learning, and socially grounded innovation (Angelidou et al., 2017).

Against this background, the arts emerge as a structural pillar of smart culture, insofar as they provide epistemological and methodological resources capable of addressing cultural complexity through experiential, symbolic, and critical modes of inquiry. Artistic practices enable the exploration and representation of complex cultural realities through non-exclusively discursive forms, thereby supporting processes of reflection and meaning-making that are central to digital and urban transformation (Barone & Eisner, 2012; Leavy, 2015).

From the standpoint of experiential learning, knowledge is constructed through active engagement with experience, integrating action, reflection, and conceptualization within iterative learning cycles (Kolb, 1984). Artistic practices intensify these processes by generating sensorial and symbolic experiences that externalize meaning, reveal implicit relationships, and allow cultural systems to be reinterpreted from multiple perspectives. Such approaches are particularly relevant within smart culture frameworks, where cultural innovation depends on open, exploratory, and action-oriented modes of learning.

Furthermore, insights from visual thinking and embodied cognition reinforce the legitimacy of the arts as cognitive mediators in complex cultural ecosystems. Visual perception constitutes a form of thinking with structuring and generative capacity, while cognition is understood as fundamentally grounded in embodied and situated experience (Arnheim, 1969; Barsalou, 2008). These theoretical foundations support the use of artistic practices to analyse, design, and transform smart cultural ecosystems in a manner consistent with human-centred and sustainability-oriented approaches.

Smart culture may therefore be operationally defined as an approach that conceptualizes culture as a dynamic system of knowledge and meaning production, activated through interconnected technological, social, and symbolic processes. Within this framework, the arts play a central role as epistemological and methodological mediators, contributing to cultural innovation through reflective, participatory practices aligned with the objectives of sustainable urban development.

2.3.1. Arts and Creativity for Cultural Innovation

Cultural innovation, within the framework of smart culture, is grounded in the capacity of the arts and creative processes to generate new modes of cultural production, mediation, and appropriation. From this perspective, innovation is not confined to the introduction of technologies, but entails the transformation of meanings, practices, and cultural relationships, particularly within interconnected digital and urban contexts (Canclini, 2007).

In the European context, cultural policies have consistently emphasized that cultural and creative sectors contribute to innovation and employment insofar as they integrate artistic creativity, cross-sectoral cooperation, and the strategic adoption of digital environments. The European Commission has stressed that the innovative capacity of the cultural

sector lies in its potential to generate new formats, experiences, and models of cultural, social, and economic value that extend beyond a narrowly technological rationale (European Commission, 2010, 2012).

From this standpoint, artistic creativity should not be understood solely as symbolic expression, but as a mechanism for cultural exploration and design. The arts enable experimentation with narratives, dispositifs, and formats that reorganize the relationships between creation, audiences, and cultural value within connected cultural ecosystems. The AC/E Digital Culture Yearbook 2016 documents how artistic practices in digital contexts foster cultural innovation by transforming modes of creation, circulation, and cultural experience, while simultaneously promoting processes of experimentation and learning across the cultural ecosystem (Acción Cultural Española, 2016).

This potential is further intensified in urban environments when culture is conceived as a structural dimension of the smart city. Within this framework, the arts contribute methodologies that activate participation, civic imagination, and the construction of shared identities, thereby orienting cultural innovation toward outcomes that generate public value (Allam & Newman, 2018). From an operational perspective, the approaches of smart cultural governance and smart culture management proposed by Milkintas (2020a, 2020b) establish a coherent link between artistic creativity and cultural management models adapted to smart environments, while preserving cultural specificity in contrast to purely technocratic approaches.

More specifically, cultural innovation related to heritage is articulated through new forms of public interpretation and cultural mediation that integrate digital technologies with creative processes. Research on heritage within smart city frameworks indicates that interactive experiences, digital narratives, and advanced mediation dispositifs enable a reconfiguration of the relationship between past, space, and citizenship, consolidating a field of situated cultural innovation at the intersection of the arts, technology, and the urban context (Angelidou et al., 2017; Batchelor et al., 2021).

Taken together, the arts and creativity constitute a central component of cultural innovation in smart culture contexts, as they provide languages, methodologies, and dispositifs that make possible forms of cultural transformation oriented toward participation, sustainability, and the generation of public value.

2.3.2. How to Stimulate Ideation of Digital Solutions

Within cultural innovation, ideation is understood as a phase of the design process oriented toward generating, exploring, and developing alternatives in response to a clearly defined challenge. The literature characterizes ideation as a divergent–convergent movement: initially, the space of possibilities is deliberately expanded; subsequently, options are selected and refined through explicit criteria (Dorst, 2011; Kimbell, 2011). Accordingly, ideation does not amount to the spontaneous production of ideas, but constitutes a structured practice that integrates creativity, analysis, and informed decision-making.

Digital solutions, in turn, can be conceptualized as sociotechnical configurations that combine digital technologies with organizational, cultural, and use-related practices in order to generate value. From the perspective of digital innovation studies, their defining characteristics lie in reprogrammability and in the articulation of multiple layers—such as devices, networks, services, and content—whose functionality and meaning emerge through interaction with users and contexts (Yoo et al., 2010). Within the cultural sector, such solutions operate as mediation devices supporting interpretation, experience, and participation; consequently, their quality depends not only on technical performance, but also on symbolic coherence and contextual appropriateness.

A robust point of departure for ideation is human-centred design, which requires grounding the design process in users' needs, expectations, and contexts of use, and integrating this understanding into iterative cycles of design and evaluation (International Organization for Standardization [ISO], 2019). Applied to cultural contexts, this approach entails framing challenges in terms of cultural experience—such as comprehension, participation, accessibility, and inclusion—rather than as narrowly defined technological briefs.

In complex problem spaces, the quality of ideation is strongly influenced by framing. Establishing meaningful connections between purposes, values, and constraints helps prevent premature closure of the solution space and directs creative exploration toward relevant alternatives (Dorst, 2011). Within this framework, design thinking provides procedural strategies that sustain exploratory breadth without compromising evaluative rigor: multiple options are generated and subsequently assessed against criteria of value and feasibility (Brown, 2008).

Evidence from co-creation and participatory design research indicates that ideation is strengthened when it incorporates diverse perspectives and situated knowledge. The involvement of users, mediators, and actors from the cultural ecosystem expands the repertoire of alternatives and supports the development of proposals that are more responsive to contextual conditions (Sanders & Stappers, 2008). Methodologically, the divergent phase prioritizes quantity and variety, while the convergent phase introduces criteria to select and further develop proposals. This logic aligns with established traditions of idea generation followed by reasoned evaluation and refinement (Osborn, 1953; Brown, 2008).

In the development of digital solutions, prototyping functions as a mode of thinking rather than merely a preparatory step toward implementation. Prototypes materialize assumptions and render key design decisions open to scrutiny before significant resources are committed. Classical design literature distinguishes prototypes according to the aspect they are intended to explore—such as role or function, look and feel, or implementation—thereby enabling the creation of purpose-driven prototypes rather than generic mock-ups (Houde & Hill, 1997). Complementarily, prototypes may operate as filters, narrowing the design space, or as manifestations that express and enable critical discussion of design ideas, thus supporting reflection and progression within the design process (Lim et al., 2008).

Ideation is consolidated through iterative evaluation, whereby insights derived from testing and observation are reintegrated into the design process and inform subsequent decisions. In cultural contexts, evaluation must extend beyond usability to include mediation-related criteria such as interpretative clarity, inclusiveness, narrative adequacy, and experiential quality. These criteria are consistent with human-centred design principles (ISO, 2019) and with co-design practices (Sanders & Stappers, 2008). In this way, the ideation of digital solutions is configured as a cycle of learning and adjustment that enhances cultural relevance and the overall quality of the proposed experience.

2.3.3. Arts as a Driver for Social, Digital and Green Transition (Triple Transition)

The transition currently shaping European cultural, innovation, and education policies can no longer be adequately described as merely digital and ecological. Increasingly, it is understood as a triple transition in which digital transformation, environmental sustainability, and social inclusion are mutually constitutive rather than sequential or additive processes. Far from operating as independent or purely technical dynamics, these transformations require profound cultural change affecting modes of production, representation, participation, and governance. Within this scenario, the arts and creativity acquire a structural role as drivers capable of articulating technological innovation, sustainability, and social meaning, offering interpretive and action-oriented frameworks that move beyond an instrumental conception of innovation

From the perspective of the digital transition, artistic practices play a decisive role in the cultural and social mediation of technology. Digitalisation in the cultural domain is not limited to the adoption of tools or platforms; it entails the creation of new languages, formats, and experiential dispositifs that reshape relationships between creation, mediation, institutions, and audiences. In this sense, the arts function as spaces of critical experimentation in which technologies are questioned, reinterpreted, and resignified, fostering processes of social appropriation grounded in participation, accessibility, and meaning-making rather than mere technical efficiency.

This mediating function becomes particularly relevant when digital innovation intersects with issues of inclusion and inequality. Research on socio-technical transformation shows that the effectiveness and legitimacy of digital systems depend not only on performance, but on their cultural intelligibility, ethical orientation, and alignment with social practices and values. Artistic practices contribute methodologies and symbolic languages that enable these dimensions to be explored in situated and reflexive ways, supporting forms of digital innovation that are intelligible, inclusive, and socially accountable rather than extractive or exclusionary.

With regard to the ecological transition, the arts offer a distinctive contribution to the understanding and politicisation of environmental challenges. In contrast to discourses dominated by technical data or abstract indicators, artistic practices translate complex socio-ecological issues—such as urban metabolism, cultural sustainability, or the unequal distribution of environmental risks—into narratives, images, and sensorial experiences capable of mobilising collective reflection and civic engagement. This capacity to activate symbolic interpretation is essential for fostering durable cultural change, understood not only as behavioural adaptation but as a reconfiguration of shared values, responsibilities, and imaginaries.

The social dimension of the transition is particularly evident where digital and ecological transformations intersect with questions of access, participation, and justice. Artistic and creative practices contribute to making visible the social implications of technological and environmental change, opening spaces for dialogue, co-creation, and collective learning. In this sense, the arts operate not only as communicative tools but as relational infrastructures that support trust, inclusion, and democratic engagement—conditions that are increasingly recognised as prerequisites for the legitimacy and sustainability of the transition. One practical illustration of this integrated approach can be found in cultural initiatives developed within smart cultural ecosystems, where artistic practices help connect technological innovation, sustainability, and social participation.

Example – Arts in Smart Cultural Ecosystems

In some smart city and cultural governance contexts, artistic and creative practices provide a useful example of how the digital, ecological, and social dimensions of the transition can be connected in practice. Rather than focusing only on technological efficiency, these initiatives combine digital tools with heritage interpretation, civic participation, and sustainability-oriented objectives. In this way, the arts help mediate between innovation, cultural meaning, and public engagement, showing how cultural projects can contribute simultaneously to social inclusion, environmental awareness, and digitally supported forms of development (Angelidou et al., 2017; Milkintas, 2020a, 2020b).

From a methodological standpoint, artistic and creative practices add distinctive value to the ideation and design of digital solutions oriented toward sustainability and inclusion. In coherence with design thinking and co-creation approaches, the arts facilitate divergent thinking, experimentation, and prototyping, enabling complex socio-technical problems to be addressed through non-linear, human-centred perspectives. These methodologies are particularly pertinent in cultural innovation projects, where symbolic meaning, experiential quality, and social relevance are central to the design process.

In educational and training contexts, conceiving the arts as a driving force of the triple transition reinforces their role in the development of key competences required to address contemporary challenges. The integration of artistic practices into learning environments linked to cultural innovation supports the development of critical thinking, creativity, digital literacy, ecological awareness, and social responsibility—competences that are deeply interconnected within processes of digital, green, and social transformation. From this perspective, the arts do not operate merely as applied tools, but as epistemological frameworks that enable learners to grasp, navigate, and orient the complexity inherent in these intertwined transitions (Kolb, 1984; López, 2018).

From this integrative perspective, the arts can be understood as a fundamental driver of the digital, ecological, and social transition insofar as they catalyse processes of cultural innovation, symbolically mediate complexity, and create spaces of experimentation for more sustainable and inclusive development models. Their contribution does not lie solely in the adoption of digital technologies or the thematic treatment of sustainability, but in their capacity to reconfigure imaginaries, practices, and relations—an indispensable condition for ensuring that the transition unfolds as a socially legitimate, culturally grounded, and long-term transformation rather than as a purely technical adjustment.

2.4. Role of the Teacher

2.4.1. Listening, Stimulating, and Reflection Techniques

Within educational coaching and art-based coaching approaches, the role of the teacher is conceptualised as a pedagogical dispositif of reflective mediation. Its function extends beyond content transmission or the direction of creative activity, focusing instead on the deliberate orchestration of conditions that enable learning to emerge through experience. This perspective is grounded in experiential learning theories and humanistic pedagogical frameworks that position students as active agents in processes of meaning-making (Rogers, 1961; Kolb, 1984; van Nieuwerburgh, 2012).

From this standpoint, teaching intervention can be understood as being operationalised through three interdependent pedagogical competencies—listening, stimulation, and reflection—which translate the broader coaching competence framework into concrete teaching practices and sustain deep learning processes.

Pedagogical Listening and Reflective Accompaniment

Pedagogical listening constitutes a foundational competency of the teacher–coach and a necessary condition for the development of meaningful learning. Research in humanistic psychology has consistently demonstrated that being listened to in an empathic and non-evaluative manner enhances engagement, intrinsic motivation, and openness to

learning (Rogers, 1961). In educational contexts, this form of listening entails attending not only to the explicit propositional content of students' discourse, but also to the emotional, symbolic, and narrative dimensions through which their learning experiences are articulated (Whitmore, 2017).

In artistic and creative educational settings, listening assumes an expanded and multimodal character, as significant aspects of meaning-making are expressed through visual, embodied, or narrative productions that may not be fully verbalised. The literature on educational coaching in arts-based contexts underscores the importance of recognising these forms of expression as epistemically legitimate, in order to avoid instrumentalist reductions of creative processes (Valcárcel Marsà, 2012; van Nieuwerburgh, 2012). From this perspective, pedagogical listening operates as an epistemological practice that legitimises students' experiential knowledge as a valid source of learning and reflection (Kolb, 1984).

Techniques of Cognitive and Creative Stimulation

Within educational coaching frameworks, stimulation is not directed towards eliciting predetermined responses or guiding learners towards predefined solutions. Rather, it aims to activate students' reflective and creative capacities through open-ended and generative interventions. Among these, the use of generative questioning occupies a central position, as such questions are designed to expand interpretive horizons, challenge implicit assumptions, and foster divergent modes of thinking, while deliberately resisting premature closure of exploratory processes (Whitmore, 2017).

This approach is consistent with experiential learning theory, in which reflection arises from the dialectical relationship between lived experience and critical analysis, rather than from the accumulation of information alone (Kolb, 1984). In arts-based educational workshops, cognitive and creative stimulation may be further supported through the use of symbolic mediators—such as images, metaphors, objects, or narrative artefacts—that provide access to tacit and embodied dimensions of cognition. Contributions from visual thinking theory and embodied cognition research have demonstrated that these mediators constitute legitimate forms of reasoning, particularly in complex, ambiguous, and open-ended learning situations (Arnheim, 1969; Barsalou, 2008).

Accordingly, the teacher's role is to sustain the inquiry space by offering stimuli that expand interpretive possibilities without displacing students' agency or imposing external interpretative frameworks on the creative process.

Facilitation of Reflection and Metacognitive Learning

Reflection functions as the structuring axis of educational coaching, insofar as it enables experience to be transformed into articulated, transferable, and reflexively grounded learning. Reflective processes involve the critical examination of action, the identification of emergent patterns, and the establishment of connections between experience, conceptual frameworks, and prospective action (Kolb, 1984). Empirical research indicates that educational designs incorporating systematic and sustained opportunities for reflection contribute to the development of self-regulation, self-efficacy, and academic motivation (Grant, 2014).

In art-based coaching, reflective depth is further enhanced through the use of artistic productions as intermediary objects of analysis. By externalising experience, these productions allow learners to observe their processes from a critical distance, thereby facilitating re-signification and deep learning (Barone & Eisner, 2012; Leavy, 2015). Recent empirical studies confirm that artistic mediation intensifies reflective engagement by fostering emotional exploration and tolerance for ambiguity—both of which are central to creative and learning processes in complex environments (Ramos-Volz, 2018; van Collier-Peter & Olinger, 2022).

Within this framework, the teacher does not assume an interpretative or evaluative authority over the meaning of students' productions. Instead, teaching intervention is oriented towards accompanying reflective processes through carefully designed questioning, descriptive feedback, and metacognitive scaffolding, while preserving interpretive autonomy and maintaining a clear boundary between educational coaching practices and therapeutic interventions (ASESCO, 2018).

2.4.2. Inclusiveness and Female Leadership: Activating Creative Processes

Inclusion and female leadership in educational contexts linked to creativity and culture constitute a structural dimension of pedagogical quality rather than a normative addition to instructional design. Research on culture and creativity has demonstrated that gender inequalities persist within cultural and creative sectors through symbolic, organisational, and relational mechanisms that shape the recognition of talent, the visibility of contributions, and access to leadership positions, even in environments that explicitly define themselves as innovative (Canclini, 2007; European Commission, 2010, 2012). Inspirational examples can help make this pedagogical objective more visible. For instance, figures such as Marina Abramović, who founded the Marina Abramović Institute to support performance and interdisciplinary collaboration, Anab Jain, co-founder of Superflux, whose work connects design, emerging technologies, and socially engaged futures, and Sougwen Chung, an artist and researcher known for pioneering human-machine collaboration through drawing, robotics, and living systems, offer relevant references of female leadership in fields where creativity, technology, and critical reflection intersect. Introducing such examples in educational contexts can provide students—especially female students—with visible models of leadership and innovation, while reinforcing the idea that artistic practice can also be a space for experimentation, agency, and cultural transformation.

In educational settings, these dynamics are anticipated and reproduced through differentiated expectations, implicit models of creative authority, and ostensibly neutral pedagogical practices that sustain structural inequalities. Within this context, the role of the teacher is redefined as that of a pedagogical agent capable of activating inclusive creative processes by designing learning experiences that recognise the diversity of trajectories, styles, and forms of participation of female students.

Understanding Creative Potential in Female Students

Research in creativity and cultural studies indicates that differences observed in the expression of creative potential do not stem from differentiated individual abilities, but rather from sociocultural conditions that shape self-perception, risk-taking, and the processes through which creativity is legitimised (Canclini, 2007). In educational contexts, these conditions translate into the limited visibility of female role models, the internalisation of constraining expectations, and the persistent tendency to associate creative leadership with normative, masculinised styles.

From a pedagogical perspective, understanding the creative potential of female students requires a shift away from performance- or outcome-centred approaches towards learning processes that legitimise experience, exploration, and the progressive construction of meaning. Experiential learning models demonstrate that environments integrating reflection, narrativity, and process awareness foster the emergence of diverse forms of creativity and strengthen students' agency (Kolb, 1984; Leavy, 2015).

Within this framework, the teacher acts as a mediator of pedagogical recognition, facilitating students' identification of the cognitive, symbolic, and relational resources mobilised throughout the creative process, without imposing external criteria of validation.

Barriers and Facilitators in Creative and Cultural Sectors

The literature on cultural policy and the creative economy has extensively documented the persistence of barriers faced by women in cultural sectors, including labour precariousness, role segmentation, unequal distribution of recognition, and limited access to decision-making spaces (European Commission, 2010, 2012). These barriers do not manifest exclusively in professional contexts, but are anticipated within educational processes through unequal participation dynamics and the uncritical reproduction of dominant models.

In response to these dynamics, educational research highlights the role of collaborative and reflective learning environments as facilitators of creative participation. Process-oriented methodologies, practices of co-creation, and collective exploration reduce the pressure associated with individual competition and foster the active engagement of female students in complex creative projects (Kolb, 1984; Sanders & Stappers, 2008).

In this regard, the teacher's pedagogical action is critical both for making visible the structural dynamics of the cultural field and for generating learning conditions that do not implicitly reproduce such inequalities.

Gender-Inclusive Pedagogies and the Principle of Empowerment

Gender-inclusive pedagogies are grounded in the recognition that educational equity requires deliberate and context-sensitive pedagogical interventions. Empowerment is understood here as a process of developing agency, critical awareness, and the capacity for autonomous orientation towards action, rather than as an external attribution of power (Rogers, 1961; Grant, 2014).

Educational coaching and art-based coaching offer a particularly pertinent framework for this purpose, as they are grounded in non-hierarchical relationships, active listening, and the centrality of subjective experience. Empirical evidence indicates that these approaches contribute to the development of self-efficacy, self-regulation, and decision-making capacities—competencies closely linked to the exercise of leadership in creative and cultural contexts (Grant, 2014; van Nieuwerburgh, 2012).

Moreover, artistic mediation facilitates engagement with identity-related and narrative dimensions that are decisive in processes of female empowerment. Artistic practices enable the externalisation of experience, the revision of internalised narratives, and the construction of meaning frameworks oriented towards action, without shifting the process into therapeutic domains (Barone & Eisner, 2012; Ramos-Volz, 2018).

Recent advances in gender equality research provide two direct implications for the activation of female creativity and leadership. First, educational systems should address gender gaps as effects of institutional norms and systemic biases rather than as differences in individual ability. Second, pedagogical quality depends on the existence of verifiable mechanisms ensuring equity in participation, assessment, and access to learning opportunities. In this regard, the report *Gender, Education and Skills* documents the persistence of disparities associated with gender norms and biases that shape educational choices, academic confidence, and subsequent outcomes (Encinas-Martín & Cherian, 2023). Complementarily, the PISA 2022 results on creative thinking reveal consistent advantages among female students and underscore that school-based opportunities—including teaching practices that explicitly value creativity and enable expressive engagement—are associated with stronger performance (OECD, 2024). At an institutional level, UNESCO emphasises the transversal nature of gender equality as a priority requiring implementation, monitoring, and accountability, reinforcing the need to integrate a gender perspective into the design of creative learning experiences rather than treating it as a rhetorical or peripheral concern (UNESCO, 2023). In higher education, recent findings on gender equality challenges further indicate that the effective incorporation of feminist and inclusive pedagogies

requires sustained faculty development, holistic institutional approaches, and long-term pedagogical practices, rather than isolated interventions (Merma-Molina et al., 2025).

2.5. Phases of the Artistic Coaching Path (For each subsection, always include examples)

The art-based coaching pathway is conceived as a structured pedagogical process of a sequential and iterative nature, aimed at supporting complex learning processes that integrate experience, reflection, symbolization, and action. This pathway is grounded in an experiential conception of learning, according to which knowledge emerges through the reflective transformation of experience and its articulation with deliberate experimentation (Kolb, 1984). The phases that comprise this pathway therefore represent a pedagogical operationalization of experiential learning within art-based coaching contexts, rather than a literal replication of the stages originally formulated by this author.

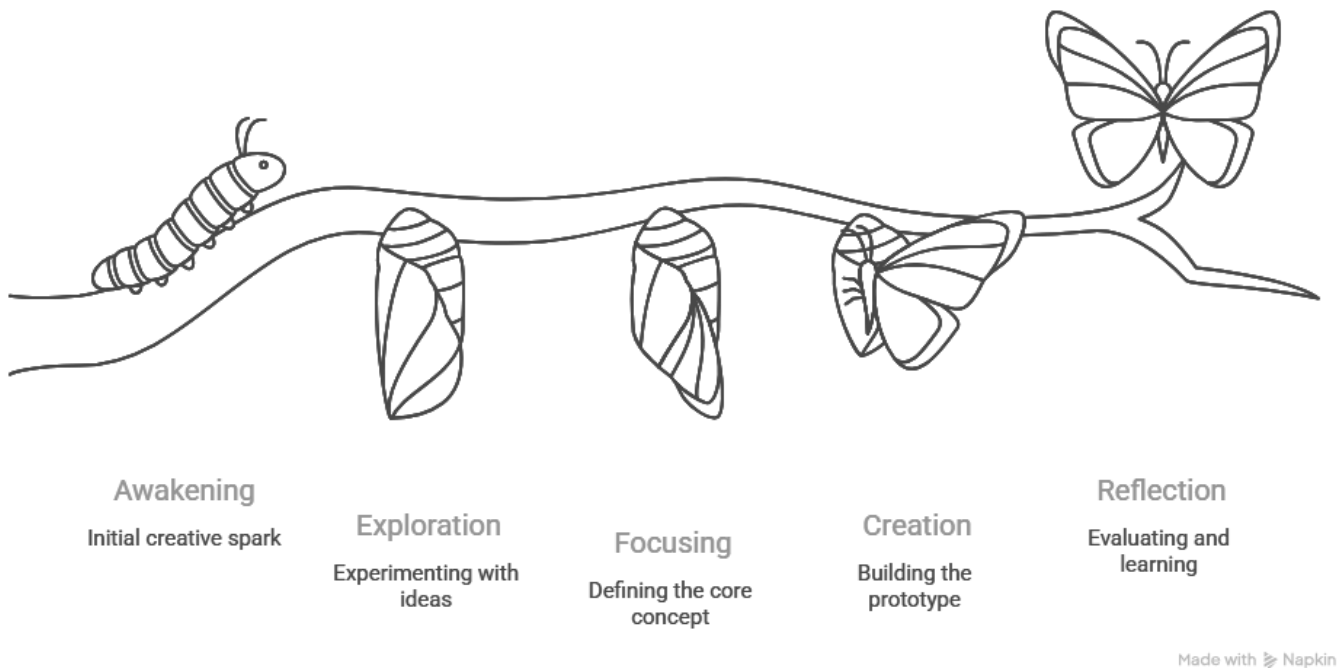
From the standpoint of educational coaching and art-based coaching, these phases should not be understood as rigid compartments or prescriptive stages, but rather as differentiated pedagogical moments that orient the facilitation of learning without predetermining its outcomes. Such structuring enables the sustenance of creative processes characterized by uncertainty, ambiguity, and interpretive openness—features inherent to both artistic practices and contexts of cultural innovation (Whitmore, 2017; Valcárcel Marsà, 2012).

The articulation of the process into phases also responds to the need to render the creative trajectory visible and reflective, shifting the analytical focus from the final product toward an understanding of the cognitive, emotional, and symbolic processes that give rise to it. Within this framework, artistic mediations—such as images, metaphors, narratives, or embodied practices—perform an epistemological function by externalizing experience and enabling its observation, analysis, and re-signification from a position of reflective distance (Arnheim, 1969; Barone & Eisner, 2012; Leavy, 2015).

From a pedagogical perspective, this structuring promotes the development of autonomy, self-regulation, and reflective learning capacity, while preserving the non-directive character intrinsic to educational coaching (Rogers, 1961; van Nieuwerburgh, 2012). Accordingly, the role of the teacher-coach is defined as a form of accompaniment grounded in active listening, the formulation of generative questions, and the facilitation of reflective spaces, explicitly avoiding the imposition of external interpretations or predetermined solutions.

The five phases presented below therefore constitute a coherent and transferable methodological framework for the design and facilitation of art-inspired creative workshops oriented toward the ideation of innovative cultural solutions (See Figure 1). Each phase is presented in relation to its specific pedagogical function and is accompanied by illustrative examples of its application in educational and cultural innovation contexts, thereby ensuring methodological operability without compromising theoretical coherence.

Figure 1. The 5 phases of creative process transformation



2.5.1. Phase 1 – Awakening: Creative awakening

The creative awakening phase initiates the art-based coaching pathway and serves a clearly defined pedagogical function: to activate awareness of the starting point from which the creative process unfolds. It is positioned as an enabling condition preceding artistic exploration proper, oriented toward fostering attentional focus, presence, and experiential readiness (Kolb, 1984).

From an educational coaching perspective, this phase supports the transition from routine or evaluative modes of participation to an exploratory stance, thereby alleviating pressure to produce immediate outcomes. Such reorientation is particularly significant in creative and cultural contexts, where expectations of performance or problem-solving may constrain symbolic risk-taking and diminish subjective engagement (Rogers, 1961; Whitmore, 2017; Valcárcel Marsà, 2012).

The pedagogical aim of the creative awakening phase is not the generation of ideas or the definition of concepts, but the explicit articulation of the initial frameworks—expectations, assumptions, emotional state, and attentional orientation—that shape the subsequent development of the process. To this end, artistic mediations are employed to access perceptual, embodied, and symbolic dimensions of experience, which are acknowledged as legitimate forms of knowledge within complex learning environments (Arnheim, 1969; Barsalou, 2008).

During this phase, the role of the teacher-coach is deliberately confined to sustaining the process framing and psychological safety through active listening and awareness-oriented questioning, while explicitly avoiding any anticipation of objectives, interpretations, or solutions. Pedagogical intervention is thus focused on accompanying the emergence of initial experience without directing or evaluating its content (van Nieuwerburgh, 2012).

Illustrative applications include brief perceptual anchoring activities using evocative images or objects; embodied awareness exercises aimed at identifying the state from which the creative work is initiated; and micro-narratives that enable the symbolic expression of participants' initial relationship with the proposed cultural or creative challenge. The pedagogical value of these practices lies in the activation of awareness and the clarification of the point of departure, rather than in the production of tangible outcomes.

The creative awakening phase may be considered successfully accomplished when participants consciously recognize their initial positioning and adopt an exploratory disposition that enables progression toward the subsequent phase of artistic and technological exploration.

2.5.2. Phase 2 – Exploration: Artistic and technological exploration

The artistic and technological exploration phase constitutes the first moment of concrete experience within the art-based coaching pathway. Its pedagogical function is to enable a space for broad experimentation in which participants actively engage with artistic languages and technological resources without a predetermined problem-solving objective. In accordance with experiential learning principles, this phase prioritizes direct lived experience and the expansion of the field of possibilities prior to any form of conceptual closure (Kolb, 1984).

Within the framework of educational coaching and art-based coaching, exploration is conceived as a deliberately non-directive process aimed at expanding perception, generating variation, and suspending premature judgment. In creative and cultural innovation contexts, such openness is crucial for preventing conventional responses and fostering the emergence of non-obvious interpretations, while maintaining uncertainty as a productive pedagogical resource (Whitmore, 2017; Valcárcel Marsà, 2012).

Artistic practices—visual, narrative, embodied, or performative—and technological resources—digital devices, interactive tools, or virtual environments—operate in this phase as epistemological mediators that enable the exploration of relationships, meanings, and experiences across multiple registers. Interaction with these mediators activates perceptual, embodied, and symbolic processes that expand the available cognitive repertoire and facilitate access to tacit dimensions of knowledge, which are particularly salient in complex learning situations (Arnheim, 1969; Barsalou, 2008; Barone & Eisner, 2012; Leavy, 2015).

It is essential to clearly distinguish this phase from the creative awakening phase. Whereas creative awakening is oriented toward activating awareness of the initial point of departure and fostering an initial reflective disposition, exploration entails a shift toward experiential action. In experiential learning terms, the process moves from an enabling preparatory condition to direct engagement with situations, materials, and languages that generate concrete experiential inputs for the subsequent development of the creative process (Kolb, 1984). This distinction preserves the specific pedagogical function of each phase and prevents conceptual overlap.

Unlike the creative awakening phase, these practices involve deliberate action upon both the environment and the mediating tools, generating experiential inputs that extend beyond initial awareness and actively expand the repertoire of possibilities available for subsequent creative work. Their pedagogical value lies in the production of experience itself, rather than in the identification of participants' initial subjective state.

During this phase, the role of the teacher-coach is focused on sustaining the exploratory space and ensuring its openness, with particular attention to the diversity of stimuli and the absence of premature evaluative criteria. Pedagogical intervention is intentionally limited to facilitating observation and awareness of what is experienced

through open-ended questioning, without orienting exploration toward specific outcomes or interpretations (Rogers, 1961; van Nieuwerburgh, 2012).

Illustrative applications include activities centered on sustained and active interaction with materials, languages, and technologies, designed to generate experience and variation. These activities include systematic experimentation with visual, digital, or hybrid materials to produce multiple representations of a given cultural context; exploratory manipulation of technological tools through iterative trials aimed at identifying expressive, relational, or narrative affordances; and artistic improvisation dynamics—visual, embodied, or narrative—conceived as repeated rehearsals that generate observable differences across iterations.

The exploration phase may be considered successfully accomplished when participants have generated a broad and diverse repertoire of experiences, materials, and insights, sufficiently rich to support subsequent processes of selection and synthesis. Emphasis is placed not on the quality or immediate relevance of outcomes, but on the density of accumulated experience, which constitutes the necessary foundation for the articulation of a conceptual focus in the subsequent phase.

2.5.3. Phase 3 – Focusing: Concept definition

The focusing phase fulfils the pedagogical function of transforming accumulated experience into a coherent articulating conceptual core. Following the expansion characteristic of the exploration phase, this stage introduces a deliberate movement of reduction and synthesis aimed at identifying what is most significant for the creative or cultural challenge under consideration. In experiential learning terms, this moment corresponds to conceptualization as a reflective operation through which lived experience is structured and endowed with meaning (Kolb, 1984).

Focusing does not involve the definition of a solution or the making of formal decisions, but rather the clarification of the orienting sense that will guide subsequent creative work. This process is grounded in the identification of emergent patterns, tensions, and relational configurations, while deliberately avoiding both prolonged dispersion and premature closure. Within educational coaching and art-based coaching contexts, this phase is critical for sustaining process coherence without foreclosing openness or interpretive plurality (Whitmore, 2017; Valcárcel Marsà, 2012).

In this phase, artistic mediations assume a function distinct from that of exploration: they shift from operating primarily as generators of variation to functioning as devices for the organization and stabilization of meaning. Visual mappings, metaphoric constructions, or synthetic narratives enable the condensation of experience into manageable conceptual configurations, drawing on the recognition of visual and symbolic forms as legitimate modes of structuring thought (Arnheim, 1969; Barone & Eisner, 2012; Leavy, 2015).

The distinction between this phase and the exploration phase is epistemological rather than procedural. Whereas exploration is oriented toward the production of experience through action, the focusing phase introduces criteria of relevance and coherence, redirecting the work toward the reflective elaboration of meaning without yet fixing a definitive mode of realization or implementation (Kolb, 1984).

The role of the teacher-coach is to accompany the process of conceptual synthesis through questions that support discrimination, articulation, and alignment, without defining the content of the concept or evaluating it as a solution. Pedagogical intervention is thus directed toward sustaining continuity across phases and ensuring traceability between experience and concept (Rogers, 1961; van Nieuwerburgh, 2012).

Illustrative applications include the construction of a conceptual map linking insights derived from the exploration phase; the formulation of a central metaphor that synthesizes the project's guiding intention; or the drafting of a concise conceptual statement that defines the creative focus without anticipating its material realization.

The focusing phase may be considered successfully accomplished when the team has articulated an explicit, coherent, and communicable organizing concept, formulated in operational terms (what is to be activated or transformed, and within which context), and when this concept functions as a shared criterion for guiding prototyping decisions in the creation phase, while maintaining clear traceability to prior experience (Kolb, 1984).

2.5.4. Phase 4 – Creation: Creative prototyping

The creation phase is oriented toward the materialization of the defined concept through prototyping practices that enable a situated examination of its formal, functional, and experiential implications. This phase introduces an explicit orientation toward action, in which thinking unfolds through making and through the enactment of concrete decisions. Within the framework of experiential learning, this moment corresponds to active experimentation, understood as the systematic testing of hypotheses derived from prior conceptualization (Kolb, 1984).

Creative prototyping does not aim at the production of final solutions or finished products, but rather at the provisional translation of the concept into observable configurations. From a pedagogical and educational coaching perspective, the prototype functions as a means of rendering implicit decisions explicit, identifying internal coherences and tensions, and generating knowledge through interaction with materiality, while keeping the process open to revision and iteration (Whitmore, 2017; Valcárcel Marsà, 2012).

In art-based coaching contexts, creation integrates artistic languages and technological resources as cognitive tools rather than as ends in themselves. Visual, narrative, embodied, or digital production operates as an inquiry device that allows the concept to be observed in operation, drawing on the recognition of artistic making as a legitimate mode of thinking and knowledge production (Arnheim, 1969; Barone & Eisner, 2012; Leavy, 2015). The partial materialization of the concept thus affords a situated and critical understanding of its scope, affordances, and limitations.

The distinction between this phase and the focusing phase is epistemological in nature. Whereas focusing is concerned with the articulation of meaning and the establishment of a conceptual framework, the creation phase entails formal, relational, and experiential decisions that concretize this framework into observable propositions. Such concretization does not constitute closure, but rather an expansion of knowledge through the productive confrontation between conceptual intention and produced form (Kolb, 1984).

The role of the teacher-coach is to accompany the prototyping process without evaluating it in terms of correctness or success, while fostering iteration and the explicit articulation of decisions. Pedagogical intervention is directed toward sustaining coherence between concept and materialization through questions that promote critical reflection, without displacing the creative responsibility of the team (Rogers, 1961; van Nieuwerburgh, 2012).

Illustrative applications include the development of low-fidelity visual or digital prototypes representing a cultural experience; the construction of mock-ups, interactive pathways, or scripts that simulate audience interaction; and the creation of preliminary versions of narratives, interfaces, or game dynamics that allow the concept to be observed in action. The pedagogical value of these practices lies in the generation of knowledge through making, rather than in the formal quality or completeness of the outcome.

The creation phase may be considered successfully accomplished when the concept has been translated into one or more operational and analysable prototypes, sufficiently articulated to support subsequent reflective evaluation, while retaining their provisional, revisable character as a constitutive condition of creative learning.

2.5.5. Phase 5 – Reflection: Evaluation and learning

The reflection phase completes the art-based coaching pathway through a structured analysis of the experience developed and the prototypes produced, aimed at converting action into explicit and transferable learning. This phase is not oriented toward external validation or the appraisal of outcomes in terms of success; rather, it focuses on a critical examination of the process undertaken, including the decisions made, the implicit criteria that informed them, and the effects generated. Within the framework of experiential learning, this moment corresponds to analytical observation, which is indispensable for closing the learning cycle (Kolb, 1984).

The learning activated in this phase is twofold. First, it is cognitive, insofar as it enables the identification of causal relationships, patterns of action, and coherences or tensions between intention, concept, and materialization. Second, it is metacognitive, as it involves reflective awareness of how learning occurred, which strategies proved effective, and which assumptions shaped the process. Within educational coaching, this form of evaluation is conceived as formative and oriented toward self-regulation, reinforcing learners' responsibility for their own learning without drifting toward normative or prescriptive judgments (Rogers, 1961; Whitmore, 2017; Grant, 2014).

The prototypes and outputs generated during the creation phase function in this stage as objects of analysis, enabling critical distance from lived experience. By making decisions, relationships, and effects visible, these artefacts support an examination of alignment between the articulated concept, its material translation, and the experience produced. This analytical work builds on the recognition of visual, narrative, and symbolic forms as legitimate supports for examining complex situations, particularly salient in creative and cultural contexts (Arnheim, 1969; Barone & Eisner, 2012; Leavy, 2015).

The distinction from the creation phase is primarily functional. Whereas creation prioritizes action and material experimentation, reflection introduces a deliberate analytic interval aimed at understanding the process and extracting generalizable learning. This shift prevents the conflation of production with learning and consolidates the meaning of the work undertaken without foreclosing its potential applicability to other contexts (Kolb, 1984).

The role of the teacher-coach is to facilitate process analysis through questions that support the explicit articulation of criteria, the identification of learning outcomes, and their projection toward future situations. Pedagogical intervention remains non-directive, ensuring that conclusions emerge from the team's own experience rather than from externally imposed interpretations (van Nieuwerburgh, 2012).

Illustrative applications include structured sessions of prototype analysis focused on observable decisions and effects; analytical writing exercises aimed at identifying individual and collective learning; and guided dialogues in which initial intention, articulated concept, and generated experience are systematically contrasted. The pedagogical value of these practices lies in the consolidation of learning and in its capacity to inform subsequent action.

The reflection phase may be considered successfully accomplished when participants articulate explicit, well-substantiated, and transferable learning outcomes derived from the analysis of both the process and the prototypes

developed, and when these learnings are able to inform future decision-making in comparable creative or cultural contexts, thereby coherently closing the art-based coaching cycle.

2.6. Art-Based Techniques and Tools

Art-based techniques and tools are grounded in a well-established theoretical and empirical body of work that has challenged the adequacy of exclusively verbal, analytical, or propositional approaches for understanding and facilitating learning, reflection, and innovation in complex contexts. Research consistently demonstrates that when problems are open-ended, ambiguous, or laden with symbolic dimensions, knowledge production requires mediating processes capable of integrating experience, perception, and meaning without reducing complexity (Barone & Eisner, 2012; Leavy, 2015). Within this perspective, artistic practices are legitimized not as ancillary expressive resources, but as epistemological devices that expand modes of inquiry and deepen the understanding of experience.

Experiential learning theory conceptualizes learning as the transformation of experience through reflective processes that integrate action, observation, conceptualization, and experimentation (Kolb, 1984). For such transformation to occur, experience must be rendered observable and available for critical examination. Art-based tools serve this function by translating implicit or diffuse experiences into visual, narrative, bodily, or symbolic forms that enable reflective distance and support the construction of meaning. Their pedagogical value lies not in the aesthetic quality of the resulting artefacts, but in their capacity to structure processes of sustained reflection and meaningful learning.

This conceptualization is further supported by advances in embodied cognition and visual thinking. Embodied cognition theory posits that understanding and reasoning rely on perceptual and bodily simulations grounded in lived experience, which accounts for the effectiveness of materials, images, and bodily action in activating tacit knowledge that remains largely inaccessible through abstract language alone (Barsalou, 2008). Complementarily, visual thinking theory establishes perception as a form of reasoning endowed with organizational power, capable of structuring complex relationships, implicit hierarchies, and internal tensions characteristic of problematic situations (Arnheim, 1969). From this standpoint, artistic productions can be understood as cognitive artefacts that stabilize experience and render it amenable to reflective analysis.

The methodological legitimacy of these practices has been extensively articulated within the field of arts-based research, which recognizes art as a valid mode of inquiry and knowledge generation when the phenomena under study encompass symbolic, contextual, and experiential dimensions (Barone & Eisner, 2012; Leavy, 2015). In educational and professional development contexts, this tradition has demonstrated that artistic mediations foster integrative forms of understanding by articulating cognitive, emotional, and situational dimensions without oversimplifying experience.

Within the specific domain of educational coaching and art-based coaching, artistic techniques are employed as non-directive instruments of reflective accompaniment. Their function is to facilitate awareness, support the exploration of meaning, and orient participants toward deliberate action, while preserving autonomy and avoiding the imposition of externally prescribed interpretations (Rogers, 1961; Whitmore, 2017). Available empirical evidence indicates that such mediations deepen reflective processes by promoting emotional exploration, tolerance for ambiguity, and the emergence of insight—factors that are critical in creative learning and professional change processes (Ramos-Volz, 2018; van Coller-Peter & Olinger, 2022).

Art-based techniques and tools can therefore be conceptualized as a coherent methodological repertoire aligned with an understanding of learning as an experiential, situated, and symbolically mediated process. Their pedagogical value resides in their capacity to expand reflective space, integrate experience and conceptualization, and sustain processes of ideation and innovation in contexts characterized by complexity and indeterminacy. The following subsections develop this repertoire through five families of techniques—visual, bodily, narrative, metaphorical, and structured—presented with theoretical grounding and illustrative applications, ensuring both conceptual rigor and methodological operability.

Although the techniques presented in this section may be applied flexibly according to the pedagogical context, their pedagogical value becomes particularly evident when they are aligned with the phases of the artistic coaching pathway described in the previous section. Certain techniques are especially suitable for activating awareness and engagement in the Awakening phase, such as evocative images, symbolic objects, or short embodied exercises that help participants recognize their initial positioning. During the Exploration phase, more open and generative practices—such as visual experimentation, improvisational body work, or exploratory storytelling—support the expansion of perceptual and conceptual possibilities. As the process moves toward Focusing, techniques that facilitate synthesis and conceptual clarification become more relevant, including metaphor construction, narrative framing, or visual mapping. In the Creation phase, structured artistic and design-oriented methods—such as prototyping exercises, collaborative scenario building, or iterative visual production—enable ideas to be materialized and examined in concrete form. Finally, the Reflection phase benefits from narrative, metaphorical, or analytical techniques that help participants examine the relationship between intention, action, and outcome, thereby consolidating transferable learning. This alignment does not imply rigid prescriptions; rather, it provides facilitators with a methodological orientation for selecting and sequencing art-based tools according to the evolving needs of the creative process.

2.6.1. Visual methodologies (collage, moodboard, visual maps)

Visual methodologies function as cognitive mediation devices that enable the externalization of experience, hypotheses, and decision-making criteria into observable perceptual configurations. Their methodological value rests on the conception of perception as a form of reasoning with structuring capacity, capable of organizing complex relationships and rendering implicit patterns visible where verbal discourse remains insufficient (Arnheim, 1969). This function is further strengthened by developments in embodied cognition, which conceptualize understanding as a process grounded in perceptual–motor simulations derived from experience, thereby legitimizing the manipulation of images, materials, and spatial arrangements as valid pathways to tacit knowledge (Barsalou, 2008).

From a pedagogical standpoint, these methodologies align closely with experiential learning by supporting the reflective transformation of experience through mediating supports that make lived situations observable, analyzable, and conceptually accessible, while subsequently orienting action and experimentation (Kolb, 1984). In parallel, arts-based research has established the legitimacy of visual work as a rigorous mode of inquiry and knowledge production in educational and training contexts characterized by complexity and symbolic density (Barone & Eisner, 2012; Leavy, 2015).

Within ideation processes and the design of cultural solutions, visual methodologies fulfil three core methodological functions: the externalization of assumptions and perceptions to render them analytically accessible; the synthesis of relationships and criteria of relevance; and intersubjective alignment, which supports coherence between conceptual intent and design decisions. These functions are consistent with people-centred design approaches, which require

explicit and verifiable criteria to guide informed iterative processes (International Organization for Standardization [ISO], 2019).

<i>Collage</i>	Collage is a visual composition technique based on the selection and recombination of heterogeneous images and materials to represent relationships, tensions, or aspirations associated with a specific challenge. Its methodological relevance lies not in artistic proficiency, but in its capacity to materialize implicit dimensions of experience and to generate configurations open to multiple interpretations, thereby supporting insight and situated reflection (Arnheim, 1969; Barone & Eisner, 2012). Within creative coaching contexts, collage has been identified as an effective tool for clarifying decisions, transitions, and future orientations through symbolic representation (Watts, 2023).
Application examples.	In a heritage mediation project, a team develops a collage to explore the intended visitor experience. The composition, organized around images of thresholds, layers, and traces, enables the identification of design criteria related to narrative progression and sensory engagement. These criteria subsequently inform the development of a digital interpretation prototype. In another context, a collage addressing tensions within a cultural ecosystem—accessibility, authenticity, and sustainability—supports the explicit articulation of assumptions and the consensual prioritization of design criteria, reducing reliance on unshared intuitions (Kolb, 1984; ISO, 2019).
<i>Moodboard</i>	A moodboard is a curated visual composition that condenses an atmosphere, tone, or experiential identity through the integration of images, colour palettes, typography, and material references. Its primary function is to reduce interpretive ambiguity and promote intersubjective alignment within teams, operating as a shared reference for subsequent design decisions. This function is grounded in the capacity of visual thinking to organize meaning through perceptual configurations, enabling operational agreement without exhaustive verbal specification (Arnheim, 1969), and in its alignment with perceptual processes described by embodied cognition (Barsalou, 2008).
Application examples.	In the design of a digital experience related to intangible cultural heritage, a moodboard oriented toward an intimate and reflective atmosphere facilitates agreement on criteria concerning interaction rhythm, informational density, and narrative tone, guiding prototype development. In another case, a moodboard focused on accessibility and inclusion integrates visual contrast, clear iconography, and simple visual metaphors, serving as a stable reference throughout interface iteration and ensuring coherence with people-centred design principles (ISO, 2019).

<i>Visual maps</i>	Visual maps—including concept maps, stakeholder maps, journey maps, and relational maps—are graphical representations that structure complex information through nodes and connections, enabling the analysis of conceptual, temporal, and socio-technical relationships. They function as tools of visual conceptualization that facilitate the identification of patterns, gaps, and opportunities, in line with the organizing role of visual thinking (Arnheim, 1969). Within ideation processes, visual maps support a transition from divergent exploration to conceptual synthesis without prematurely closing the space of alternatives (Kolb, 1984; Dorst, 2011).
Application examples.	In a digital culture project, a stakeholder and mediation map reveals the absence of pre-engagement mechanisms for audiences, leading to the design of a preparatory micro-experience prior to the visit. In another case, a visitor journey map identifies a point of cognitive overload during the experience, informing content redistribution and the development of prototypes that enhance user agency and reduce interpretive friction (ISO, 2019; Kolb, 1984).

Criteria for methodological rigor

To ensure pedagogical validity and to prevent purely instrumental uses, visual methodologies must meet criteria that support their function as mediators of learning and reflection.

Traceability.	Visual artefacts must be explicitly connected to subsequent decisions within the creative or design process. Their value derives from integration into the learning cycle, allowing visual exploration to be translated into operational criteria for action (Kolb, 1984).
Descriptive priority over interpretation.	An initial phase of systematic description of visual elements should precede interpretive analysis. This sequencing preserves interpretive plurality and prevents premature closure, sustaining open and reflexive inquiry (Leavy, 2015).
Non-directivity.	The facilitator's role is to structure the process without imposing interpretations. Facilitation focuses on supporting reflection through generative questioning, thereby preserving participant autonomy and the situated construction of meaning (Rogers, 1961; Whitmore, 2017).
Iteration.	Visual artefacts should be treated as provisional and revisable. Their modification across iterative cycles enables the incorporation of new insights and supports informed decision-making in design and innovation contexts (International Organization for Standardization [ISO], 2019).

Visual methodologies structure processes of reflection and ideation through the perceptual externalization of experience, supporting articulation between exploration, synthesis, and decision-making. Their pedagogical value does not reside in the production of visually elaborate representations, but in their capacity to make assumptions, relationships, and criteria explicit and shareable, thereby guiding the design of cultural solutions in a transparent and collectively intelligible manner. By functioning as cognitive mediators rather than final outputs, these tools preserve the interpretive openness required in innovation contexts while providing sufficient structure to sustain iterative and theoretically grounded processes. This balance between openness and structuring provides the foundation for methodologies that activate other experiential registers—particularly the body, action, and presence—addressed in the following subsection.

2.6.2. Theatre-based & body-based practices

Theatrical and embodied practices constitute mediation methodologies that activate the body as a site of cognition, reflection, and meaning-making. Their theoretical grounding lies in embodied cognition, which conceptualizes understanding and reasoning as processes rooted in perceptual–motor and affective experience rather than in abstract symbolic operations alone (Barsalou, 2008). From this perspective, bodily action, spatial organization, and performative interaction are legitimized as modes of access to tacit knowledge and as mechanisms for rendering relational patterns visible that remain implicit in exclusively verbal formats.

From a pedagogical standpoint, these practices align closely with experiential learning, insofar as they generate concrete experience that can be subjected to reflective observation, conceptualization, and subsequent experimentation (Kolb, 1984). Their methodological relevance is particularly pronounced in contexts of creativity and cultural innovation, which are characterized by indeterminacy and the need to explore alternatives prior to solution definition. The body enables the testing of hypotheses, the interrogation of assumptions, and the production of situated evidence that informs decision-making without imposing premature closure. Arts-based research has established the legitimacy of such mediations as rigorous modes of inquiry when the object of investigation includes symbolic, relational, and experiential dimensions (Barone & Eisner, 2012; Leavy, 2015).

Within the domain of educational coaching and art-based coaching, theatrical and embodied practices require an explicitly non-directive framing. The role of the educator or facilitator is to structure the process, ensure conditions of psychological and physical safety, and support reflection through generative questioning, while avoiding the imposition of interpretive readings on enacted situations (Rogers, 1961; Whitmore, 2017; van Nieuwerburgh, 2012). Available empirical evidence indicates that artistic mediation fosters reflective depth and tolerance for ambiguity—variables of particular relevance in creative processes and professional change (Ramos-Volz, 2018; van Coller-Peter & Olinger, 2022). Within arts education, this approach is consistent with a conception of learning centred on process, experience, and meaning rather than on final outputs (Valcárcel Marsà, 2012).

<i>Improvisation and situational role-playing</i>	Improvisation and situational role-playing enable the rehearsal of decisions and relationships within controlled contexts, transforming abstract hypotheses into observable interaction. Their methodological function consists in translating mediation tensions, organizational assumptions, or audience expectations into enacted situations that can be described, analysed, and reconfigured through guided reflection, thereby integrating them into the experiential learning cycle (Kolb, 1984).
Application examples.	In a heritage mediation project, a team dramatizes the interaction between a digital guide and a visitor with limited technological familiarity. Systematic observation reveals informational overload and reduced user agency. Following collective reflection, the situation is re-enacted with progressive information layers and explicit decision points; the resulting insights are translated into operational criteria for subsequent prototyping. In another context, the dramatization of a conflict between authenticity and entertainment objectives in a gamified cultural resource exposes implicit assumptions of incompatibility. Reframing the situation leads to the definition of verifiable experiential metrics

<i>Bodily sculptures and spatial configurations</i>	Bodily sculptures and spatial configurations externalize relationships, hierarchies, and tensions through bodily positioning and spatial distance. This technique operates as a form of visual thinking enacted through the body, stabilizing a relational structure that can be observed, analysed, and deliberately modified (Arnheim, 1969; Barsalou, 2008).
Application examples.	In a bodily mapping exercise involving actors within a cultural ecosystem, the resulting sculpture reveals a configuration in which audiences occupy a peripheral position while technology is situated centrally. Spatial reconfiguration enables the formulation of an explicit design principle—technology as mediator rather than substitute for human relations—which subsequently informs interface and mediation decisions. In another case, a sculpture addressing institutional decision-making processes exposes concentrated control and the absence of feedback mechanisms. Modifying bodily positions materializes a participatory alternative and leads to the formulation of operational criteria for incorporating user validation into project iteration.
<i>Bodily attention and perceptual walkthroughs</i>	Exercises in bodily attention and perceptual walkthroughs transform the environment into a source of experiential data relevant to people-centred ideation. These practices generate situated observations concerning rhythms, transitions, frictions, and opportunities for meaning-making, consistent with an experiential conception of learning (Kolb, 1984) and with the principles of embodied cognition (Barsalou, 2008).
Application examples.	In a museum context, a perceptual walkthrough focused on orientation and cognitive load identifies a critical point of confusion at the transition between galleries. This observation is translated into a design requirement aimed at reducing simultaneous visitor decisions through sequential signage and orientation micro-interactions, subsequently tested in a low-fidelity prototype. In an outdoor heritage site, bodily observation detects fatigue and diminished attention beyond a specific segment of the route. The design response incorporates interpretive pauses and concise content units, later evaluated through user feedback.

Criteria for methodological rigor

To ensure pedagogical validity, theatrical and embodied practices must meet four conditions. First, observational operability, ensuring that practices generate describable actions, positions, or transitions that support analysis and learning (Kolb, 1984). Second, separation of description and interpretation, prioritizing the documentation of observed phenomena prior to meaning-making in order to preserve interpretive plurality (Leavy, 2015). Third, non-directivity and agency, with a facilitative role that structures the process without imposing interpretations, thereby maintaining interpretive responsibility with participants (Rogers, 1961; Whitmore, 2017; van Nieuwerburgh, 2012). Finally, transfer to decision-making, ensuring that insights are translated into revisable criteria or requirements that inform design iteration.

Theatrical and embodied practices offer a mode of inquiry that transforms relationships, tensions, and assumptions into observable action, enabling situated reflection and transferable learning. Their methodological contribution lies in the production of experiential evidence that informs decision-making without displacing the group's interpretive agency. This framing, consistent with embodied cognition and experiential learning, establishes a coherent transition

toward methodologies centred on language and the narrative construction of meaning, developed in the following subsection on creative writing and storytelling.

2.6.3. Creative writing & storytelling

Creative writing and narrative function as methodologies of symbolic mediation that transform experience into articulated meaning. Their theoretical foundation rests on the understanding of narrative as a central mode of organizing experience and producing meaning, complementary to logical–propositional reasoning (Bruner, 1990). In contexts of learning and change, working with narratives enables the identification of continuities, ruptures, and causal attributions that orient decision-making; narrative is therefore understood as a cognitive device rather than as an ancillary expressive resource.

Narrative approaches provide a robust explanatory framework for understanding the pedagogical value of storytelling practices in coaching and creative learning environments. From this perspective, identity and the interpretation of experience are constructed through stories that individuals use to organize events, intentions, and meanings. Revisiting and reformulating these narratives therefore becomes a key mechanism for reflection and transformation within learning processes (Bruner, 1990; Drake, 2007; Stelter, 2014). Creative writing and storytelling techniques enable participants to externalize their interpretations of experience, making underlying assumptions, expectations, and meanings visible and open to revision. By transforming lived experience into narrative form, these practices create the reflective distance necessary to critically examine the frames through which participants interpret challenges, possibilities, and decisions.

From a pedagogical perspective, these practices fulfil a specific function within experiential learning: they stabilize lived experience in a revisable textual artefact that supports reflective observation and conceptualization, while enabling the projection of learning toward action (Kolb, 1984). Unlike purely descriptive records, creative writing enables the exploration of alternative interpretations and the anticipation of consequences, preserving experiential complexity without reducing it to closed analytical categories.

Within the domain of educational coaching, narrative approaches hold that transformative learning involves revisiting and revising the stories that structure identity, professional role, and agency. Intervention focuses on facilitating rereading and reconfiguration oriented toward action, without imposing external interpretations (Drake, 2007; Stelter, 2014). This principle requires a non-directive facilitative stance: the educator or coach designs prompts, maintains the framing, and supports reflection through generative questioning, while preserving participants’ interpretive authorship (Rogers, 1961; Whitmore, 2017). In alignment with this perspective, arts-based research legitimizes writing and narrative as rigorous modes of inquiry when the objective is to explore experiential and symbolic meaning in educational contexts (Leavy, 2015).

<i>Guided reflective writing</i>	Guided reflective writing structures reflection through focused prompts that explicitly connect experience, interpretation, and learning. Its purpose is to surface the criteria and assumptions that inform decisions and to clarify what is transferable to subsequent phases of the process (Kolb, 1984).
Examples.	Example 1 (cultural ideation). At the conclusion of a session, participants respond in writing to the prompt: “What changed in my understanding of the challenge, and what prompted that change?” Comparative reading reveals patterns of learning and tacit agreements, which are articulated as explicit criteria for the next iteration. Example 2

	(prototyping). Following the testing of a prototype, each participant produces a short entry structured as “key decision–observed evidence–proposed adjustment.” This format transforms subjective impressions into traceable arguments that inform subsequent versions (Kolb, 1984).
<i>Micro-narratives and scenarios</i>	Micro-narratives and scenarios translate design or mediation hypotheses into situated stories structured around actor, context, action, and consequence. This format enables the assessment of experiential coherence and cultural relevance prior to resource-intensive implementation (Bruner, 1990; Drake, 2007).
Examples.	Example 1 (digital experience). Three micro-narratives are developed around the “same” visitor, differentiated by user profiles. Comparative analysis reveals misalignments between pedagogical intent and anticipated experience, informing adjustments to interaction flow and narrative tone. Example 2 (inclusive mediation). Scenarios incorporating constraints such as limited time, fatigue, or low digital literacy are constructed. These narratives require the explicit articulation of underlying assumptions and support the redefinition of mediation priorities.
<i>Narrative rewriting and re-signification</i>	Narrative rewriting involves the comparison of successive versions (before and after) in order to detect shifts in interpretive framing, consolidate learning, and avoid premature fixation. This procedure is particularly effective for reorienting agency and responsibility toward action (Stelter, 2014).
Examples.	Example 1 (creative process). The team rewrites the “project narrative” following an iteration. Comparison highlights shifts in problem definition and value criteria; these shifts are translated into explicit and actionable decisions. Example 2 (professional identity). Students rewrite a brief narrative describing their role within the team, incorporating insights gained through the process. Analysis identifies changes in attribution (e.g., from “I do not know” to “I can make decisions under uncertainty”), which inform subsequent challenges (Stelter, 2014).

Criteria for methodological rigor

Reflective intentionality. Prompts must orient writing toward processes, criteria, and learning, avoiding anecdotal production without pedagogical function (Kolb, 1984).

Distinction between description, interpretation, and decision. The documentation of events, the construction of meaning, and the translation into actions or criteria must remain analytically distinct and sequential (Bruner, 1990).

Non-directivity and authorship. Facilitation focuses on framing and questioning; interpretation is not conducted on behalf of the participant, thereby preserving interpretive agency (Rogers, 1961; Whitmore, 2017).

Transfer. Narrative products must result in criteria applicable to subsequent phases, specifying what is retained, what is modified, and under what justification (Kolb, 1984; Drake, 2007).

Creative writing and narrative enable the stabilization of experience and its transformation into analyzable material that supports reflection, reframing, and deliberate orientation toward action. Their methodological contribution becomes explicit when the resulting texts function as supports for traceable and revisable decisions while preserving participants’ interpretive authorship. This framing establishes a coherent transition toward work with metaphors and

evocative objects, in which meaning is constructed through symbolic mediators that are not exclusively linguistic (Leavy, 2015; Lakoff & Johnson, 2003).

2.6.4. Metaphors and evocative objects

The use of metaphors and evocative objects constitutes a symbolic mediation methodology designed to make explicit the cognitive and cultural frames that structure the interpretation of experience and orient action. Its theoretical foundation lies in conceptual metaphor theory, which holds that individuals comprehend abstract phenomena through metaphorical systems that organize perception, reasoning, and decision-making (Lakoff & Johnson, 2003). Accordingly, metaphors function not as ancillary rhetorical devices but as cognitive mechanisms that delimit which aspects of a situation become visible, salient, and actionable.

The pedagogical relevance of metaphor-based techniques can be further understood through conceptual metaphor theory, which demonstrates that individuals structure their understanding of experience through metaphorical systems that shape interpretation and guide action (Lakoff & Johnson, 2003). These metaphorical frames often operate implicitly, influencing how situations are perceived and how decisions are made. Making such metaphors explicit enables participants to critically examine and reconfigure the interpretive frameworks that guide their thinking. In art-based coaching contexts, evocative objects and metaphorical representations support this process by materializing abstract meanings in observable forms, thereby allowing participants to explore alternative perspectives and reinterpret their relationship with a given challenge.

In experiential learning contexts, externalizing metaphors transforms implicit experience into reflective material amenable to critical analysis and reconfiguration. Once articulated and examined, metaphors become objects of reflection that facilitate movement between lived experience, conceptualization, and deliberate action, thereby integrating coherently into the learning cycle (Kolb, 1984). This process is particularly pertinent in cultural innovation contexts, where challenges are often characterized by ambiguity, competing values, and non-formalized meanings that cannot be adequately addressed through closed technical categories.

Evocative objects fulfil a complementary function by providing material supports for metaphors. By anchoring abstract meanings in tangible elements, they enable reflective distance and support the shared exploration of assumptions, emotions, and values associated with an experience. Arts-based research has established the legitimacy of such mediations as rigorous modes of inquiry when the aim is to access tacit knowledge and symbolic dimensions that resist full verbalization (Barone & Eisner, 2012; Leavy, 2015). Within art-based coaching, metaphors and evocative objects are used as prompts for reflection rather than as fixed interpretations, thereby preserving participant agency and avoiding prescriptive readings.

<i>Explicit conceptual metaphors</i>	Exploring explicit conceptual metaphors involves identifying and articulating the dominant images that structure the understanding of a challenge, process, or role. This procedure renders implicit assumptions visible, expands interpretive space, and enables the testing of reframing that open new possibilities for action (Lakoff & Johnson, 2003).
Application examples.	In a cultural innovation process, a team describes its project as “a labyrinth.” Analysis of this metaphor reveals a cognitive frame centred on disorientation and blockage. Exploring alternative metaphors—such as “journey” or “ecosystem”—reorients design criteria toward progression, choice, and

	accompaniment, which are subsequently translated into concrete mediation decisions. In another context, the dominant metaphor “a race against time” is contrasted with “an iterative process,” legitimizing revision and progressive learning in alignment with experiential learning principles (Kolb, 1984).
<i>Evocative objects as mediators of meaning</i>	Evocative objects are material elements selected or constructed to represent salient aspects of an experience, a challenge, or an aspiration. Their methodological function is to materialize metaphors and facilitate symbolic exploration through interaction with the object, thereby promoting situated and shared reflection (Leavy, 2015).
Application examples.	In a heritage mediation workshop, participants select an object that represents the current relationship between audiences and the institution. The diversity of objects reveals divergent interpretive frames; comparative analysis enables the explicit articulation and negotiation of shared mediation principles. In another case, a fragile object is used to represent the visitor experience; the ensuing reflection informs decisions regarding pacing, informational load, and user care, which are subsequently translated into verifiable design criteria.
<i>Action-oriented metaphorical reconfiguration</i>	Metaphorical reconfiguration involves deliberately transforming a dominant metaphor through substitution, combination, or displacement to generate new orientations for action. This procedure links symbolic reflection to decision-making, preventing metaphors from remaining static descriptions of a situation (Lakoff & Johnson, 2003; Kolb, 1984).
Application examples.	After identifying the metaphor “content container” to describe a cultural proposal, a team experiments with “experience device.” This shift reorients prototyping toward interaction and participation, resulting in modified design decisions. In another context, the metaphor “dependence on the expert” is reconfigured as “distributed learning,” leading to operational agreements concerning roles, feedback mechanisms, and shared decision-making.

Criteria for methodological rigor

To ensure pedagogical validity and avoid superficial applications, work with metaphors and evocative objects should meet four criteria. First, explicit articulation, requiring clear formulation of the metaphor or object and its relationship to the experience under analysis (Lakoff & Johnson, 2003). Second, a distinction between analysis and prescription, requiring examination of the metaphorical frame before deriving decisions in order to prevent premature closure (Leavy, 2015). Third, non-directivity, maintaining a facilitative role that supports symbolic exploration without imposing meaning (Rogers, 1961; Whitmore, 2017). Finally, orientation toward action, ensuring that metaphorical reflection is translated into operational criteria consistent with experiential learning principles (Kolb, 1984).

Work with metaphors and evocative objects provides a methodological approach that renders visible the symbolic frames guiding understanding and action, transforming them into reflective and operational material. Its pedagogical value lies in its capacity to reconfigure implicit assumptions and generate deliberate reframings without displacing participants’ interpretive agency. This approach establishes a robust transition toward structured creativity methods, addressed in the following subsection, in which symbolic exploration is integrated with systematic procedures for generating and evaluating alternatives.

2.6.5. Structured methods (Disney Strategy, Six Thinking Hats, Artistic Design Thinking)

Structured creativity methods constitute systematic procedures designed to organize the generation, exploration, and evaluation of ideas in contexts characterized by complexity and indeterminacy. Their pedagogical relevance lies in the introduction of cognitive scaffolding that regulates transitions between experience, reflection, and decision-making, thereby sustaining iterative cycles of learning and action (Kolb, 1984). In educational and cultural innovation settings, these methods become particularly salient when articulated with people-centred design approaches, which emphasize the explicit formulation of criteria, iteration, and the progressive validation of solutions (International Organization for Standardization [ISO], 2019).

Within the framework of art-based techniques and tools, structured methods are not conceived as prescriptive procedural recipes, but as devices for organizing collective thinking and making cognitive processes explicit. Their function is to differentiate phases, roles, or modes of reasoning that, when left implicit, tend to overlap and generate creative blockages. By introducing explicit rules of sequencing, these methods preserve the interpretive openness characteristic of artistic practices while providing the rigor required for informed and accountable decision-making (Kolb, 1984).

<i>Disney Strategy</i>	The Disney Strategy is a structured ideation method based on the sequential alternation of differentiated perspectives—commonly articulated as dreamer, realist, and critic—applied to a single challenge. Its methodological value lies in the deliberate separation of cognitive functions that, in unstructured contexts, often operate simultaneously and inhibit creative development. The strategy regulates the relationship between idea generation, feasibility analysis, and critical evaluation, preventing premature criticism from constraining exploration. By externalizing these functions into explicit phases, the method renders the thinking process itself an object of reflection, thereby fostering transferable learning (Kolb, 1984).
Application example.	In a cultural innovation project, a team addresses the design of an exhibition proposal by applying the three phases sequentially. The dreamer phase enables the exploration of formats without technical constraints; the realist phase examines available resources, timelines, and mediation possibilities; and the critic phase analyses symbolic risks and ethical tensions. This sequencing facilitates the translation of exploratory insights into clearly articulated criteria for subsequent prototyping.
<i>Six Thinking Hats</i>	The Six Thinking Hats method proposes the sequential adoption of six distinct modes of thinking—informational, emotional, critical, creative, positive, and metacognitive—with the aim of structuring collective reflection and preventing the conflation of argumentative levels (de Bono, 1985). This method introduces cognitive discipline by enabling the examination of a problem from complementary perspectives without allowing them to compete simultaneously. Its pedagogical contribution lies in making explicit the types of reasoning involved in decision-making, thereby supporting more comprehensive, balanced, and deliberate analysis (de Bono, 1985).
Application example.	In the design of a participatory cultural experience, the team employs the informational mode to review contextual data, the emotional mode to anticipate audience responses, and the creative mode to generate mediation alternatives. The subsequent adoption of the critical mode enables the evaluation of risks without invalidating prior exploration, facilitating shared and well-justified decisions (Kolb, 1984).

<i>Artistic Design Thinking</i>	Artistic Design Thinking integrates the canonical phases of people-centred design—contextual understanding, challenge definition, ideation, prototyping, and evaluation—with symbolic, visual, and experiential mediations derived from artistic practices. Its methodological grounding aligns with user-centred design standards that emphasize empathy, iteration, and the progressive validation of solutions (ISO, 2019). This approach enables the articulation of creative exploration and systematic decision-making by incorporating artistic tools as inquiry devices rather than as expressive supplements. In doing so, it avoids rigid methodological application and supports the development of culturally meaningful and contextually situated solutions.
Application example.	In a digital mediation project, a team initiates the process with visual and narrative techniques to explore audience experience, develops ideas through metaphorical exploration, and constructs low-fidelity prototypes that are iteratively revised. Design decisions are adjusted in response to evidence generated through use and feedback, maintaining coherence with people-centred design principles (ISO, 2019).

Criteria for methodological rigor

To ensure pedagogical validity and avoid mechanical application, structured methods must meet four conditions. First, clarity of function, requiring explicit definition of the cognitive purpose of each phase or role. Second, explicit sequencing, preventing the simultaneous overlap of functions that constrains creative potential (de Bono, 1985). Third, integration with artistic mediations, incorporating visual, narrative, or bodily resources that expand reflective space. Finally, orientation toward iteration and decision-making, ensuring that the outcomes of each phase are translated into revisable operational criteria that inform subsequent action (Kolb, 1984; ISO, 2019).

Structured methods provide operational frameworks that sustain rigorous creative processes in contexts of indeterminacy. When integrated into art-based approaches, they function as cognitive scaffolding that regulates exploration and evaluation without displacing experiential engagement or symbolic interpretation. Their pedagogical value lies in rendering collective thinking processes explicit and in enabling well-argued, transparent decision-making, thereby coherently concluding the set of art-based techniques and tools developed in this section.

3. INTEGRATED PATH WITH TRAINING MODULES

The previous section describes the pedagogical framework as a set of principles and tools (e.g. art-based coaching, the five-phase cycle, and the techniques that support reflection and creative thinking). This section puts those principles to work. It shows how the six CULT modules form a coherent learning itinerary, how competencies accumulate from one module to the next, and how the art-based methodology described in Section 2 operates as a practical thread across that itinerary.

3.1. Learning Path Structure

The CULT curriculum describes the learning process through three dimensions: cognitive (learning by thinking), operational (learning by doing), and behavioural (learning by acting, through Work-Based Learning with real cultural organisations). These dimensions describe how learning happens across the programme. This section adopts a complementary perspective, examining what progressively develops through that process and how students' capabilities accumulate and converge toward the Final Project. In this way, the pedagogical dynamics of the programme and the developmental trajectory of students' competences are considered together, offering teachers a coherent view of both process and progression.

To support teachers in navigating this itinerary, two complementary resources are provided. Section 3.1.1 maps the learning pathway, explaining how the modules connect to one another and to the Final Project, and showing how the four competence types develop progressively across the curriculum. Section 3.1.2 provides a reference map of the primary competence focus of each module and offers orientations for recognising how those competences develop and converge across the pathway.

3.1.1. How to Connect Modules to the Final Project

The Final Project is the integrative core of the CULT learning pathway. It is not an additional task appended at the end of the curriculum, but the space where the competencies developed across all six modules converge into a single, applied response to a real challenge. In the Final Project, students respond to a brief provided by a cultural heritage organisation, designing and prototyping a solution that addresses a specific need. This professional simulation provides the context where students can apply the knowledge and skills acquired throughout their training process. However, the connection between the modules and the Final Project is not automatic. It depends on how the curriculum is translated into teaching and on how technical knowledge, analytical skills, creative methods, and ethical awareness are progressively made explicit and reinforced across the itinerary. Together, these elements form a framework for integrating and consolidating the competencies resulting from the CULT curriculum in terms of four competence types — analytical, technical, creative, and ethical.

Analytical competences are introduced early and deepened throughout the learning process. From the first module, students are asked to evaluate technologies, interpret cultural contexts, and justify decisions. This capacity grows more sophisticated as students encounter new domains (e.g. XR feasibility in Module 2, platform affordances in Module 3, AI tool selection in Module 4, interaction design choices in Module 5...) each time requiring them to apply the same analytical rigour to a more complex landscape. By the time students begin the Final Project, analytical

judgement should be second nature: the ability to read a cultural organisation, identify its real challenges, and select approaches accordingly.

Technical competences develop in parallel but following a distinct pathway. The early modules (1 and 2) are primarily exploratory: students survey what exists and experiment with what is possible. The middle modules (3, 4, and 5) move into structured prototyping, each in a different technological domain, such as browser-based immersive environments, AI-augmented experiences, and game-based design. These three pathways are not mutually exclusive; a strong Final Project may draw on all of them. The progression from exploration to specialisation to integration is what the itinerary is designed to produce.

Creative competences, such as the capacity to transform cultural narratives into spatial, interactive, or data-driven experiences, evolve alongside technical capacity but follow their own logic. It is not a skill that improves simply through practice; it requires exposure to diverse approaches, the freedom to experiment without predetermined outcomes, and structured reflection on what has been learned. This is precisely the role of the art-based coaching methodology described in Section 2. The five-phase cycle (i.e. awakening, exploration, focusing, creation, reflection) operates within each module and across the pathway as a whole. Within a module, it structures how students engage with new technical content. Across the pathway, it describes the progression of the entire curriculum: the early modules are a collective awakening and exploration; the middle modules deepen and diversify; the Final Project phases concentrate and synthesise. The CULT pathway achieves its coherence by teaching with a double rhythm in mind: addressing both the immediate cycle within each session and the longer arc of the curriculum.

Ethical competences, including attention to inclusion and gender equity, should be treated as a live, transversal lens throughout the curriculum: one that shapes the selection of cultural assets, the definition of target audiences, the choice of technological platforms, and the criteria for prototype evaluation. Module 6 provides the conceptual frameworks and vocabulary for this dimension, but its value depends on those frameworks being mobilised in the other five modules. Students who encounter equity only as a dedicated topic, rather than as a persistent question embedded in every design decision, will not arrive at the Final Project with the capacity to apply it where it matters most.

Each module emphasises one or more of these competence types while reinforcing the others. The coherence of the pathway therefore depends less on strict distribution and more on cumulative articulation. A student who has not sufficiently developed analytical judgement will struggle to justify technological choices in the Final Project. A student who has not integrated ethical reflection will produce technically competent prototypes that fail to address access, representation, or social impact. Teachers should maintain this coherence by making explicit, at each stage, how the work students are doing now relates to the project they will eventually complete.

3.1.2. Expected Outputs for Each Module

The six modules do not develop all four competence types with equal intensity. Each module has a primary focus that determines the main type of competences it develops, while reinforcing the others to varying degrees. The table below maps this distribution and indicates each module's principal contribution to the integrated practice the Final Project requires. It is intended as a reference map for teachers: a way of keeping the overall shape of the itinerary in view, and of understanding what each module is primarily building toward.

Module	Primary competence focus	Principal contribution to the Final Project
Module 1 Digital Technologies for Cultural Heritage	Analytical: Interpreting cultural contexts, evaluating technologies, and examining the ethical implications of digitisation choices.	Establishes the analytical foundation for reading a cultural organisation's situation and identifying meaningful directions for innovation.
Module 2 Technologies for Extended Reality	Analytical/Technical: Assessing the feasibility and constraints of immersive technologies; translating human-centred design principles into a basic prototype.	Grounds the To-Be vision in realistic possibilities and introduces the prototyping logic that underpins all subsequent development.
Module 3 Web 3D and Immersive Communication	Technical/Creative: Designing spatially coherent immersive experiences; translating cultural narratives into navigable, audience-centred environments.	Provides the methodological template for concept definition, spatial design, and platform selection that students draw on during the project's ideation and prototyping phases.
Module 4 Artificial Intelligence for Digital Heritage Innovation	Technical / Ethical: Integrating AI tools in service of cultural communication goals; critically analysing questions of authorship, bias, and representation.	Expands the solution space while developing the critical awareness needed to deploy new technologies responsibly.
Module 5 Video-game Design and Development for Cultural Heritage	Creative/Technical: Designing interactive cultural narratives; developing a playable prototype that balances engagement mechanics with heritage accuracy.	Introduces game design thinking (mechanics, narrative structure, progression systems) as a framework students can apply when designing gamified solutions.
Module 6 Inclusion of Girls in Technology	Analytical / Ethical: Applying gender-sensitive frameworks; designing or adapting cultural technology initiatives to address equity and inclusion.	Provides the analytical and ethical lenses that should be active across all project phases, from asset selection to prototype evaluation.

As shown, the table highlights that the pathway is deliberately designed in a way that each module contributes to the development of different competences, and that the Final Project is the moment where those contributions must operate simultaneously. It is up to the student to decide how these competences are combined and which aspects become central in their Final Project.

For teachers, the key question is therefore not only what each module teaches, but whether students are progressively connecting those competences as they move through the programme. The following questions are offered as examples that teachers can use to assess whether competences are accumulating and connecting as intended:

- **Analytical competences:** Are students applying consistent evaluative criteria across different domains and contexts? Does each new module feel like a fresh start? Can they explain why one approach is more appropriate than another for a specific cultural situation?
- **Technical competences:** As the itinerary progresses, are students making deliberate choices about which tools and approaches to use, and can they justify those choices in relation to the cultural challenge at hand? Or are these decisions driven by familiarity rather than fit?
- **Creative competences:** Can students explain what a spatial, narrative, or interactive design choice is meant to do for the user, not just aesthetically, but communicatively? Are creative decisions grounded in an understanding of the cultural asset and its audiences?
- **Ethical competences:** Are equity and inclusion considerations surfacing as a natural dimension of design, for example in the selection of cultural assets and the definition of audiences? Or do these questions appear only when explicitly prompted, such as during the evaluation of prototypes?

The questions proposed above should not be seen as formal evaluation criteria; rather, they are intended to help teachers observe how competences begin to connect as students progress through the pathway. They are most useful when used as prompts for dialogue, for example in group debriefs, reflective writing sessions, or informal check-ins, rather than as individual assessment items. Their purpose is to help teachers identify, early enough to act on it, where integration is developing well and where it may need deliberate reinforcement.

The following section moves from this competence perspective to a more practical level, presenting examples of art-based activity sequences that illustrate how these dimensions can be developed within the individual modules of the programme.

3.2. Art-Based Activities by Module

3.2.1. Art-based activities for Module 1 – Digital storytelling for cultural heritage

Within the ART-Inspired Teaching framework, Module 1 – Digital Storytelling for Cultural Heritage provides a foundational learning space in which students are introduced to the role of digital technologies as mediators of cultural meaning, not merely as technical tools. Technologies—even in terms of the choice of formats, languages, interfaces,

and channels—impact what heritage is made visible, how it is narrated, for whom it becomes accessible, and whose voices are amplified or marginalized.

In this context, art-based activities have a central pedagogical function: they allow students to explore the cultural, symbolic, narrative, and ethical dimensions of heritage before engaging with specific tools and platforms. This sequence is intentional: first, a culturally situated understanding is constructed (meaning-making), then the project concept is developed, and only subsequently, technical choices are made.

Educational purpose

The primary objective is to support a shift in perspective: from conceiving heritage as a collection of objects/data "to be digitized" to understanding it as a living system of memories, relationships, identities, and meanings.

Artistic practices activate:

- **embodied awareness** (perceptual, emotional and contextual attention);
- **narrative thinking** (sequences, points of view, audience, voice);
- **symbolic interpretation** (metaphors, ambivalences, cultural tensions);
- **critical and ethical reflection** (authorship, representation, inclusion, accessibility, risks of simplification).

In short, in Module 1, art-based activities operate as epistemological tools: they allow students to “think with and through culture” before thinking about technology, creating the cognitive and symbolic conditions necessary for responsible digital innovation in cultural heritage.

Expected learning outcomes

At the end of the art-based activities in Module 1, the student/group is able to:

1. distinguish between material and immaterial dimensions of the asset (memory, identity, practices, values, conflicts);
2. make explicit initial perceptions, assumptions and interpretive positioning (including biases);
3. construct a coherent and plural narrative, justifying choices of voice, framing and audience;
4. identify present/absent voices and define operational ethical safeguards (not generic declarations);
5. translate cultural insights into initial experiential hypotheses (storyboards/journeys) consistent with As-Is/To-Be;
6. produce intermediate outputs that can be reused in the Project Work deliverables (Cultural Asset Sheet, As-Is/To-Be Analysis, Concept Document).

3.2.1.1 Pedagogical function of art-based activities in Module 1

Art-based activities perform four integrated functions.

(1) Enable interpretive access to cultural heritage

Before analysing an asset in technical or design terms, students must be allowed to engage with it: observe, question, place it in context, and recognize its symbolic depth. Heritage is not limited to materiality: it encompasses collective memories, identities, rituals, practices, values, and narrative conflicts.

(2) Bringing out tacit knowledge

Artistic practices uncover initial perceptions, emotional resonances, mental images, intuitions, and assumptions often invisible in analytical formats. This material is educationally essential because it generates insights that guide culturally informed design choices.

(3) Support narrative construction and meaning making

Through collage, creative writing, metaphors, and visual storytelling, students explore voice, authorship, and representation: who is speaking about the good, how they frame it, for whom, and with what implications. This phase is crucial for developing ethical awareness of dominant narratives and marginalization.

(4) Building a bridge between analysis and design

Art-based outputs function as symbolic and conceptual prototypes (storyboards, journey maps, concept seeds). They are not digital prototypes yet, but low-risk artifacts that allow comparison and refinement. The guiding principle is: the digital solution emerges from cultural understanding + creative exploration, not from tool-driven choices.

3.2.1.2 Teaching progression (four-phase operating procedure)

To be effective and transferable in the deliverables, the art-based activities of Module 1 are organized into four complementary phases: A) activation, B) meaning and narration, C) project translation, D) formalization.

Coherence map (phase → output → deliverable)

Phase	Focus	Minimum required output (students)	It flows directly into
A. Activation	perception + tacit	Visual table + 5 keywords + 3 questions	Cultural Asset Sheet (meanings/context)
B. Narration	memory + identity + ethics	Micro-story + Map of voices + 1 ethical governance	As-Is/To-Be (cultural critical issues)
C. Transition to design	To-Be experience	Storyboard of 6 scenes + Journey map + 2 motivated choices	Concept Document (experience and audience)
D. Formalization	project synthesis	Concept Seed (1 page) + Success Criteria	Concept Document + Development Guide

Recommended standard:

Each group delivers a final “bundle” with 4 artifacts:

- **Table**,
- **Micro-story**,
- **Storyboard**,
- **Concept Seed** (+ voice map and journey map as attachments).

A. Initial Awakening & Exploration

Objective: externalize initial perceptions, assumptions, and emotional resonances; make tacit knowledge visible; build a protected reflective space (not immediate problem-solving).

Student assignment (standard delivery):

Interpretation Table

1. Collect 6–10 stimuli (images, details, textures, words, sounds, micro-texts).
2. Create a table/collage that responds to three levels:
 - **What I can see** (observable)
 - **What it means** (interpretative hypotheses)
 - **What does it make me question?** (tensions, ambivalences, questions)
3. Add 5 keywords and 3 guiding questions.

Mandatory outputs

- Table (A3 analog or digital)
- 5 keywords

- 3 interpretative questions

Quality criterion

- at least one cultural tension must emerge (not just description).

B. Narrative Construction and Meaning-Making

Objective: articulate immaterial dimensions (memory, identity, transmission), experiment with multiple perspectives, develop ethical awareness of voice and representation.

Activity B1 – Micro-storytelling “The Voice of the Good” (100–150 words)

The text must include: 1 memory, 1 conflict/tension, 1 desire for transmission, 1 sentence addressed to an audience.

Activity B2 – Map of entries (inclusion/exclusion)

Identify:

- current dominant voice
- voices represented
- absent/marginal voices
- risk of representation (distortion, stereotype, erasure)
- operational control (“To avoid X we will Y”, verifiable)

Mandatory outputs

- Micro-story
- Map of voices
- 1 operational ethical governance

Quality criterion

- the governance must be specific, implementable and verifiable (not “we will pay attention”).

C. Translation of insights into initial design ideas (Bridge Analysis → Design)

Objective: translate cultural insights and As-Is/To-Be results into a first user experience (To-Be), through conceptual prototypes.

Activity C1 – Storyboard in 6 scenes (To-Be experience)

Each scene includes:

- user action
- emotion/expected benefit
- cultural content activated
- micro-interaction (choose/listen/compare/leave trace)

Activity C2 – Journey map (experience + As-Is frictions + devices)

Recommended columns:

Step | User Objective | As-Is Friction | To-Be Mediation | Ethical/Accessibility governance

Mandatory outputs

- Storyboard of 6 scenes
- Complete journey map
- 2 motivated design choices (because they are consistent with cultural significance)

Quality criterion

- Each scene must connect action + meaning (not just “functions”).

D. Formalization in the Project Work deliverables

Objective: make the transition from perception → insight → need → mediation → concept traceable and aliment the mandatory deliverables.

Activity D – Concept Seed (1 page, no tool talk)

- Cultural heritage/asset
- Main cultural insight
- Priority audience (synthetic person)
- Cultural/experiential need
- As-Is Problem (current friction)
- To-Be Transformation (what changes)
- Digital mediation proposal (in terms of experience)
- Included voices + recovered voices
- Ethical risk + mitigation
- Success Criteria (how to measure if it works)

Mandatory outputs

- Concept Seed compiled
- Deliverables link note (what goes in which section)

3.2.1.3 Role of the teacher (Art-based coaching)

The teacher acts as a facilitator and coach: he/she supports reflective dialogue and interpretation without imposing predefined meanings. The focus of the feedback is on cultural intention, narrative coherence, reflective depth, and ethical considerations, not on aesthetics or technical feasibility at this stage.

Teacher's operational tasks

- create a safe climate (make it clear: “artistic talent is not evaluated here”);
- propose progressive and verifiable deliveries (production constraints: 150 words, 6 scenes, 5 keywords);
- facilitate verbalization (from artifact to insight);
- promote plurality of voices and inclusion;
- make the output → deliverable link explicit;
- prevent tool-driven drift (always bring back to cultural meaning).

3.2.1.4 Operational guidelines for implementation (quality standards)

Methodological principle: low access threshold, high interpretative density

The activities must be accessible without prior artistic skills, but capable of producing deep and formalizable insights.

Recommended devices

- roles in the group: facilitator, storyteller, summariser, “guardian of ethics”, audience curator;
- mandatory templates (make outputs comparable and transferable);
- examples “good enough” (reduces performance block);
- feedback on clarity/consistency/inclusiveness, not on “good/bad.”

3.2.1.5 Complete case study “Gold Standard”

Below is a comprehensive case study that you can use as a model to demonstrate in class.

An asset with strong narrative and inclusive potential was chosen, particularly with regards to often underrepresented female memories.

1. Chosen asset (example)

“Archive of photographs and testimonies of the workers of a local textile factory (1950–1980)”

Materials available: period photographs, factory records, audio interviews, objects (fabrics, tools), newspaper articles.

2. A) Interpretation Table Template – COMPLETED

Table title: “The hands that kept the city going”

Inserted visual elements (collage description):

- detail of hands-on looms / reels
- attendance card and registration numbers
- group photo of women on factory floor (gazes, postures)
- fragments of fabric and patterns
- newspaper clipping: “plant closure”
- city map with location of the factory and workers' houses

5 keywords

- Invisibility
- Expertise
- Fatigue
- Solidarity
- Transformation

3 interpretative questions

1. What (unrecognized) skills and knowledge emerge in daily work practices?
2. Who has told this story so far, and who has remained outside the public narrative?
3. How can we avoid a nostalgic narrative and instead build a bridge to the present (work, rights, identity)?

Explicit cultural tension

- “lived memory” vs. “official memory”; “pride” vs. “wound.”

3. B) Micro-story “The Voice of the Good” – COMPLETED (120–140 words)

“These aren't just photographs. They're shifts, noises, gestures repeated until they become masterful. You looked at me hastily, as if you were looking at a past that doesn't disturb. Yet I disturb: because I say that the city was sewn together by hands that never had plaques. I remember laughter in the department and silences over the letters of dismissal. I'd like you to listen to me without nostalgia: I'm not an album, I'm a warning. To you who pass by the empty warehouse, I ask one thing: try to imagine the time when those who came in at dawn, returned with the fabric on their bodies, like a scent. If you make me visible, you make them visible too.”

Teaching note (for students):

highlights memory + conflict (invisibility) + transmission (bridge to the present) + sentence to the audience.

4. C) Map of voices – COMPLETED

Element	Content
Current dominant voice	industrial/institutional narrative (“economic development”, “business history”)
Voices represented	managers, production as data, company milestones

Missing/marginal voices	female workers, care and domestic work intertwined, internal migrations, conflicts and rights
Risk	“showcase memory”: aestheticizing fatigue; erasing conflicts; reducing people to background
Operational governance	1) first-person tracks (audio + short quotes), 2) “work and skills” path with glossary of gestures, 3) “what you don't see” section (rights, maternity, shifts), 4) non-celebratory language and plurality of perspectives

Operational ethical principle (phrase):

“To avoid a celebratory narrative that erases people, we will build a journey centered on first-person voices and what has historically remained invisible.”

5. D) As-Is / To-Be

Size	As-Is	To-Be
Access	little-known archive, consultable only on site	multi-channel access (map, audio, cards) with levels of depth
Understanding meaning	focus on historical data, little on daily life	focus on practices, skills, identities, rights, transformations
Involvement	passive usage	participatory experience: listening, choosing paths, contributions
Inclusion of entries	dominant institutional voice	plurality: female workers, families, communities, unions, young people
Narrative experience	linear chronology	thematic itineraries: “hands and gestures”, “rights”, “migrations”, “wounds”
Digital mediation	absent or descriptive	“layered stories”: a detail → voice → context → reflection

6. E) Storyboard of 6 scenes

- Trigger:** user sees empty warehouse → QR or totem “Listen to who worked here”.
 - Emotion: curiosity + surprise
 - Content: “a photo, a voice, a gesture”
- Orientation:** interface offers 3 paths: “Gestures”, “Voices”, “Rights”.
 - Emotion: control + choice
 - Contents: department map
- Discovery:** user selects a gesture (e.g. “prepare the plot”) → mini-video/animation + audio testimony.
 - Emotion: recognition of competence
 - Contents: glossary of gestures
- Change of perspective:** user listens to “what you don’t see” (maternity/shifts/fears).
 - Emotion: empathy + complexity
 - Content: First-person fragments, historical context
- Meaning:** a comparison between “yesterday and today” (women's work, rights, precariousness) with reflective questions.
 - Emotion: personal connection

- Content: questions + contextual micro-data
- 6. **Restitution:** user leaves a trace (“a word for these lives”) or uploads a family memory (moderate).
 - Emotion: participation + responsibility
 - Content: Curated community bulletin board

7. F) Journey Map (5 steps)

Step	User goal	As-Is Clutch	To-Be Mediation	Ethical/Accessibility Presidium
1	understand "what it's about"	invisible archive	trigger on location + easy access	clear language, reading levels
2	orient oneself	fragmented materials	thematic itineraries	non-paternalistic choices
3	learn	data only	gesture + voice + context	avoid aestheticizing fatigue
4	connect to oneself	emotional distance	reflective questions + comparisons	do not moralize, offer plurality
5	contribute	no agency	curated traces and memories	moderation, privacy, consent

8. G) Concept Seed (1 page)

- **Cultural heritage/asset:** photo archive + testimonies of textile manufacturing workers (1950–1980)
- **Main cultural insight:** industrial history is often told as a business story; here, the cultural core is the daily expertise and memory of women workers, invisible but fundamental to local identity.
- **Priority audience:**(1) local community and families; (2) schools; (3) visitors interested in social history
- **Cultural/experiential need:** recognize and understand the heritage of women's work and skills, with emotional and informed access.
- **As-Is Problem:** archives are poorly accessible; dominant institutional narrative; first-person voices are marginal.
- **To-Be Transformation:** make the experience plural, layered and participatory: “a gesture → a voice → a context → a reflection”.
- **Digital mediation proposal (experience):** thematic itineraries on-site and online with first-person micro-stories, a glossary of gestures, reflective questions, and the opportunity to leave curated traces.
- **Voices included:** female workers, communities, families; presence of institutional but non-dominant perspectives.
- **Ethical risk + mitigation:** risk of aestheticizing the effort and simplifying conflicts → mitigation: plurality of voices, “what is not seen” sections, non-celebratory language, editorial curation and consensus.
- **Success Criteria:**(1) users complete at least 1 course; (2) understanding of at least 2 “invisible dimensions”; (3) relevant community contributions; (4) perception of plurality and respect.

3.2.1.7 Example of a micro-classroom course

For example, the teacher can structure a 2–3 hour laboratory session in the following way:

1. Introduction and framing of the task

Presentation of the cultural asset and clarification of the setting: the goal is not to produce a “beautiful” artistic object, but to generate a deeper understanding of the heritage.

2. Activation activities

Interpretative collage or initial visual map.

3. Sharing and debriefing

Each participant or group explains the meanings that emerged.

4. Narrative activity

Writing the “voice of the good” or writing from multiple perspectives.

5. Analysis of the voices

Mapping inclusions, exclusions, and ethical tensions.

6. Project translation

Storyboard or journey map.

7. Final summary

Guided compilation of the concept seed and connection to deliverables.

This articulation helps students clearly see the connection between the creative phase, the reflective phase and the planning phase.

3.2.1.8 Evaluation criteria consistent with the module

Since the purpose of the module is not artistic performance, but the ability to culturally interpret the asset and transform this interpretation into a design basis, the evaluation should take into account the following criteria in particular:

- depth of cultural reading;
- ability to recognize immaterial dimensions of the asset;
- attention to the plurality of perspectives;
- ethical awareness regarding voice, representation, and exclusion;
- consistency between the insight that emerged and the project proposal;
- clarity of the transition from exploration to concept;
- quality of reflection and verbalization.

An essential rubric can be structured as follows:

Basic level

The cultural asset is described in a pertinent but predominantly descriptive manner; insights are present but still generic; the connection to the project is initial.

Intermediate level

Meanings, tensions, audiences, and needs emerge; the narrative is coherent; the project proposal begins to demonstrate a cultural foundation.

Advanced level

The work clearly connects cultural, narrative, ethical, and design dimensions; it recognizes inclusions and exclusions; and formulates a coherent, meaningful, and well-argued digital mediation.

3.2.1.9 Quality checklist for the teacher (typical errors + tool-driven signals + real-time corrections)

Below is a checklist that can be used as a quality control tool during delivery.

1) Before the session (teaching setup)

Controls

- Do the deliverables have clear constraints (words/scenes/templates) and deliverable outputs?
- Are there 1–2 “good enough” (not perfect) examples ready to show?
- Are there roles in the group (including an “ethics guardian”)?

- Have printed/digital templates been prepared?
- Is it clear that what is being evaluated is not aesthetics, but cultural intention, coherence, and reflection?

Typical error

- restitutions that are too open → dispersion and performance anxiety.

Correction

- introduce constraints and micro-steps (“first 5 keywords, then 3 questions, then table”).

2) During phase A (activation) — “stop problem-solving”

Risk signals

- Students immediately ask “which app do we use?” / “should we make a website?”
- they skip the debrief and want to “move on to the project”
- the output is only descriptive (no tension or question)

Real-time interventions

- Question again: “What cultural significance are you protecting?”
- Constraint: “Before we talk about tools, give me 1 tension and 3 questions.”
- Reframing: “At this stage we’re not solving: we make complexity and positioning visible.”

Typical error

- implicitly evaluate aesthetics (“beautiful/ugly”).

Correction

- feedback only on clarity of meaning: “here the meaning is readable/not readable”.

3) During phase B (narration and ethics) — “plurality and protection”

Risk signals

- unique and “official” narrative
- tokenism: “let’s add women” without changing our point of view
- vague ethical guidelines (“we will be careful”)

Real-time interventions

- “3-voice” technique: “Write it from 3 different perspectives.”
- ethical question: “Who is at risk of being excluded from your solution?”
- verifiable rule of thumb: “Write ‘To avoid X we will Y’ and it must be verifiable.”

Typical error

- nostalgia/celebration that erases conflicts.

Correction

- introduce the mandatory “what you don’t see” section.

4) During phase C (bridge to design) — prevent tool-driven drift

Typical signs of tool-driven drift

- the proposal is a list of features (“AR, QR, app”) without explicit cultural value
- storyboard focused on UI and not on meaning/experience
- the connection with As-Is/To-Be is not visible
- identical “solution” for any good (generic solution)

Instant Fixes (Practical Tools)

1. **Sense Test:** “If I remove the tool, does the idea remain?” - If not → it is tool-driven.
2. **Design constraint:** “Describe the experience without naming the technology.”
3. **Return to insight:** “What insight from the table/micro-story goes into scene 3 of the storyboard?”

4. **Anchoring to the public:** “Who is the user and what changes for him/her after the experience?”
5. **Ethical check:** “What risk do you create and how do you mitigate it within the experience?”

5) During phase D (formalization) — traceability and document quality

Risk signals

- concept seed full of buzzwords and lacking success criteria
- no explicit link to deliverables
- ethical risk cited but not mitigated

Interventions

- “One page, maximum. If it doesn't fit, it's not clear yet.”
- “Write 3 observable success criteria.”
- “Risk + mitigation are mandatory, not optional.”

6) Typical transversal errors (and how to fix them)

1. **Confusing heritage with content** (data only)
 - Correction: have “invisible meanings” and “cultural tension” filled in.
2. **Simplifying complexity** (flat story)
 - Correction: impose “plurality of voices” and “what is not seen”.
3. **Overload with ambition** (too big)
 - Correction: reduce to “one key scene + one thematic course.”
4. **Unbalanced participation** (a person dominates)
 - Correction: roles, shifts, short individual assignments before the group.

7) Quality indicators (when the module is working)

- students talk about meaning before tools
- they can indicate at least 1 tension and 1 ethical risk with mitigation
- storyboards and journey maps show an experience with clear cultural value
- concept seed is traceable (artifacts → insight → need → proposal)
- plural and non-decorative voices emerge

3.2.1.10 Consistency with the Project Work and with the ART-Inspired Teaching philosophy

Consistent with the overall structure of the program, the outcomes of the art-based activities in this module directly inform the construction of key deliverables. The elements emerging from the exploratory and narrative activities can aliment the Cultural Asset Sheet with deeper and more contextualized content; reflection on critical issues, audiences, and scenarios can enrich the As-Is/To-Be Analysis; translating insights into storyboards, experience maps, and concept seeds directly contribute to the definition of the Concept Document.

In this sense, the art-based activities in Module 1 act as true epistemological tools, enabling students to construct knowledge not only through rational analysis, but also through imagination, symbolization, narrative, and critical reflection. They establish the cognitive, cultural, and ethical conditions necessary for subsequent responsible digital innovation in the field of cultural heritage.

Taken together, these activities ensure that subsequent technological development is not detached from the cultural significance of the good, but remains fully grounded in cultural relevance, inclusiveness, ethical awareness, and design intentionality. For this reason, Module 1 plays a crucial role within the curriculum: it prepares students for the subsequent, more technically oriented modules, while grounding their work in a culturally situated and pedagogically transformative understanding of heritage.

3.2.2. Art-based activities for Module 2 – Technologies for Extended Reality

Within the ART-Inspired Teaching framework, Module 2 — Technologies for Extended Reality offer unique opportunities to explore storytelling, perception, memory, and cultural heritage. Unlike traditional media, immersive experiences position participants inside the narrative space, allowing them to engage with stories through embodiment, spatial awareness, and sensory interaction. Through carefully designed art-based activities, students can critically analyze immersive narratives while experimenting with the creative possibilities offered by VR and AR technologies.

The pedagogical objective of this module is to help students understand how immersive technologies can be employed as artistic, educational, and cultural tools. Through the analysis of existing immersive experiences and the development of their own concepts, students explore how virtual and augmented realities reshape narrative structures, audience engagement, and the communication of historical and cultural content.

To support the exploration of Extended Reality technologies throughout this module, two immersive case studies are used as reference examples: Notes on Blindness: Into Darkness (2016) and Colored (2023).

Notes on Blindness: Into Darkness is a Virtual Reality (VR) experience developed by Audiogaming and directed by Amaury La Burthe. Based on the audio diaries of theologian John Hull, who progressively lost his sight, the experience uses binaural sound [1], spatial audio, and abstract visual representations to immerse users in Hull's perceptual world. Through a largely linear narrative and limited interaction, the experience demonstrates how VR can be employed to communicate subjective experiences, sensory perception, and personal narratives. Its innovative use of sound and visual abstraction makes it a valuable example for understanding the expressive potential of immersive technologies. Colored is an Augmented Reality (AR) location-based experience created by Tania de Montaigne, Stéphane Foenkinos, and Pierre-Alain Giraud. Inspired by the life of Claudette Colvin and the history of racial segregation in the United States, the experience combines physical scenography, holographic characters, spatialized sound, and audience movement to create an immersive historical narrative. Using Microsoft HoloLens 2 headsets, participants navigate a shared physical environment where digital content is integrated into real-world spaces. As an example of an Augmented Reality Location-Based Experience (ARLBE), Colored demonstrates how AR can be used to communicate historical events, encourage collective participation, and transform physical environments into spaces of cultural memory.

These two experiences were selected because they represent distinct approaches to Extended Reality. While Notes on Blindness illustrates the immersive potential of Virtual Reality through sensory and personal storytelling, Colored showcases how Augmented Reality can connect digital narratives with physical spaces and collective experiences. Together, they provide students with complementary examples that support the analysis, comparison, and creative application of XR technologies throughout the module.

During the Awakening phase, students are introduced to the concept of Extended Reality and encouraged to reflect on their previous experiences with immersive technologies, digital storytelling, video games, cinema, and interactive media. The objective is to stimulate curiosity about XR while fostering an initial awareness of how immersive experiences differ from traditional forms of communication.

For Notes on Blindness: Into Darkness (2016), students experience selected chapters of the VR application or watch curated recordings of the experience. Following the activity, they participate in guided discussions focusing on perception, sensory awareness, and emotional engagement. Particular attention is devoted to how sound and visual abstraction can communicate experiences that are difficult to represent through conventional media. Students are invited to reflect on questions such as: How does the experience alter the perception of space? How does sound become a primary source of information? How can VR communicate subjective human experiences?

For *Colored* (2023), students are introduced to the experience through video documentation, interviews with the creators, and visual materials. Through discussion, they examine how augmented reality can be used to represent historical events and social issues. Students reflect on the relationship between physical space and digital content and consider how AR differs from VR in terms of immersion, interaction, and audience participation.

This initial phase helps students recognize XR technologies as powerful tools for storytelling, cultural interpretation, and emotional engagement.

During the Exploration phase, students investigate the distinctive characteristics of VR and AR through observation, comparison, and creative analysis. The objective is to explore how different XR technologies create different forms of presence, immersion, and interaction.

For *Notes on Blindness*, students analyze the role of binaural sound, spatial audio, and abstract visual design. An effective activity consists of creating sensory maps that reconstruct how users perceive and navigate the virtual environment through sound cues. Students may also produce visual sketches illustrating how the experience represents objects, people, and spaces through point-cloud-like visualizations inspired by echolocation.

For *Colored*, students investigate how the narrative unfolds through holograms, physical scenography, and audience movement. Using floor plans, diagrams, and visual annotations, they reconstruct the spatial organization of the experience and identify how virtual content interacts with physical elements. Students explore how the audience's movement and changing perspectives contribute to narrative understanding.

After examining both experiences independently, students participate in comparative activities such as concept mapping, visual comparison charts, or collaborative discussions to identify the similarities and differences between VR and AR technologies in terms of immersion, storytelling, accessibility, and cultural communication.

During the Focus phase, students critically examine the artistic, narrative, and technological choices that shape immersive experiences. The objective is to deepen their understanding of how XR design influences perception, engagement, and learning.

For *Notes on Blindness*, students focus on the relationship between sound, narrative, and perception. Through close analysis of selected sequences, they investigate how the creators transformed John Hull's audio diaries into an immersive environment. Students may also explore the project as a transmedia adaptation by examining the connections between the original diaries, the documentary film, and the VR experience. Discussions can address how VR occupies a space between cinema and interactive media.

For *Colored*, students focus on the use of AR for historical storytelling. They analyze how the experience combines physical space, holographic characters, and collective participation to communicate the story of Claudette Colvin and the realities of racial segregation. Role-playing activities can be introduced, with students assuming the roles of XR designers, historians, educators, museum professionals, accessibility experts, or visitors. Through simulated design discussions, they evaluate the challenges involved in representing historical events through immersive technologies. This phase encourages students to move beyond technological fascination and develop a critical understanding of XR as an interdisciplinary medium that combines artistic expression, technological innovation, cultural interpretation, and ethical responsibility.

During the Creation phase, students apply the knowledge acquired throughout the module by developing their own XR concepts inspired by the approaches observed in the case studies.

Drawing inspiration from *Notes on Blindness*, students design a VR experience centered on sensory perception, memory, or personal storytelling. The objective is to explore how sound, spatial design, and limited interaction can be used to communicate emotions and subjective experiences. Students may create storyboards, sound maps, immersive scripts, or conceptual prototypes illustrating the user journey.

Drawing inspiration from *Colored*, students develop an AR location-based experience focused on a cultural heritage site, historical event, local tradition, or social issue. They create spatial maps, concept art, experience diagrams, and

interaction flows showing how digital content would be integrated into a real-world environment. Particular attention is devoted to how users move through space and interact with virtual elements.

At the end of the phase, students present their concepts and explain why they selected either VR or AR, discussing the advantages and limitations of each technology in relation to their chosen topic.

The Reflection phase concludes the learning process by encouraging students to critically evaluate both the XR experiences studied and the concepts they have developed. Through presentations, peer feedback activities, and guided discussions, students assess the educational, artistic, and cultural potential of immersive technologies.

For Notes on Blindness, reflection may focus on empathy, sensory perception, disability representation, and the role of sound in immersive storytelling. Students discuss how the experience challenges conventional visual dominance and creates new ways of understanding human perception.

For Colored, reflection may focus on historical representation, collective participation, public space, and the use of AR as a medium for social and cultural engagement. Students examine how the experience transforms physical environments into sites of memory and reflection.

Reflection may be guided by questions such as:

- How do VR and AR differ in the way they create immersion and engagement?
- What role does sound play in shaping immersive experiences?
- How can XR technologies support cultural heritage interpretation and preservation?
- What ethical considerations emerge when representing personal experiences or historical events through immersive media?
- How can XR experiences be designed to be inclusive and accessible to diverse audiences?
- Which technology would be most suitable for different cultural heritage scenarios and why?

Through this reflective process, students develop a critical understanding of XR technologies as artistic, educational, and cultural tools. They learn to evaluate both the opportunities and limitations of VR and AR while recognizing their growing importance in contemporary heritage interpretation, creative industries, and digital cultural communication.

Throughout all five phases, the role of the educator is to facilitate dialogue, encourage experimentation, and support critical reflection. Feedback should address not only technical feasibility but also narrative coherence, artistic quality, accessibility, cultural relevance, and ethical awareness. Through this structured approach, students develop interdisciplinary competencies that connect creativity, technology, cultural heritage, and immersive storytelling.

[1]Binaural sound is a term that describes a set of sound recording, encoding, and spatialization techniques that allow for the reconstruction of a three-dimensional sound field using only two sound sources, typically two in-ear headphones. These techniques are based on the way human hearing works. In particular, they take into account the filtering and time delays between the right and left ears, notably due to the skull and the two auricles, which allow us to locate the sources of sounds around us in 360°. In this sense, binaural sound offers (with certain implementation

limitations) the possibility of creating sound spaces different from a stereophonic image, because it incorporates the ability to spatialize sounds from the rear and vertically.

3.2.3. Art-based activities for Module 3 – Web 3D and Immersive Communication

Within the ART-Inspired Teaching framework, Module 3 — Web 3D and Immersive Communication present a distinctive pedagogical challenge: students must learn to think spatially before they can design meaningfully. Unlike modules centred on analysis or linear narrative, this module asks students to inhabit a different cognitive register, one in which cultural meaning is communicated through movement, proximity, scale, and the architecture of virtual space. Art-based activities are therefore not supplementary to the technical content of this module; they are the primary means through which spatial and cultural thinking is activated and developed.

The pedagogical aim of art-based activities in this module is to support a shift from screen-based, sequential modes of representation toward embodied, spatial, and experiential ones. Students need to understand immersive environments not as containers for content but as communication systems in their own right, systems in which every design decision (where a user can go, what they encounter first, how information is layered across space) is also a cultural and narrative decision. Artistic practices create the conditions for this understanding by making spatial experience itself an object of reflection, before any platform or tool is introduced.

At the awakening phase, art-based activities orient students toward their own prior experience of space and immersion. Rather than beginning with platforms or technical capabilities, students are invited to examine the spatial experiences they already carry (e.g. from physical museum visits to everyday navigation of digital environments) and to articulate what made those experiences meaningful, disorienting, or alienating. Embodied and perceptual exercises, as well as evocative objects and micro-narratives, help externalise these initial frameworks, making visible the assumptions students bring to the design task. This phase establishes the reflective disposition from which genuine spatial thinking can emerge.

In the exploration phase, art-based activities shift toward active experimentation with spatial narrative and platform affordances. Visual mapping, improvised user scenarios, and embodied enactment of movement through virtual spaces allow students to generate a diverse repertoire of spatial experiences before committing to any design direction. Artistic techniques in this phase serve as analytical tools: by exploring the ways browser-based immersive platforms expand or limit cultural experiences, students gain a critical literacy focused on possibilities rather than technicalities, ensuring skills that endure beyond any single platform. The exploration phase is complete when students have accumulated enough experiential and analytical material to support meaningful conceptual synthesis.

Module 3 is supported by two Open Educational Resources (OERs). Teachers are encouraged to draw on these resources throughout the module and to direct students toward them for independent exploration:

- **OER 3 — Foundations of Immersive Cultural Communication:** interactive narratives and spatial storytelling; user experience design in cultural contexts; ethical and inclusive design principles; cultural representation and gender sensitivity; design tools and methodologies; collaboration and professional practice.

- **OER 4 — Design and Development of Immersive Cultural Experiences:** immersive platforms and their affordances; 3D navigation and spatial UI/UX design; content flow and narrative structure in 3D spaces; immersive prototyping and iterative design; professional briefs and user requirements analysis; documentation and concept presentation.

3.2.4. Art-based activities for Module 4 – Artificial Intelligence for Digital Heritage Innovation

In the context of the ART-Inspired Teaching approach, Module 4 - Artificial Intelligence for Digital Heritage Innovation, presents a distinctive pedagogical challenge: students are asked not only to understand artificial intelligence as a technological system but also to engage with it as a cultural and interpretative tool. This requires moving beyond a technical perspective toward a more creative exploration of how AI reshapes the production, organisation, and communication of cultural knowledge. Art-inspired activities therefore play a central role in the pedagogical design of this module. They provide a space where students can explore speculative scenarios, narrative constructions, and collaborative interpretations that reveal the cultural implications of AI technologies. Rather than focusing exclusively on technical implementation, these activities encourage learners to imagine how AI might transform heritage experiences, institutional practices, and relationships between audiences and cultural content.

The pedagogical aim of art-based activities in this module is to support students in developing both creative imagination and critical awareness. Through visual, narrative, and performative approaches, learners are encouraged to explore the opportunities and risks associated with AI in cultural heritage contexts. This process helps them to recognise artificial intelligence not simply as an automated system but as a sociotechnical phenomenon embedded in cultural values, institutional priorities, and ethical debates.

In the **awakening phase**, art-inspired activities invite students to reflect on their existing perceptions of artificial intelligence and its relationship with cultural heritage. Visual and narrative prompts can be used to externalise these initial perspectives. For example, students may be invited to create quick sketches, keywords, or short narratives describing how they imagine artificial intelligence interacting with heritage institutions such as museums, archives, or archaeological sites.

This phase establishes a reflective starting point from which students can begin to question simplified narratives about artificial intelligence. By recognising the cultural imaginaries that shape their understanding of AI, learners become better prepared to explore its implications within the heritage sector.

During the **exploration phase**, students engage in creative experimentation with possible applications of artificial intelligence in cultural heritage contexts. Two activities are particularly effective in this phase: Visual storytelling for AI-enhanced heritage narratives and Heritage Futures Collage.

Visual storytelling is a powerful method for exploring how artificial intelligence can reshape cultural narratives and visitor experiences. Through the creation of storyboards or visual narratives, students can imagine how AI technologies might interact with heritage content and audiences.

For instance, in this activity, students can design a visual narrative representing a visitor journey enhanced by artificial intelligence. The story may be represented through sketches, diagrams, digital illustrations, or simple comic-style panels.

Heritage Futures Collage, consist of the creation of speculative collages representing possible futures of cultural heritage institutions. Speculative design methods are widely used in innovation studies to explore emerging technological scenarios and stimulate critical reflection on future developments. In this activity, students create visual collages that represent how museums, archives, or heritage sites might evolve through the integration of artificial intelligence and other digital technologies. In particular, students may combine: photographs of heritage sites, images of digital technologies, AI-generated visuals, text fragments or keywords and in the end produce a resulting collage which represents a speculative vision of how cultural institutions could operate in the future.

During the **focusing phase** students move from speculative exploration toward a more structured understanding of the challenges and opportunities associated with artificial intelligence in cultural heritage contexts. At this stage, role-playing scenarios provide an effective art-inspired method for analysing the perspectives of different stakeholders involved in technological decision-making. In this activity, students simulate decision-making processes within cultural organisations. Participants are assigned roles representing different stakeholders, such as: museum curators, heritage conservators, digital innovation managers, policymakers, technology developers, visitors or community representatives. Then they discuss the implementation of a hypothetical AI system within a cultural institution. For example, a museum may plan to introduce an algorithm capable of automatically generating exhibition texts based on large historical datasets. During the discussion, participants examine potential benefits and risks associated with the technology. Key issues may include: accuracy and reliability of AI-generated interpretations, transparency of algorithms, potential bias in training data and the role of human expertise in heritage interpretation. Through this activity, students begin to identify the ethical, institutional, and cultural dimensions that must inform responsible AI innovation.

In the **creation phase**, students translate conceptual insights into preliminary design proposals through creative prototyping. Prototyping in this module is understood not as technical development but as a process of inquiry that allows learners to explore how AI-based ideas could operate within specific cultural contexts. In particular creative prototyping encourages students to design conceptual models of AI-enhanced heritage experiences. Rather than building fully functional systems, participants develop representations that illustrate how a technological idea could be implemented in practice. Their concept may be presented through sketches or diagrams, narrative descriptions, simple interface mock-ups or visitor journey maps.

The **reflection phase** concludes the learning cycle by encouraging students to critically analyse both their design proposals and the assumptions that shaped them. Through structured discussions and reflective writing, students evaluate how artificial intelligence might influence cultural interpretation, institutional practices, and audience engagement. Particular attention is given to identifying tensions between technological possibilities and cultural responsibilities. Students reflect on questions such as:

- How might AI systems influence the interpretation of historical knowledge?
- What risks emerge from automated cultural mediation?
- How can heritage professionals maintain transparency and accountability when using AI tools?
- What new professional competences may be required in AI-enhanced heritage environments?

The goal of the reflection phase is to help students develop a transferable understanding of how artificial intelligence interacts with cultural values, ethical considerations, and institutional practices within the digital heritage sector.

Throughout all five phases, the **role of the teacher** is to sustain a learning environment that encourages exploration, dialogue, and critical inquiry. Rather than evaluating ideas primarily in terms of technical feasibility, feedback should focus on the cultural relevance of proposed AI applications, the clarity of narrative and experiential design, the ethical awareness demonstrated in student proposals and the depth of reflection on technological and societal implications. By maintaining this coaching approach, educators support students in developing the balanced combination of critical thinking, creative experimentation, and cultural responsibility that is essential for responsible innovation in digital heritage contexts.

3.2.5. Art-based activities for Module 5 – Video-game Design and Development for Cultural Heritage

Within the ART-Inspired Teaching approach, Module 5 – Game Design and Development for Cultural Heritage offers students the opportunity to explore video games as creative, educational, and cultural tools capable of supporting the promotion and communication of cultural heritage. Rather than considering video games exclusively as technological products or forms of entertainment, this module presents them as complex ecosystems in which storytelling, design, technology, and cultural content converge to create meaningful and immersive experiences. Art-based activities play a fundamental role in enabling students to explore the expressive potential of game design while simultaneously developing creative thinking, collaborative design, and critical reflection skills.

The pedagogical objective of the art-based activities in this module is to help students understand how artistic, narrative, and interactive elements can be integrated into the design of video games aimed at the dissemination and interpretation of cultural heritage. Through visual, narrative, and performative activities, students are encouraged to experiment with historical settings, game mechanics, virtual world-building, and participatory design processes. This approach promotes the development of a holistic understanding of game design, in which technology is consistently accompanied by cultural, educational, and ethical considerations.

During the **Awakening phase**, students are invited to reflect on their previous experiences with video games and on the potential of these tools for learning and promoting cultural heritage. Through creative brainstorming activities, mind mapping, and guided discussions, students identify the characteristics that make a video game engaging and examine cultural or historical experiences they may have encountered in existing games.

A particularly effective activity consists of creating visual mood boards that represent the concept of cultural heritage within video games. Students may collect images, symbols, screenshots, colours, and aesthetic references associated with historical sites, museums, monuments, or past civilizations, building a visual representation of their initial perceptions. These materials are then discussed collectively to highlight how video games can contribute to the preservation, interpretation, and dissemination of cultural knowledge. This phase allows students to develop an initial awareness of the cultural role of video games and to recognize the potential of interactive technologies in mediating cultural heritage.

During the **Exploration phase**, students freely experiment with ideas, narratives, and settings that could be used to develop video games dedicated to cultural heritage. The objective at this stage is not yet to design a complete product but rather to generate creative possibilities and innovative scenarios.

A first activity consists of developing concept art and storyboards. Students create visual representations of characters, historical environments, cultural artifacts, and possible gameplay situations. Through sketches, digital collages, or illustrations, they explore different ways of representing heritage within virtual worlds.

A second activity involves interactive storytelling. Students design short narratives in which the player assumes the role of a character involved in historical events, archaeological activities, or missions related to heritage preservation. Using flowcharts or narrative storyboards, students explore how player choices can influence the learning journey and the understanding of cultural content.

These activities foster creative experimentation and allow students to explore the relationship between cultural content, emotional engagement, and interactivity.

During the **Focus phase**, students begin to select and further develop the ideas generated during the exploration stage. Attention shifts toward defining game mechanics, educational objectives, and the most effective narrative strategies.

A central activity in this phase consists of applying the MDA framework (Mechanics, Dynamics, and Aesthetics). Students analyze their concepts by identifying the core game mechanics, the dynamics emerging from player interaction, and the emotional and educational experiences they aim to generate.

At the same time, role-playing activities are organized in which students assume the roles of different stakeholders involved in the development of a cultural heritage video game, such as game designers, historians, museum curators, educators, software developers, and visitors. Through simulated design meetings, participants discuss the challenges associated with accurately representing history, balancing learning and entertainment, and addressing the needs of diverse audiences.

This phase enables students to understand the complexity of the decision-making processes involved in the development of interactive cultural applications.

During the **Creation phase**, students transform their selected ideas into preliminary prototypes that concretely represent their video game concepts. Prototyping is understood as a creative process of exploring and communicating ideas rather than a fully technical development process.

Prototypes may take different forms, including detailed storyboards, level maps, paper models, user interface mock-ups, or simple prototypes developed using visual scripting tools and game engines. Students design key elements such as environmental exploration, interaction with cultural objects, reward systems, educational challenges, and narrative pathways.

Particular attention is devoted to integrating historical and cultural content into gameplay mechanics. Students are encouraged to reflect on how gameplay can promote active learning and critical understanding of cultural heritage while avoiding purely informative or didactic approaches.

Through this activity, students experience the role of the game designer as a professional who mediates between cultural content, technological requirements, and user expectations.

The **Reflection phase** concludes the learning cycle by enabling students to critically evaluate both the design process and the prototypes they have developed. Through presentations, group discussions, and peer-feedback activities, students analyze the strengths and limitations of their proposals.

Reflection may be guided by questions such as:

- How does the video game facilitate the understanding of cultural heritage?
- Which design elements are most effective in engaging players?
- How is the balance between historical accuracy and creative freedom ensured?
- What ethical issues emerge in the representation of historical events or cultural content?
- How could the proposed experience be made more inclusive and accessible?

The objective of the Reflection phase is to help students develop a critical understanding of the opportunities and responsibilities associated with the use of video games as tools for the promotion, interpretation, and dissemination of cultural heritage.

Throughout all five phases, the role of the instructor is to facilitate dialogue, encourage experimentation, and support critical reflection. Feedback should not focus exclusively on the technical aspects of the prototype but also on the quality of the narrative, the cultural relevance of the content, the coherence of the game mechanics, the ethical awareness demonstrated by students, and their ability to integrate creativity, learning, and technological innovation. Through this facilitative approach, students develop the interdisciplinary competencies necessary to design video game experiences that contribute meaningfully to the digital transformation and sustainable enhancement of cultural heritage.

3.2.6. Art-based activities for Module 6 – Inclusion of girls in Technology

Within the ART-Inspired Teaching framework, Module 6 – Inclusion of Girls in Technology occupies a distinctive and transversal position within the CULT curriculum. Unlike modules centred on a specific technology or production format, this module is fundamentally concerned with the conditions under which learning itself takes place: who is invited to participate, on what terms, and with what sense of belonging and agency. Art-based activities play a central role here, not as supplementary illustration of gender equity principles, but as the primary means through which those principles are experienced, embodied, and critically examined. When students engage in artistic practice as a space of inquiry into identity, voice, and representation, inclusion ceases to be an abstract value and becomes a lived pedagogical reality.

The primary pedagogical aim of art-based activities in this module is to support a shift from awareness to authorship: from students knowing, intellectually, that gender inequalities exist in STEAM fields, to students recognising themselves as cultural and technological agents capable of naming, challenging, and transforming those inequalities through creative action. Artistic practices are uniquely suited to this purpose because they allow dimensions of experience — including self-perception, identity narratives, internalised assumptions, and relational dynamics — to become visible, examinable, and ultimately revisable. The module thus integrates the analytical and ethical competences described in the curriculum overview with a deeply experiential and reflexive learning process grounded in art-based coaching methodology.

It is equally important to understand Module 6 as a lens for the entire curriculum, not an isolated topic. The art-based activities developed here are designed to generate frameworks, questions, and reflective habits that students carry forward into their engagement with every other module and, ultimately, into the Final Project. Gender-inclusive design, the recognition of marginalised narratives, and attentiveness to whose voices are amplified or silenced in

cultural technology work are not Module 6 concerns: they are CULT curriculum concerns, activated and made operative through this module's particular focus.

At the awakening phase, art-based activities are oriented towards surfacing the assumptions, experiences, and internalised narratives that students bring to the topic of gender and technology, before any analytical framework is introduced. This phase begins not with data or theory, but with personal and symbolic experience. Students are invited to reflect on their own relationship with technology: the moments they felt welcomed or excluded, the role models they encountered or did not encounter, the stories they were told about who belongs in technological fields and who does not.

A particularly effective awakening activity is the "Technological Self-Portrait": students are asked to create a brief visual or collage-based self-portrait that represents their relationship with digital technology, using images, words, colours, and symbols drawn from magazines, archives, or their own sketches. The prompt is intentionally open: "How do you see yourself in relation to technology?" The resulting artefacts are not evaluated aesthetically, but used as starting points for reflective dialogue. Students are invited to describe what they made without being asked to explain or justify it, and to listen to what emerges in the group. This practice activates embodied and symbolic dimensions of experience that resist easy verbalisation, making visible assumptions about belonging, competence, and identity that are often deeply internalised and rarely made explicit.

A complementary awakening practice is the "Timeline of Encounters": students draw a personal timeline of their encounters with digital technologies — the first device they used, the first time they felt capable or incapable, the people who encouraged or discouraged them, the cultural messages they absorbed about gender and technology. This narrative-visual exercise grounds the module's broader analytical concerns in lived experience, establishing the reflective disposition from which genuine critical engagement can emerge. The teacher-coach's role at this phase is to hold the space with care and without evaluation, ensuring that all experiences — including those marked by exclusion, self-doubt, or invisibility — are received as valid and pedagogically meaningful.

In the exploration phase, art-based activities shift from personal experience to broader cultural and structural inquiry. Students begin to examine the systems, representations, and narratives that shape gender dynamics in technological fields, using artistic practices as tools of critical analysis rather than purely personal expression. The aim is not to accumulate information about gender inequalities, but to develop a situated and embodied understanding of how those inequalities operate — in images, in language, in the design of artefacts, in the stories that get told and the ones that do not.

A central exploration activity is "Visual Culture Audit": students collect, analyse, and reorganise visual representations of women and technology from a range of sources — advertising, institutional communications, gaming platforms, museum catalogues, educational materials, and cultural heritage digitisation projects. Working in small groups, they map patterns: who is shown as the expert, the innovator, the user? Whose knowledge is validated? Which bodies, roles, and narratives are absent? The collage format, combining image selection, arrangement, and annotation, allows students to externalise and examine these patterns without reducing the analysis to a simple checklist, preserving the complexity of representation as an object of sustained inquiry.

A second exploration activity uses embodied role enactment to explore structural dynamics. Students improvise brief scenes drawn from common situations in technological workplaces, design teams, or educational contexts: a pitch meeting where one voice consistently goes unheard, a group project in which certain contributions are attributed to

the wrong person, a professional networking event structured around assumptions of expertise. These are not performed for evaluation, but enacted to be observed, paused, and reframed. Through guided reflection, students identify the implicit rules and relational patterns that sustain gender inequalities in creative-technological contexts, and begin to experiment with alternative configurations. The pedagogical value of this activity lies not in identifying "what is wrong" in abstract terms, but in making structural dynamics visible as enacted, reproducible, and therefore potentially transformable patterns.

The exploration phase also introduces students to recovered and counter-narratives: stories of women whose contributions to technology and cultural heritage have been marginalised, erased, or systematically attributed to others. Through short documentary fragments, archival images, and oral history excerpts, students are invited to create visual or written responses — a re-narrated biography, a speculative portrait, a letter written in the voice of an unacknowledged pioneer. These creative acts are not merely celebratory; they are analytical interventions that make explicit the mechanisms by which certain forms of knowledge and authorship are rendered invisible, and begin to question what inclusive cultural technology practice might look like in contrast.

The focusing phase uses art-based techniques to help students move from an expanded awareness of gender dynamics in technology towards a coherent design orientation. At this stage, the question shifts from "what do we see?" to "what do we want to do?" — not in the sense of defining a technical solution, but in the sense of articulating a clear intentionality that can guide the development of gender-inclusive cultural technology work. This transition is pedagogically demanding, because it requires students to hold together the analytical insights generated during exploration and the creative possibility of imagining different futures, without collapsing either into naive optimism or paralysing critique.

A key focusing activity is the development of a "Design Values Manifesto": each student or small group articulates, in a hybrid visual-written format, the values and principles that they want to guide their practice as cultural technology designers. This is not a policy document; it is a creative artefact — a poster, a visual map, a layered composition — that makes explicit the relationship between personal experience, analytical understanding, and design intention. The manifesto is not evaluated on its rhetorical quality, but on the depth of its connection to the work done during awakening and exploration: Can students trace the link between what they experienced, what they observed, and what they now intend? This traceability is the hallmark of genuine conceptual synthesis rather than superficial declaration.

The focusing phase also introduces the practice of inclusive persona development: students create richly detailed narrative portraits of users who are typically absent from cultural technology design processes — a girl in a rural community with intermittent internet access; an elderly woman who is a bearer of intangible heritage but has never been asked to contribute to its digital representation; a young woman from a minority background whose cultural narrative has been systematically misrepresented in public digital archives. These are not demographic profiles; they are full, complex human accounts developed through creative writing, visual sketching, and imaginative projection. The purpose is to shift design thinking from the abstract ("accessible design") to the specific ("what does this particular person need to feel genuinely included?"), generating criteria for inclusive cultural technology work that are grounded in situated experience rather than normative guidelines.

In the creation phase, students translate the values, frameworks, and personas developed during focusing into concrete design proposals or cultural artefacts that embody the principles of inclusion in practice. The creation phase is where the analytical and ethical orientation of the module meets the creative-technological ambitions of the broader curriculum, and where inclusion shifts from a critical stance towards a productive one. Art-based activities at this stage are explicitly tied to the design of cultural technology interventions, ensuring that the module's contribution to the Final Project is not merely conceptual but operational.

A central creation activity is the development of a "Counter-Narrative Digital Story": using accessible digital tools such as Twine, Canva, or simple audio recording, students design a short narrative experience that centres a voice, a perspective, or a cultural practice that is typically marginalised in mainstream digital heritage or STEAM representations. This might be the story of a female artisan whose craft knowledge underpins a digitisation project but whose authorship is never acknowledged; a young woman's first encounter with a game designed entirely without her in mind; a community's oral tradition rendered inaccessible by the interface choices of an archive that claims to preserve it. The creative constraint here is specificity: students are required to design for a particular person in a particular context, using the inclusive persona they developed during the focusing phase as the primary design brief.

A parallel creation activity involves the development of an "Inclusive Design Audit" of an existing cultural technology product or platform. Students choose a real digital heritage experience, museum application, educational game, or cultural archive and subject it to a structured gender-inclusive analysis: Who is assumed to be the default user? Whose cultural knowledge is centred and whose is marginalised? Which interface and narrative choices make the product more or less welcoming to female users, or to users from underrepresented cultural backgrounds? The audit culminates not in a list of problems, but in a set of concrete, actionable redesign proposals, documented in a visual format that can inform their own subsequent project work.

The reflection phase carries a particular weight in Module 6, because the subject matter of the module — inclusion, identity, and structural inequalities — is also deeply personal. Students are not reflecting on a cultural asset or a design prototype with critical distance; they are reflecting on their own experience of the systems under analysis, on the assumptions they brought to the module and those they are now revising, and on the relationship between personal transformation and professional responsibility. Art-based reflection activities at this stage are therefore structured to support both metacognitive learning and ethical development.

A core reflection activity is the "Before and After" narrative rewriting: students return to the Technological Self-Portrait or Timeline of Encounters created during the awakening phase and write or create a companion piece that represents their current positioning, after the explorations and creations of the module. This is not a revision of the original; the two artefacts are held alongside each other, and the relationship between them — what has shifted, what has been complicated, what has been affirmed, and what new questions have opened — becomes the object of structured group dialogue. The dual artefact format makes learning visible as a process of transformation rather than simple information acquisition, and supports the kind of deep reflection that experiential learning models identify as essential for genuine competence development (Kolb, 1984).

A complementary reflection activity is the "Transversal Commitment Map": students create a visual map connecting the insights and commitments generated in Module 6 to specific decisions they intend to make in the remaining modules and in the Final Project. Where will they apply the Visual Culture Audit lens when selecting technologies in Module 4? How will the inclusive persona framework shape the target user definition in their Concept Document?

How will the counter-narrative orientation inform which cultural asset they choose to work with? This forward-looking reflective artefact ensures that Module 6's contribution is actively carried forward as a living analytical and ethical orientation throughout the curriculum. Teachers are encouraged to return to these commitment maps at key transition points in the programme, using them as prompts for dialogue about whether and how the gender-inclusive lens has remained active in students' work.

Throughout all five phases, the role of the teacher-coach in Module 6 requires particular attentiveness to the emotional and relational dimensions of the learning process. Art-based activities that engage students' personal experience of gender and belonging can surface vulnerability, frustration, and resistance alongside insight and empowerment. The teacher's primary responsibility is to maintain a learning environment in which all of these responses are received as pedagogically meaningful — neither suppressed in the interest of intellectual comfort nor amplified beyond the boundaries of educational coaching practice. Generative questioning, descriptive rather than evaluative feedback, and the deliberate creation of space for silence and uncertainty are particularly important facilitation skills in this module. The teacher does not resolve the tensions surfaced by this work; they accompany students in living with and learning from those tensions, modelling the kind of reflective professional practice that the module aims to develop.

In coherence with the Project Work structure, the outcomes of art-based activities in Module 6 directly inform several mandatory deliverables. The inclusive persona frameworks developed during focusing enrich the Cultural Asset Sheet by extending the analysis of existing and potential audiences to include those who are currently excluded or underrepresented. The Visual Culture Audit and Inclusive Design Audit methodologies inform the As-Is / To-Be Analysis by ensuring that the current state is examined not only for digital maturity and sustainability dimensions, but for its inclusiveness and representational equity. The Design Values Manifesto and Counter-Narrative Digital Story contribute directly to the framing and cultural intention of the Concept Document, making explicit the gender-inclusive design principles that the proposed digital or gamified solution is intended to embody.

In summary, art-based activities in Module 6 function as ethical and analytical lenses that make the invisible visible — the invisible dynamics of exclusion, the invisible contributions of marginalised knowledge holders, the invisible assumptions embedded in design choices — and transform that visibility into the foundation for more inclusive, equitable, and culturally responsible innovation. By grounding gender-inclusive thinking in personal experience, creative inquiry, and concrete design practice, the module ensures that inclusion is not a value that students can agree with in principle and set aside in practice, but a dimension of professional identity that shapes how they see, what they make, and who they design for, across the entire CULT programme and beyond.

4. WBL AND ORGANIZATIONAL ANALYSIS

This chapter introduces the methodological framework that supports the Work-Based Learning activities described in the ART-INSPIRED handbook. It explains how teachers can guide students in analysing cultural and creative organisations and translating their observations into structured insights that inform the design of innovative solutions.

The chapter presents the analytical tools and methodological steps that enable students to move from exploration to interpretation and from interpretation to design innovative digital/gamified solutions. In particular, it introduces the **As-Is / To-Be analysis**, a widely used strategic approach that helps learners understand how an organisation currently operates and how it could evolve in response to emerging challenges and opportunities.

Through this process, students learn to:

- analyse cultural organisational structures, practices, and resources
- interpret the needs and expectations of different stakeholders
- identify strengths, weaknesses, opportunities, and risks of cultural organisations
- explore the organisation's readiness for digital and green innovation
- develop realistic and evidence-based proposals for improvement

Teachers play a central role in facilitating this process. They guide students in selecting appropriate analytical tools, support critical reflection, and ensure that observations are translated into structured analysis. The chapter therefore presents a set of complementary tools, including organisational checklists, stakeholder mapping, user journey mapping, digital audits, sustainability scans, benchmarking, and SWOT analysis, that help students investigate organisations from multiple perspectives. These tools enable students to connect organisational realities with broader cultural, technological, and environmental transformations.

The chapter concludes with a **running example**, which illustrates how these tools can be applied in practice within a Work-Based Learning activity involving a cultural organisation. This example demonstrates how students move from data collection and analysis to the development of a To-Be scenario.

4.1 Work-Based Learning Sessions

Work-Based Learning (WBL) refers to structured learning experiences that take place in real or simulated professional environments and allow students to apply theoretical knowledge, creative methodologies, and technological skills to real organisational challenges. In this book, WBL is designed as a key experiential component that connects training, cultural heritage, and digital innovation.

4.1.1. Role of WBL in the Path

In this book, WBL is a guided and collaborative process where students work with cultural organisations to analyse real needs and co-design innovative digital or gamified solutions. The focus is on learning through practice, reflection, and creativity. The WBL approach adopted in this book aligns with European educational frameworks promoted by the European Centre for the Development of Vocational Training, which highlight the importance of experiential learning and collaboration between education and the labour market. WBL contributes to the development of both technical and transversal competences, supporting students in becoming creative, confident, and future-oriented professionals. In particular, it plays a crucial role in empowering female students by fostering leadership, self-confidence, and active participation in technological and cultural innovation contexts. The following table summarises the main learning dimensions supported by WBL in the ART-INSPIRED handbook.

4.1.2. Relationship Between Training, Company, and Culture

Work-Based Learning should be presented to students not simply as an external activity, but as a structured collaboration between education, cultural organisations, and the cultural ecosystem. In particular WBL represents a

Learning dimension	Description	Example in the ART-INSPIRED context
Understanding organisational contexts	Students explore real cultural and creative organisations, gaining awareness of their structure, mission, and operational challenges.	Students visit a museum or cultural association and analyse how exhibitions and services are organised.
Problem solving and innovation	Students identify challenges and design solutions based on real needs, linking creativity and technology.	Students identify low visitor engagement and propose an interactive digital storytelling solution.
Collaboration and communication	Students work in teams and interact with professionals, improving interpersonal and negotiation skills.	Students conduct interviews with museum staff and present preliminary ideas to stakeholders.
Confidence and digital empowerment	Direct contact with organisations and technologies increases students' confidence.	Students lead a design workshop with the cultural partner using creative facilitation techniques.

bridge between three interconnected dimensions:

- **Training:** where students acquire theoretical knowledge, artistic methodologies, and digital competences.
- **Company/Organisation:** where real challenges, constraints, and professional practices emerge.
- **Culture:** which provides the content, meaning, and social value of the innovation process.

From a pedagogical point of view, training provides the methodological and conceptual foundations that enable students to approach real challenges with awareness and competence. Through the modules, students acquire artistic, technological, and creative tools that support their capacity to analyse problems and generate innovative solutions. However, these competences remain abstract if they are not applied in authentic contexts. For this reason, the collaboration with companies and organisations represents a fundamental element of the WBL.

Companies and organisations, especially the ones that come from the cultural sector, offer access to real environments, professional practices, and tangible and intangible heritage. They allow students to understand organisational constraints, stakeholder expectations, and the complexity of cultural production and communication. In this way, students learn to balance creativity with feasibility and to consider the ethical and cultural implications of digital innovation. At the same time, organisations benefit from new perspectives, experimental approaches, and fresh ideas that can support their digital and sustainable transformation.

Culture acts as the connecting dimension between training and organisations. It gives meaning and direction to technological experimentation and ensures that innovation remains rooted in social value, identity, and heritage. Teachers during the WBL play a key role in helping students recognise this connection and reflect on how their work contributes to cultural enhancement and accessibility.

Moreover, teachers have to facilitate dialogue between students and organisations, supporting the interpretation of organisational needs, and guiding reflection throughout the process. They have to help students in translating observations into structured analysis and encourage them to adopt a professional and collaborative attitude. In particular, teachers should foster an inclusive environment that supports female participation and leadership, strengthening confidence and agency in technological and creative contexts.

4.2. As-Is / To-Be Analysis

The As-Is / To-Be analysis represents a central methodological component of the Work-Based Learning activities. It supports students in understanding the current situation of a cultural or creative organisation and in designing future-oriented, innovative, and sustainable solutions. Within Work-Based Learning, this process allows students to move from observation to interpretation and from interpretation to creative and technological design. The objective is not only to collect information, but also to develop critical thinking, strategic vision, and the ability to connect cultural values with digital and green innovation. In this sense, the As-Is / To-Be analysis becomes a bridge between organisational reality and the development of the final project.

4.2.1. Objectives

The main objective of the As-Is / To-Be analysis is to help students understand how cultural organisations operate today and how they could evolve in the future. This process allows learners to identify strengths, weaknesses, opportunities, and areas for innovation in relation to digital transformation, sustainability, accessibility, and audience engagement.

The analysis is not limited to identifying problems; it also aims to recognise existing good practices, hidden resources, and potential for creativity. This approach aligns with innovation and foresight methodologies promoted by organisations such as the Organisation for Economic Co-operation and Development OECD, which emphasise the importance of future-oriented thinking in complex and rapidly changing contexts.

By the end of this phase, students should be able to justify their design choices and demonstrate how their proposed solution responds to real organisational needs.

4.2.2. Tools

The As-Is / To-Be analysis requires structured and evidence-based tools that support students in observing, interpreting, and transforming organisational realities into innovation opportunities. As teachers, your role is to guide students in selecting and applying the appropriate tools according to the context, the size of the organisation, and the objectives of the final project.

The tools presented below are designed to ensure that the analysis remains systematic, participatory, and aligned with the twin transition (digital and green).

- **Organisational Checklist:** is a diagnostic and pedagogical tool designed to support students in collecting structured and comprehensive information about a cultural or creative organisation. Its main objective is to

help learners develop an initial understanding of the organisational context, creating a shared knowledge base that will inform the following stages of analysis and design.

In WBL this tool also encourages critical observation and reflection. By guiding students through key organisational dimensions, the checklist helps them move beyond superficial impressions and adopt a more analytical and professional perspective.

In practice, students complete the checklist before, during, and after the visit to the organisation. They gather information through direct observation, interviews with staff, and the analysis of available documents or online resources. This process promotes active engagement and interaction with professionals, strengthening communication and inquiry skills.

The checklist usually includes sections related to mission and values, services and activities, audiences, communication strategies, governance and decision-making, partnerships and networks, financial sustainability, digital presence, and environmental or social sustainability practices. These dimensions allow students to explore the organisation from multiple perspectives and to identify strengths, challenges, and opportunities for innovation.

After the visit, teachers play a key role in facilitating a collective review of the checklist. This moment supports reflection, helps clarify missing or unclear information, and encourages students to prioritise the most relevant aspects for the subsequent As-Is and To-Be analysis.

- **Stakeholder Mapping:** is a visual and collaborative tool that helps students identify and analyse all the actors connected to an organisation. Its main objective is to support learners in understanding the complexity of organisational ecosystems and the different interests, expectations, and levels of influence that shape decision-making processes.

Within the Work-Based Learning approach, this activity encourages systemic thinking and promotes awareness of how innovation processes involve multiple perspectives. Students are guided to move beyond a narrow organisational view and to consider the broader cultural, social, and economic environment in which the organisation operates.

In practice, students usually work in small groups and co-create a visual map. They identify internal stakeholders such as management, employees, and volunteers, as well as external ones including visitors, schools, local authorities, cultural networks, sponsors, and community groups. Through discussion, they reflect on the level of engagement of each stakeholder and explore potential synergies, tensions, or conflicts. By visually mapping these relationships, students develop a deeper understanding of how proposed digital or gamified solutions may affect different groups. The activity also supports the development of negotiation awareness, empathy, and strategic communication skills, which are essential for collaborative innovation. Teachers play a crucial role in facilitating reflection and dialogue. They should encourage students to consider questions such as: Who could support innovation? Who might resist change? What communication strategies

could foster participation and trust? This guided discussion helps students connect organisational analysis with the future design of sustainable and inclusive solutions.

- User Journey Map:** The user journey map is an analytical and reflective tool that shifts the focus from organisational structures to user experience. Its main objective is to help students understand how visitors or users interact with cultural services and how these interactions shape engagement, satisfaction, and accessibility. By exploring the perspective of different users, students develop awareness of diversity, accessibility, and emotional engagement in cultural experiences. In practice, students reconstruct the entire interaction process, from the first contact with the organisation to the conclusion of the visit or service. This typically includes identifying all relevant touchpoints, such as the website, social media, booking systems, reception, physical or digital exhibitions, interactive tools, and feedback mechanisms. For each stage, students analyse users' expectations, motivations, emotions, and potential barriers. In addition to traditional visual mapping, students can use BPMN (Business Process Model and Notation) to represent the journey in terms of internal processes and workflows. BPMN allows students to connect each user touchpoint to the organisational activities that support it, showing who is responsible, what actions are required, and how digital tools are integrated. This approach helps students identify critical moments, operational bottlenecks, and opportunities for improvement, while maintaining a systemic understanding of the organisation. This combined approach enables students to recognise opportunities for innovation, particularly through digital, gamified, or inclusive solutions. It also helps them understand how technological interventions can enhance accessibility, participation, and overall experience. Teachers should encourage students to consider diverse audiences, including people with disabilities, individuals with limited digital skills, international visitors, or underrepresented groups. Through facilitated discussion, teachers can help students connect user insights and process analysis with the design of meaningful, inclusive, and operationally feasible cultural experiences.
- Digital Audit:** is used to help students to evaluate the presence of digital tools within an organisation and their integration, usability, accessibility, and strategic coherence. In practice, students conduct a structured evaluation of the organisation's digital ecosystem. This includes websites, social media accounts, digital platforms, immersive technologies, and communication strategies. Both qualitative and quantitative observations are considered, such as frequency of updates, quality of content, usability, accessibility, consistency, and audience engagement.

Teachers should emphasise critical thinking throughout the process, guiding students to analyse how and why digital tools are used, identify gaps or inefficiencies, and propose actionable improvements. This reflective approach helps students link digital maturity with the organisation's strategic objectives and user experience, preparing them to design interventions that are both innovative and feasible.

- Green & Sustainability Scan:** is a reflective and analytical tool that allows students to evaluate an organisation's environmental and social responsibility. Its main objective is to develop awareness of sustainability practices, inclusive design, and social impact, helping students connect organisational reality with the goals of the twin transition (digital and green). In practice, students examine both environmental and social dimensions of the organisation. This may include energy consumption, materials and resource use, waste management, digital sustainability (e.g., energy-efficient technologies), accessibility, inclusion policies,

and engagement with local communities. Students collect information through observation, document analysis, and interviews with staff or management. Teachers should encourage students to adopt a balanced approach: the aim is not to criticise, but to identify **opportunities for improvement** and propose feasible, innovative solutions. Discussions can focus on how digital or gamified interventions can reduce environmental impact, improve accessibility, or enhance social participation.

- **Benchmarking Analysis:** consist of comparing the organisation under study with similar institutions at local, national, or international levels. Its main objective is to broaden students' perspectives, stimulate strategic thinking, and identify best practices that can inspire innovative solutions. In practice, students conduct research on comparable organisations, focusing on areas such as digital innovation, audience engagement, communication strategies, sustainability initiatives, and operational efficiency. This may include analysing websites, social media, apps, exhibitions, participatory programs, and organisational workflows. Students are encouraged to document differences, similarities, and lessons learned, highlighting opportunities to adapt or improve practices in the target organisation. Teachers should guide students to approach benchmarking critically. The goal is not to copy other organisations but to extract insights that are relevant and adaptable to the local context. Discussion points may include: What practices could be realistically implemented? What risks or constraints exist? How do cultural and organisational contexts differ?
- **SWOT Matrix (As-Is Perspective):** is a synthesis and strategic analysis tool used to summarise findings from the As-Is investigation. Its main objective is to help students organise information about the organisation's current situation into four categories: Strengths, Weaknesses, Opportunities, and Threats. This structure supports reflection, prioritisation, and the transition to designing a To-Be scenario. In practice, students review the information collected through checklists, maps, audits, and benchmarking, identifying:
 - Strengths: internal resources, capabilities, and good practices.
 - Weaknesses: internal limitations, gaps, or inefficiencies.
 - Opportunities: external trends, partnerships, or innovations that the organisation could leverage.
 - Threats: external challenges, competition, or risks that could hinder innovation.

Teachers should facilitate group discussions to ensure that students critically evaluate each element, distinguish between perception and evidence, and focus on actionable insights. The SWOT matrix encourages strategic thinking, helping students link analysis with possible interventions in the To-Be scenario. In the following table each tool is summarized:

Tool	Purpose	Step-by-step / How to	Example
Organisational Checklist	Collect structured info about the organisation to build a knowledge base.	1. Prepare checklist before visit. 2. Observe and interview staff. 3. Analyse documents and online resources. 4. Complete sections: mission, services, audience, governance, partnerships, digital presence, sustainability.	Students visit a museum and identify gaps in digital communication strategy.
Stakeholder Mapping	Identify and analyse all internal and external stakeholders to understand influence, interests, and potential conflicts.	1. List internal/external stakeholders. 2. Map relationships visually. 3. Discuss engagement levels and influence. 4. Identify opportunities or barriers.	Students map museum staff, volunteers, local schools, sponsors, and community groups to identify potential collaborators.
User Journey Map (with BPMN option)	Understand how users interact with services and identify critical touchpoints and opportunities for improvement.	1. List all touchpoints (website, booking, reception, exhibition, digital tools). 2. Analyse expectations, emotions, and barriers. 3. Optionally model workflows with BPMN to link touchpoints to internal processes. 4. Identify opportunities for digital/gamified solutions.	Students follow first-time visitors' journey and identify low engagement during exhibition; BPMN shows bottlenecks in content delivery.
Digital Audit	Evaluate the organisation's digital ecosystem: presence, integration, usability, accessibility, strategic coherence.	1. Review websites, social media, digital platforms, immersive tech. 2. Collect qualitative & quantitative data (usability, frequency of updates, engagement, accessibility). 3. Identify gaps, inefficiencies, or opportunities.	Students note museum social media is active but lacks coordinated digital storytelling.

Green & Sustainability Scan	Assess environmental and social responsibility; connect organisational reality with digital & green transition.	1. Identify environmental & social focus areas (energy, waste, accessibility, inclusion). 2. Observe, interview, review policies. 3. Analyse gaps & opportunities. 4. Present findings in table or visual dashboard.	Students note exhibition uses non-recyclable materials; propose low-impact alternatives and energy-efficient AR displays.
Benchmarking Analysis	Compare with similar institutions to identify best practices and innovation opportunities.	1. Select comparable organisations. 2. Analyse digital innovation, audience engagement, communication, sustainability 3. Document differences, similarities, lessons learned. 4. Highlight adaptable practices.	Students analyse British Museum AR storytelling and propose simpler interactive experiences for their local museum.
SWOT Matrix (As-Is)	Summarise organisational strengths, weaknesses, opportunities, threats to guide To-Be scenario.	1. Review all collected data. 2. Brainstorm Strengths, Weaknesses, Opportunities, Threats. 3. Merge into single matrix. 4. Reflect on priorities and potential interventions.	Students identify strong community engagement (strength), limited digital skills (weakness), rising interest in interactive experiences (opportunity), declining visitor numbers (threat).

4.2.3. Internal Analysis

The internal analysis focuses on understanding how the organisation currently operates from an organisational, cultural, technological, and strategic perspective. This phase allows students to interpret the data collected through the checklist, stakeholder mapping, user journey, and digital audit, moving from observation to structured evaluation.

The objective is to identify internal strengths, resources, and capabilities, as well as weaknesses and organisational gaps that may limit innovation. Students are encouraged to explore not only formal structures but also informal dynamics such as organisational culture, openness to change, collaboration practices, and decision-making processes.

Key areas typically explored in internal analysis include:

- mission, values, and strategic vision
- organisational structure and governance
- available human and technological resources
- digital competences and innovation capacity
- communication and audience engagement practices
- internal collaboration and knowledge sharing
- sustainability and inclusion practices

Teachers should guide students in connecting these dimensions with the organisation's ability to adopt digital and green innovations. It is important to emphasise that internal analysis is not an evaluation of individuals, but a constructive exploration of organisational potential.

To support this process, teachers can guide students in using a combination of methods such as document analysis, observation, workshops, surveys, and semi-structured interviews. Interviews are particularly valuable because they allow students to understand internal perceptions, motivations, and barriers that are not visible through external observation. They also help to compare different perspectives within the organisation, highlighting potential misalignments between strategic vision and daily practices. When conducting interviews, students should be encouraged to prepare open-ended questions, ensure confidentiality, and create a safe environment that fosters honest reflection. The aim is not to evaluate individuals but to explore organisational learning and transformation.

Teachers can use this grid to guide semi-structured interviews and internal observation during Work-Based Learning activities. The questions are indicative and should be adapted to the context, the type of organisation, and the profile of the interviewee. The aim is not to collect standardised answers, but to support critical reflection and evidence-based analysis.

Area of Analysis	Sample Questions for Interviews	What Students Should Observe and Reflect On
Mission, Vision and Strategy	What is the main mission of the organisation? What are its strategic priorities? How does it define innovation? Is digital or green transition part of the strategy?	Alignment between declared values and real practices. Clarity of goals. Presence of future-oriented thinking.
Organisational Structure and Governance	How are roles and responsibilities organised? How are decisions made? Who is responsible for innovation or digital projects?	Degree of flexibility, transparency, and collaboration. Speed and openness in decision-making.

Human Resources and Skills	What professional profiles are present? Which digital competences are available? What skills are most needed? Are training opportunities offered?	Skills gaps, training culture, motivation, and capacity for learning and adaptation.
Digital Culture and Tools	Which digital tools are currently used? How integrated are they into daily activities? Are staff confident in using them?	Digital maturity, coherence between tools and objectives, level of strategic use vs. operational use.
Communication and Audience Engagement	How are audiences identified and analysed? How is engagement fostered? How is feedback collected?	User-centred orientation, inclusiveness, use of data to improve services.
Sustainability and Inclusion	Are there environmental or social sustainability practices? How is accessibility addressed? How does the organisation engage with local communities?	Awareness of sustainability and inclusion. Real practices vs. declared intentions.
Internal Collaboration and Knowledge Sharing	How do teams collaborate? Are there regular meetings or shared platforms? How is knowledge transferred?	Openness, trust, and internal communication culture.
Innovation and Change Management	How are new ideas proposed? Are pilot projects or experiments encouraged? What barriers to change exist?	Organisational culture, resistance or openness to innovation, risk-taking attitude.

4.2.4. External Analysis

The external analysis complements the internal investigation by focusing on the broader environment in which the cultural or creative organisation operates. While internal analysis explores organisational resources, culture, and capabilities, the external perspective helps students understand trends, opportunities, constraints, and stakeholders that influence innovation and sustainability. This phase supports systemic thinking and encourages learners to move

beyond the boundaries of the organisation, recognising that cultural institutions are embedded in complex social, technological, economic, and environmental ecosystems.

External analysis allows students to interpret the data collected through stakeholder mapping, benchmarking, user journey exploration, and sustainability scans in a wider strategic context. The objective is to identify external drivers that may support or hinder digital and green transformation, audience engagement, and long-term resilience. Students are guided to understand how cultural organisations respond to evolving visitor expectations, technological change, sustainability priorities, and policy frameworks.

Key dimensions typically explored include:

1. socio-cultural and demographic trends affecting audiences and participation
2. technological developments shaping cultural experiences and accessibility
3. environmental and sustainability challenges
4. policy frameworks, funding schemes, and institutional priorities
5. partnerships, networks, and collaborative ecosystems
6. competition and cooperation among cultural and creative organisations
7. emerging expectations related to inclusion, accessibility, and digital engagement

Teachers should emphasise that external analysis is not about collecting large amounts of information, but about developing awareness of relevant dynamics and connecting them to strategic decision-making. Students should learn to distinguish between short-term trends and long-term transformations, as well as between local and global factors.

Short-term trends refer to emerging changes or signals that are already visible and may influence the organisation in the near future. These trends often relate to evolving audience behaviours, new technologies, or temporary social and cultural dynamics. For example, the growing use of social media platforms, the increasing demand for hybrid or online cultural experiences after the pandemic, or the popularity of immersive exhibitions can represent short-term trends. They are important because they allow organisations to react quickly and adapt their communication, services, or engagement strategies.

Long-term transformations, instead, concern deeper structural changes that reshape the cultural and creative sectors over time. These include digital transformation, demographic ageing, climate change, the transition towards sustainable practices, or the increasing importance of inclusion and accessibility. Unlike short-term trends, these transformations require strategic planning, organisational change, and investment in new competences and infrastructures. Understanding long-term transformations helps students design solutions that remain relevant and sustainable beyond immediate needs.

Similarly, students should distinguish between local and global factors. Local factors refer to the specific characteristics of the territory in which the organisation operates, such as community needs, cultural identity, tourism flows, regional policies, and partnerships with schools or local institutions. Global factors, on the other hand, include international cultural trends, technological innovation, sustainability agendas, and new models of audience engagement that circulate across countries. By analysing global developments, students can identify inspiring practices and innovative

approaches that may be adapted to the local context. However, teachers should emphasise that the goal is not to replicate global models, but to reinterpret them in a way that reflects local needs and organisational capacity.

Moreover, teachers should encourage students to adopt a critical and reflective approach, asking questions such as: What trends are most relevant for this organisation? Which opportunities are realistic in the local context? How can digital and green innovation respond to external challenges? This process helps students connect environmental awareness with the development of feasible and meaningful project proposals.

The outcomes of the external analysis are directly linked to the SWOT matrix, particularly the identification of opportunities and threats, and support the transition towards the development of a future-oriented To-Be scenario.

4.2.5. Digital Maturity & Green Readiness

The Digital Maturity & Green Readiness analysis represents a synthesis phase in which students evaluate the organisation's capacity to adopt and sustain digital and environmentally responsible innovation. This step connects the findings of the digital audit, internal and external analysis, and sustainability scan, supporting a holistic understanding of the organisation's preparedness for the twin transition. The objective is not to measure technological sophistication or environmental performance in absolute terms, but to assess the organisation's readiness to evolve. Students are encouraged to consider digital and green dimensions as interconnected rather than separate. For example, digital solutions may reduce environmental impact through dematerialisation, while sustainability goals may shape digital choices, such as the adoption of energy-efficient technologies or accessible platforms. From a pedagogical perspective, this phase helps students move beyond fragmented observations and develop systemic thinking. It also strengthens their ability to justify the feasibility and relevance of proposed interventions in the To-Be scenario. This approach is aligned with innovation and transformation frameworks promoted by organisations such as the European Commission, which emphasise the integration of digital and sustainability priorities in cultural and creative sectors.

Students analyse digital maturity by reflecting on dimensions such as strategic vision, digital competences, technological infrastructure, data use, user-centred design, and organisational openness to innovation. Rather than focusing only on the presence of digital tools, they examine how these tools are integrated into daily practices, decision-making processes, and audience engagement strategies. For instance, an organisation may have multiple digital platforms but lack coordination or long-term planning, indicating a low level of digital maturity.

Similarly, green readiness is explored through the organisation's awareness, policies, and practices related to environmental sustainability, social responsibility, accessibility, and inclusion. Students consider both operational aspects, such as resource management or sustainable materials, and strategic orientation, such as the presence of sustainability goals or partnerships with community actors. In many cases, readiness depends more on organisational culture and leadership than on financial resources.

To facilitate this process, teachers can encourage group discussions, visual mapping, or maturity matrices. These tools allow students to compare different dimensions and identify priority areas for development. The goal is not to produce a technical evaluation, but to develop strategic awareness and support evidence-based design.

4.2.6. Building the To-Be Scenario

The To-Be scenario represents the forward-looking phase of the ART-INSPIRED methodological handbook. While the As-Is analysis focuses on understanding the current state of the organisation, the To-Be scenario allows students to design future-oriented, innovative, and sustainable solutions that respond to real organisational needs. This phase bridges observation, analysis, and creative problem-solving, translating insights from internal and external analyses, SWOT matrices, and digital and green readiness assessments into actionable ideas.

The main goal of the To-Be scenario is to guide students in imagining a feasible and impactful future for the organisation. Specifically, students should:

- Propose interventions that enhance digital maturity, accessibility, and audience engagement.
- Integrate sustainability and environmental responsibility into organisational practices.
- Leverage internal strengths and opportunities identified through As-Is analysis.
- Address gaps, weaknesses, and threats identified in the SWOT and maturity assessments.
- Develop creative, culturally relevant, and technologically informed solutions.

Teachers should emphasise that the To-Be scenario is not about creating hypothetical or idealised solutions, but about designing proposals that are:

- **Evidence-based:** grounded in observations, interviews, audits, and benchmarking.
- **Feasible:** realistic given organisational resources, capabilities, and constraints.
- **Strategic:** aligned with the organisation's mission, vision, and long-term objectives.
- **Innovative:** introducing meaningful improvements in user experience, engagement, or operational efficiency.

The To-Be scenario involves iterative thinking. Students should move from **broad vision** (what the organisation could become) to **specific interventions** (what actions, tools, or services can realistically be implemented).

In order to develop the To-Be scenario, students must follow this step-by-step process:

- **Synthesize Insights:** Review all As-Is data, SWOT analysis, digital and green readiness assessment, and benchmarking results. Identify key strengths to leverage and gaps to address.
- **Prioritize Opportunities:** Focus on interventions that offer high impact and feasibility, considering both short-term wins and long-term transformations.
- **Ideation and Co-Design:** Develop potential solutions in collaboration with organisational stakeholders, applying creative methodologies such as brainstorming, design thinking, or gamified prototyping.
- **Operational Mapping:** Translate solutions into concrete actions, connecting digital tools, processes, and responsible practices. Visual tools like BPMN, user journey maps, or implementation dashboards can support this step.
- **Validation and Feedback:** Engage organisation representatives and peers to test the feasibility, relevance, and cultural appropriateness of proposed solutions.

- **Documentation:** Create a structured To-Be scenario document that clearly outlines objectives, interventions, responsible actors, expected outcomes, and evaluation criteria.

To-Be Scenario Template

Dimension	Key Findings (As-Is)	Digital / Green Readiness	Proposed Intervention	Responsible Actors	Expected Outcomes / Impact	Feasibility / Notes
Strengths	Motivated staff, strong storytelling skills	High digital literacy, low energy-saving awareness	Develop interactive digital tours that leverage staff expertise	Museum educators, IT team	Increased engagement, improved visitor experience	Medium: requires minimal tech upgrades
Weaknesses	Limited digital competences	Low readiness for complex platforms	Provide staff training in digital tools and gamification	HR, IT trainer	Staff confident in using new tools; more interactive services	High: manageable with internal training
Opportunities	Rising interest in immersive experiences	Moderate digital readiness, high green awareness	Implement AR exhibits with low-energy devices	Curatorial team, external tech partner	Attract younger audiences, enhance sustainability	Medium: budget needed for AR hardware
Threats	Declining visitor numbers	Low green maturity	Promote online cultural experiences reducing physical resource use	Marketing, IT	Expand audience reach while reducing environmental impact	High: feasible using existing digital channels

Audience Engagement	Visitor behaviours, feedback patterns	Digital platforms partially used	Launch multi-platform digital engagement campaign	Communication team	Increased participation and interaction	Medium: need coordination between teams
Accessibility & Inclusion	Current gaps in access for disabled users	Limited digital accessibility	Develop accessible mobile app and inclusive content	IT, Accessibility officer	More inclusive visitor experience	Medium: requires testing and guidelines
Sustainability Practices	Current environmental practices	Moderate readiness	Use sustainable materials in exhibitions, implement energy-saving AR/VR tools	Operations, IT	Reduced environmental footprint, aligns with green goals	Medium: may require supplier coordination
Innovation / New Services	Areas where organisation is open to change	Variable readiness	Introduce gamified storytelling experiences, connected to digital platforms	Project team, museum staff	Higher engagement, supports digital transformation	Medium: pilot testing recommended

4.2.7. Real Example

To support teachers in guiding students through the ART-INSPIRED framework, this section presents a real-world inspired example of how the As-Is / To-Be analysis can be applied in practice. The aim of this example is not to provide a universal model, but to illustrate the reasoning process, the integration of tools, and the translation of observations into strategic and feasible innovation proposals.

The organisation involved in the WBL activity is a **local museum dedicated to regional artists**, a small cultural institution that promotes local heritage through exhibitions, educational programmes, and community events. The

museum has a strong educational mission and maintains close relationships with schools and local cultural associations. However, the organisation faces several challenges that are common among small cultural institutions, including limited digital engagement, restricted resources for innovation, and the need to attract younger and more diverse audiences.

The Work-Based Learning activity was designed to help students analyse the museum's current situation (the **As-Is scenario**) and develop proposals for a potential future development (the **To-Be scenario**). The activity combined classroom preparation with field observation, interviews with museum staff, and collaborative analysis.

Teachers guided students through a sequence of analytical steps that correspond to the tools introduced in the chapter. Each tool contributed to building a specific layer of understanding about the organisation.

The process began with the use of an **organisational checklist**, which allowed students to collect structured information about the museum's mission, activities, audiences, resources, and communication practices. Through this tool, students discovered that the museum organises temporary exhibitions and educational workshops for schools, but relies heavily on traditional communication channels such as posters and local press announcements. Social media channels existed but were not regularly updated, and the website mainly provided basic institutional information.

The **stakeholder mapping exercise** helped students visualise the network of actors connected to the museum. The analysis highlighted several key stakeholder groups, including local schools, municipal cultural departments, local artists, tourists, and cultural associations. The mapping also revealed that the museum maintained strong relationships with schools but had limited engagement with younger independent visitors and digital communities.

Students then analysed the **visitor experience through a user journey map**, focusing on the steps a typical visitor follows before, during, and after a museum visit. The journey analysis revealed several friction points. For instance, potential visitors often discovered exhibitions only through word of mouth or physical posters, while online information about current events was limited. During the visit, the exhibitions relied mainly on traditional labels and panels, with few interactive or multimedia elements. After the visit, there were no mechanisms encouraging visitors to remain connected to the museum through digital channels or community initiatives.

A **digital audit** was conducted to evaluate the organisation's digital ecosystem. Students examined the museum's website, social media presence, and use of digital tools within exhibitions. The audit showed that although the museum had created accounts on major social media platforms, these channels were used irregularly and mainly for promotional announcements rather than audience engagement. The museum did not currently employ digital storytelling tools, interactive exhibition technologies, or online educational resources.

Students also explored the organisation's **sustainability and environmental awareness** through a basic green practices scan. The analysis indicated that while the museum reused exhibition materials and collaborated with local artists, environmental considerations were not formally integrated into exhibition design or operational strategies. For example, exhibition materials were often printed in large quantities, and no specific guidelines for sustainable event organisation were in place.

To complement their internal observations, students conducted a **benchmarking analysis**, examining practices adopted by other small museums and cultural institutions. This comparison exposed them to examples of digital storytelling platforms, interactive exhibition technologies, and community-driven cultural initiatives that could potentially inspire future developments.

All these insights were then synthesised through a **SWOT analysis**, allowing students to interpret the information collected and organise it into a strategic overview.

Strengths	Weaknesses
Strong local identity and cultural mission	Limited digital communication
Motivated staff and strong educational focus	Small organisational team
Close relationships with schools	Limited interactive visitor experiences

Opportunities	Threats
Growing interest in cultural tourism	Competition from larger museums
Digital storytelling tools for heritage	Changing visitor expectations
Partnerships with local creative communities	Limited financial resources

Through this process, students were able to move beyond simple observation and develop a structured understanding of the museum's organisational dynamics.

The combination of tools also enabled them to identify **connections between internal capabilities and external opportunities**. For example, the strong educational orientation of the museum could be combined with digital storytelling tools to create new interactive learning experiences for students and visitors. Similarly, partnerships with local artists and cultural associations could support the development of more participatory and community-oriented events.

Based on the insights generated during the analysis phase, students were then able to formulate a **To-Be scenario**, proposing new initiatives that combined digital engagement and sustainable practices. These proposals included the introduction of interactive exhibition elements, the development of digital storytelling content highlighting local artists, and the creation of community workshops focused on sustainable art practices.

For teachers, this example illustrates how the different analytical tools presented in this chapter can be integrated into a coherent pedagogical process. Rather than using each tool in isolation, the framework encourages students to interpret organisational realities from multiple perspectives and gradually transform collected observations into strategic insights and innovation proposals.

5. FINAL PROJECT

5.1 Objectives of the Project Work

The final project represents the culminating moment of the Art-Inspired Teaching Handbook, functioning as a space for integration and synthesis between the methodological principles outlined in the manual and their application in real educational and cultural contexts. It is conceived as an experiential project work, focused on the design and prototyping of digital and/or game-based solutions for the communication and enhancement of tangible and intangible cultural assets, as well as for the innovation of products and services within cultural and creative organisations.

Within this framework, the final project is not intended solely as an evaluative output, but as a complex educational device capable of activating deep learning processes through experience, reflection and action. The design process follows a logic of experiential learning, in which students are required to engage with authentic situations, analyse real organisational contexts and transform these analyses into coherent, creative and contextually relevant project proposals.

The project work is structured and supported through the adoption of a coaching process, and in particular of art-based coaching as the overarching pedagogical framework. In this sense, the project becomes a space for guided exploration in which artistic, narrative and visual practices are not used as decorative tools, but as genuine cognitive and reflective mediators. These practices make it possible to surface intuitions, implicit representations and emerging visions, facilitating meaning-making and supporting the ideation of innovative solutions in the cultural field.

A distinctive feature of the final project is the integration of organisational analysis, artistic creativity and digital design, in continuity with the CULT Curriculum. Students are progressively engaged in a pathway that begins with an understanding of the needs and context of a cultural organisation, continues with the definition of a change-oriented project vision, and culminates in the development of a digital or game-based prototype. This process is further strengthened through the inclusion of Work-Based Learning (WBL) sessions, which enable the proposed solutions to be validated through direct engagement with real stakeholders.

From a pedagogical perspective, the final project aims to stimulate and develop students' creative potential, while simultaneously fostering autonomy, self-awareness and leadership skills, particularly in relation to women's roles within the cultural and technological sectors. The coaching approach adopted encourages an active positioning of participants, who are supported in making informed design decisions, critically reflecting on their own learning processes, and recognising the value of the competences they have acquired.

From this perspective, the final project functions as a bridge between education and professional practice, offering students the opportunity to experiment with collaborative, interdisciplinary and innovation-oriented modes of working in the cultural domain. At the same time, it provides educators with a structured methodological tool to guide and support complex processes, maintaining a balance between creative openness, design rigour and educational relevance.

The final project work constitutes the core applied component of the Art-Inspired Teaching Handbook and represents the moment in which students are required to integrate the knowledge, skills and experiences developed throughout the entire learning pathway. The objectives of the project work are aligned with an experiential learning approach, oriented towards coaching and art-based coaching, and are designed to support complex, reflective learning processes situated within real cultural contexts.

A primary objective of the project work is the conscious application of the coaching process as a methodological framework for the design and management of creative and innovative activities. Through the project work, students experience coaching not as an abstract technique, but as a concrete educational practice that structures the ideation process, fosters decision-making autonomy and encourages responsibility for design choices. In this sense, the final project becomes a learning space in which the focus shifts from the search for the "correct solution" to the development of awareness, intentionality and the capacity for reflection-in-action.

A further objective is the enhancement and development of students' creative potential through the integration of artistic, visual and narrative practices within the design process. The project work is conceived as a protected environment for experimentation, in which the use of artistic and metaphorical languages enables the exploration of meanings, visions and possibilities prior to the definition of digital or game-based solutions. This approach facilitates the emergence of original ideas and strengthens students' confidence in their own creative abilities, counteracting overly normative or techno-centric models of learning and innovation.

The project work also aims to develop the ability to design digital and/or game-based solutions for cultural communication, understood as mediation tools between cultural heritage, organisations and audiences. Students are required to devise proposals that enhance both tangible and intangible cultural assets, integrating cultural content, digital technologies and engagement strategies, with particular attention to user experience, accessibility and inclusion.

Another central objective of the project is the integration of organisational context analysis with creative design. Through the phases of Work-Based Learning and As-Is / To-Be analysis, students learn to critically interpret the functioning of cultural organisations, their communication needs and opportunities for innovation. The project work thus enables students to move beyond an abstract notion of creativity, grounding the ideation process in real constraints, strategic objectives and concrete operational contexts.

Finally, the project work seeks to orient students towards an understanding of cultural innovation as a sustainable, responsible and socially relevant process, in line with the challenges of the digital and social transition. Through interaction with cultural organisations and Work-Based Learning contexts, students develop a critical awareness of the role of culture and digital technologies as drivers of transformation, while simultaneously strengthening their creative leadership and impact-oriented design skills.

5.1.1. Training Purposes

The final project work is conceived as a high-intensity experiential learning device, designed to support deep and transformative learning processes. Within the Art-Inspired Teaching Handbook, it represents a pedagogical space in which knowledge, skills and attitudes are integrated through action, reflection and the critical reworking of experience. The primary aim of the project is to support students in developing an autonomous and reflective project-based mindset, grounded in the ability to engage with complex, open and not fully predetermined contexts. From this perspective, the project work does not focus solely on the production of a final output, but on the construction of a learning process in which the design experience itself becomes an object of observation, analysis and meaning-making. Through the application of coaching processes and art-based coaching methodologies, the project fosters a learner-centred approach in which students are encouraged to recognise and activate their own creative potential, to experiment with different expressive languages, and to build confidence in their decision-making abilities. The use of artistic, narrative and visual practices enables the integration of cognitive, emotional and symbolic dimensions, promoting a deeper understanding of the cultural issues addressed and of the solutions developed.

A further educational objective concerns the development of the ability to learn from experience in real-world contexts. Integration with the Company Check-up and Work-Based Learning phases allows students to engage directly with existing cultural organisations, analysing their needs, critical issues and potential. This direct engagement strengthens the link between learning and professional practice, supporting the development of transferable skills and greater awareness of one's role within processes of cultural innovation.

The project work also contributes to promoting a vision of innovation that is not exclusively technological, but profoundly cultural and social. The educational aims therefore include the ability to design digital and game-based solutions that are culturally relevant, inclusive and participation-oriented, in line with the values of digital and social transition. Within this framework, attention to gender issues and women's empowerment plays a central role, fostering the emergence of forms of creative leadership based on collaboration, active listening and shared responsibility.

In summary, the educational objectives of the project work lie in the creation of a learning environment in which students can experiment, reflect and act in an integrated way, developing project-based, creative and reflective competences that prepare them to operate critically and innovatively within contemporary cultural and digital contexts.

5.1.2. Developed Competences

The final project work is designed to foster the integrated development of transversal and professional competences, regarded as essential for operating within contemporary cultural contexts characterised by complexity, disciplinary hybridisation and rapid digital transformation. The competences developed are not conceived as isolated skills, but as interconnected capacities that progressively emerge through experience, guided reflection and project-based action, in line with the principles of experiential learning and educational coaching.

First and foremost, the project makes a significant contribution to the development of creative and artistic competences. Students are supported in activating creative thinking through the systematic use of art-based practices such as visual thinking, storytelling, and work with metaphors and symbolic devices. These practices enable the exploration and representation of tangible and intangible cultural assets in innovative forms, stimulating the ability to generate meaning, construct coherent cultural narratives, and envision new modes of access, engagement and mediation. Creativity is therefore understood not as an individual talent, but as a trainable and situated competence that develops through the dialogue between experience, context and reflection.

At the same time, the project work strengthens digital and game-based competences, understood as the ability to design cultural communication experiences that integrate digital technologies, interaction logics and engagement dynamics. Students gain familiarity with the processes of ideation, selection and prototyping of digital and/or game-

based solutions, learning to translate complex cultural concepts into accessible, narrative and participatory experiences. The focus is not on technical learning as an end in itself, but on the ability to use tools and technologies in a critical, informed and culturally value-oriented manner.

A further area of development concerns analytical and strategic competences, which are fostered through As-Is / To-Be analysis activities and interaction with real cultural organisations. In this context, students learn to observe and interpret organisational settings, identify needs and opportunities, and formulate innovation hypotheses that are consistent with the mission and resources of the involved Cultural and Creative Industries (CCIs). These competences are crucial for connecting the creative dimension with the strategic one, avoiding purely speculative solutions and strengthening the sustainability of the proposed projects.

Finally, the final project promotes the development of relational, reflective and leadership competences, which form a core pillar of the coaching model adopted in the handbook. Group work, role management, ongoing dialogue and the reception of structured feedback enhance collaborative and effective communication skills. At the same time, guided reflective practices support the development of awareness of one's own learning process, self-assessment abilities and a sense of responsibility. In particular, the pathway is designed to strengthen self-efficacy and foster the emergence of female creative leadership, understood as the ability to guide processes, make decisions and attribute value to one's ideas within complex cultural and digital environments.

Taken as a whole, these competences constitute an integrated profile that prepares students to address professional challenges in the cultural and creative sectors, enhancing the intersection between creativity, technology, critical reflection and conscious action.

5.1.3. Expected Outputs

The project work is designed to generate outcomes that reflect not only the quality of the final product, but above all the robustness of the experiential learning process activated throughout the entire pathway. The expected outcomes are therefore conceived as integrated results of a design-related, reflective and professional nature, capable of making visible the development of the students' creative, analytical and digital competences.

At the end of the programme, students are able to provide a structured and informed interpretation of the relevant cultural context, through an organisational analysis that highlights strengths, critical issues and opportunities for innovation. This analysis, developed during the Work-Based Learning (WBL) phase, constitutes the knowledge base on which the whole project is built and ensures alignment between the real needs of the cultural organisation and the proposed project solution.

A further expected outcome concerns the ability to translate both the analysis and the To-Be vision into a clear and well-argued project concept, defining communication objectives, target audience, cultural value and the narrative choices underpinning the proposed solution. The concept document represents a key mediating step between critical reflection and creative design, making explicit the decisions taken and the criteria guiding them.

From an operational perspective, the project work leads to the development of a prototype of a digital and/or game-based solution for the communication of a tangible or intangible cultural asset. The prototype is not intended as a finished product, but as a tool for exploration and validation, capable of making the experiential, narrative and interactive dynamics envisaged by the working group observable. In this sense, the value of the prototype lies in its reflective and design-oriented function rather than in its technical completeness.

Alongside the design outputs, a central outcome of the programme is the production of a creative-technological portfolio, which documents in a structured manner the process followed, the choices made, the tools employed and the learning outcomes achieved. The portfolio enables students to critically re-elaborate the experience, transforming the work carried out into a transferable resource for future educational and professional contexts.

Finally, through the Work-Based Learning phase, the project culminates in the presentation and discussion of the solution within a semi-professional setting, fostering engagement with external feedback and the final revision of the

prototype. This moment strengthens awareness of one's design role, stimulates argumentative skills, and consolidates the transition from a predominantly formative learning approach to an action- and impact-oriented learning logic focused on cultural value.

Taken as a whole, the expected outcomes of the project work configure a complex educational achievement, in which product, process and reflection converge to make visible the development of the students' creative and professional potential within real and challenging cultural contexts.

5.1.4. Role of the Teacher in the Process

Within the context of the final project, the role of the teacher undergoes a substantial transformation when compared to traditional teaching models. Rather than acting primarily as a transmitter of content or an evaluator of finished products, the teacher takes on the role of a teacher-coach, that is, a conscious facilitator of the students' learning, creativity and design processes.

Within the Art-Inspired Teaching Handbook, the teacher is expected to oversee the process rather than the outcome, guiding students through a complex and non-linear pathway that integrates analysis, artistic experimentation, digital design and critical reflection. From this perspective, educational intervention is not aimed at providing ready-made solutions or prescriptive guidance, but at creating the conditions that enable students to develop autonomy, awareness and decision-making capacity within the project.

The teacher-coach acts as a guarantor of the methodological coherence of the learning pathway, ensuring the application of the coaching process and the principles of experiential learning. Through practices of active listening, observation and non-judgemental feedback, the teacher supports the emergence of the group's creative resources, valuing different styles of thinking and expression. The questions posed by the teacher serve a generative function: they do not steer students towards a single correct answer, but broaden the field of exploration, stimulate reflection and help to make design choices explicit.

Within the project work, the teacher also plays a key role in maintaining a safe learning environment, in which error, uncertainty and experimentation are recognised as integral components of the creative process. This aspect is particularly significant in programmes addressed to female students, as it helps to strengthen confidence in their own abilities and to counteract implicit patterns of self-limitation that are frequently present in technological and cultural contexts.

Finally, the teacher acts as a mediator between the educational and professional contexts, facilitating dialogue with the cultural organisations involved in the Work-Based Learning phases. In this role, the teacher supports students in translating the real needs of the Cultural and Creative Industries (CCIs) into design opportunities, without replacing their decision-making, but rather fostering a critical, responsible and culturally innovative approach.

In summary, the teacher's role in the final project is to accompany, stimulate and reflect, maintaining a constant balance between methodological guidance and respect for the students' creative autonomy, in line with the principles of coaching, mentoring and experiential learning that underpin the entire handbook.

5.2 Project Work Structure: The 8 Operational Phases

5.2.1. Phase 1 – Identification of the Cultural Asset

The property must be identified through collaborative work with cultural institutions. The central focus of this identification will be the property's value, that is, its place within the local heritage (ancient property, recently discovered property, property strongly linked to local identity).

It will be necessary to compile, with cultural organizations, all archaeological and historical data related to the property that can be reused in the digital system (documentation work in collaboration between the company, the cultural institution and heritage experts).

5.2.2. Phase 2 – As-Is Analysis

The current state of the property is crucial in determining possible digital solutions and their objectives. It may be a property that is visible to the naked eye, or invisible (because it is inaccessible). The issue of visitor numbers must also be considered: is it too little frequented or too overcrowded?

The property also raises the question of the audiences to whom we want to open it, by engaging these audiences with the digital experience, the objective being to increase attendance, reduce it or change the nature of the experience of contact with the property (engagement).

Considering physical and material constraints. Before deploying a solution, it is necessary to ensure, for example, the availability of a 5G network (or its absence). The constraints of the visitor space must also be analysed to propose a relevant solution adapted to the duration of the visit, the mode and speed of movement of the public within the heritage site (avoiding, for example, creating blocking points during the visit).

5.2.3. Phase 3 – To-Be Vision and Opportunity Map

The vision for the future must encompass a reflection on integrating heritage into larger spaces, such as the city and the regional territory. The screen also allows the visitor's present to coexist with the heritage past, opening a window between the place where one is and the history of that place.

Opportunities will depend on the local context, such as the location of the property, the presence of infrastructure that facilitates the deployment of the digital solution and its integration into existing processes and architectures (e.g., a museum already equipped).

5.2.4. Phase 4 – Creative Stimulation (art-based coaching)

All the elements of this section will be recorded in the GDD (Game Design Document), which will be a document shared between the company, content experts, and heritage mediators. The GDD will contain:

- the 3 Cs, which in video games refer to the three fundamental elements of design: camera, controls and *character* (characters);
- art direction, which will essentially define the graphics: 3D or 2D; realistic, cartoon or academic drawing, fusion of technical and fictional documents, etc. It will possibly include the choice of special effects (VFX);
- Storytelling: essential for engagement. Its supports can be written, audio or environmental (clues in the setting);
- sound system: sound effects (SFX), character audio, possibly screen music, background music during the experience, etc.

5.2.5. Phase 5 – Concept of the Digital/Gamified Solution

The concept of the digital solution must consider three major points which will also be included in the GDD:

- game mechanics: the list of actions to be performed in the game which constitutes the gameplay.
- the game loop and therefore engagement: how a series of actions engage the player in a progression that pushes them to go all the way to the end of the experience.
- The technological choice: this depends on the situational factors of Phase 2, financial resources, and the intended use on or off-site. The range is very broad and will need to be adapted according to these criteria:
- VR: requires dedicated spaces and available equipment
- AR: use of visitors' smartphones or the provision of tablets, considering how visitors will use VR during the visit

- Phone application: portability, but network required
- PC application or browser: assumes use in a dedicated space or outside the heritage space (discovery application to avoid overtourism or application to prepare the visit or to initiate a visit on site).

5.2.6. Phase 6 – Digital Prototyping

Create a paper storyboard of the user journey if the application accompanies the visit or discovery. The game's stages and mechanics can be placed along this journey.

Development of a *wireframe version* (screen layout, navigation bars, UX (User Experience) and UI (User Interface) components). This first prototype will be tested in situ to verify the readability of the interface under real lighting conditions (outdoors or indoors).

Low-resolution or untextured 2D or 3D modelling is used to begin testing the content. This modelling will depend on the technical solution adopted (Phase 5.).

Implementation through sketching of the level design or game stages.

5.2.7. Phase 7 – Testing and Validation

A two-phase testing of the prototype can be carried out. The first phase will involve heritage experts (mediators, historians, etc.) to validate the content and interfaces. The second phase could be conducted *on-site* with samples of the target audiences and a closed and semi-open questionnaire at the end of the experience. This phase will validate the interface, the reliability of the GPS (for AR), the effectiveness of gamification in engaging visitors, and the final outcome. The aim is to determine what image of the heritage site emerges from the experience and whether the experience provides added value.

Following these tests, the necessary technical adjustments will need to be made, particularly optimizing file sizes (for example, for downloads). Bug fixes reported by users and final polishing will also be carried out.

It is also recommended to hold a "post-mortem" meeting to finalize the project. This meeting will bring together all stakeholders and allow for a review of the project in order to develop knowledge that will be useful for future projects.

5.2.8. Phase 8 – Portfolio and Final Documentation

This phase must include the deliverables, which will consist of:

- the application
- source code and assets
- the game design document (GDD) modified according to the project iterations until its final version
- a potential "mediation kit" for heritage mediators and/or teachers (e.g., teaching materials related to the application). This kit will be developed jointly by the company, content experts, and mediators. It is a deliverable that can remain open and evolve based on how the application is used.
- possibly a trailer-style video of the experience for institutional communication, in order to promote the device to the potential public.

5.3 Quality Standards of the Project Work

The rise of digital technologies is profoundly transforming the design, production, and dissemination of cultural projects. Whether it involves interactive installations, immersive experiences, digital platforms, or digital twins of

cultural venues, the challenge is no longer solely technological, but decidedly cultural, artistic, and societal. Evaluating the quality of a digital cultural project must therefore be based on multiple criteria, combining meaning, innovation, user experience, and long-term vision. The following guidelines allow for a rigorous and coherent analysis of the value and relevance of such a project.

5.3.1. Cultural Relevance

Cultural relevance is the fundamental basis of any digital project with a cultural purpose. It refers to the project's ability to be situated within a clearly identified heritage, artistic, social, or territorial context. A high-quality project must demonstrate a nuanced understanding of the cultural references used, whether tangible or intangible heritage, contemporary artistic practices, or societal issues.

This relevance is assessed in particular through the clarity of the cultural intent, the coherence between the message and the target audience, and the project's capacity to generate meaning. Digital technology should not be a mere tool for mediation or technological spectacle, but a means to serve a cultural discourse, a narrative, or an enriched experience. A relevant project questions, transmits, enhances, or renews the perception of existing or emerging cultural content.

5.3.2. Technological Innovation

Technological innovation is a key criterion, but it is not limited to the use of cutting-edge technologies. It is assessed by the way in which digital tools (virtual or augmented reality, artificial intelligence, sensors, data visualization, blockchain, etc.) are integrated in a relevant and controlled manner into the project.

True innovation often lies in the originality of its uses rather than in the sheer novelty of the technologies employed. The evaluation will therefore focus on the project's ability to repurpose, combine, or adapt existing technologies to produce a new cultural experience. Technical robustness, system interoperability, and the scalability of the system are also important indicators, particularly with regard to future deployment or development.

5.3.3. Use of Art-Based Techniques

The artistic quality of a digital cultural project relies on the thoughtful integration of artistic techniques within the technological framework. This includes art direction, work on visual and sound forms, narrative writing, the choreography of interactions, and the design of immersive environments.

The evaluation will focus on overall aesthetic coherence and how artistic choices reinforce the cultural message. A successful project avoids a gimmicky feel and demonstrates genuine collaboration between artists, digital creators, and developers. Artistic techniques are not merely decorative: they structure the experience, guide the audience's attention and contribute to the emotion, understanding and memorization of the content.

5.3.4. Design Quality (UX, Inclusion, Engagement)

The quality of the design, particularly in terms of user experience (UX), is a determining factor in the project's impact. An intuitive, fluid, and understandable interface is essential to allow the audience to focus on the cultural content rather than on the effort of understanding the system.

Inclusion is a central criterion : accessibility for people with disabilities, consideration of the diversity of audiences (age , digital skills , languages, cultures) , and respect for the principles of digital co -design . Public engagement is measured by the project 's ability to foster interaction , active participation, and even co -creation . A quality project promotes a lasting relationship with its audience, beyond a simple one - off experience .

5.3.5. Alignment with As-Is / To-Be Analysis

A solid digital cultural project relies on a thorough analysis of what already exists. State of the art , comparable projects, current uses, public expectations, and institutional or economic constraints . This analysis helps to justify the choices made and avoid redundancies or unsuitable solutions .

Furthermore, looking to the future is essential. The evaluation examines the project's ability to anticipate technological, cultural, and social changes. The sustainability of the system, its capacity to be updated, enhanced, or reused in other contexts are indicators of quality. A relevant project is part of a medium- and long-term strategic vision

5.3.6. Impact on the Twin Transition

In a context where digital twins are playing an increasingly important role in the cultural sector (museums, heritage sites, cities, landscapes), the project's impact on this transition is a specific and structuring criterion. It involves assessing the extent to which the project contributes to the creation, enrichment, or use of a digital twin.

This contribution can take several forms: modelling of cultural data, simulation of uses, documentation of a place or an artistic process, or even interaction between the physical and virtual worlds. A quality project uses the digital twin not as a simple reproduction, but as a dynamic tool for analysis, mediation and cultural innovation.

5.3.7. Documentation Quality

Finally, the quality of documentation is an often underestimated but essential criterion. It encompasses the technical, artistic, and methodological documentation of the project. Clear, structured, and accessible documentation facilitates understanding of the system, its maintenance, its transmission, and its promotion to partners, institutions, or future users.

Documentation also contributes to knowledge capitalization and the project's replicability. It demonstrates the rigor of the approach, the transparency of the choices made, and the commitment to sharing the knowledge produced. Within the framework of digital commons and research-creation, it constitutes a true indicator of maturity.

Conclusion

Evaluating the quality of a cultural project using digital technologies requires a cross-cutting approach that integrates culture, technology, art, and usage. Cultural relevance, technological innovation, artistic quality, design excellence, forward-looking analysis, impact on digital twins, and rigorous documentation form a coherent set of essential criteria. It is in the balance between these dimensions that the true value of a digital cultural project is revealed, enabling it to create meaning, emotion, and lasting impact.

5.4 Mandatory Deliverables

5.4.1. Cultural Asset Sheet

This sheet is the first mandatory deliverable of the project work.

It aims to help you identify, understand, and critically reflect on a cultural asset that will be reinterpreted through a digital, gamified, or immersive solution.

The quality of reflection and cultural insight is as important as accuracy.

SECTION 1 – IDENTIFICATION OF THE CULTURAL ASSET

Field	Description
Title of the cultural asset	
Type of Asset	☐ Tangible ☐ Intangible ☐ Hybrid
Geographical Location	
Cultural / Social Context	
Community or groups connected to the asset	
Main Sources (oral, archival, digital, etc.)	

The **Identification of the Cultural Asset** represents the foundational step of the entire project work and plays a decisive role in shaping all subsequent phases of analysis, creative exploration, and digital design. This section is not conceived as a merely administrative or descriptive task, but as a **process of conscious selection and framing**, through which students begin to position themselves in relation to a real cultural context.

At this stage, students are required to clearly define the cultural asset they intend to work with, specifying its nature, location, and cultural environment. This initial act of identification serves to delimit the scope of the project and to prevent generic or abstract approaches to cultural heritage. By anchoring the project to a concrete asset—whether tangible, intangible, or hybrid—students are encouraged to engage with culture as a **situated and lived phenomenon**, rather than as an isolated object of study.

The distinction between **tangible, intangible, and hybrid assets** is particularly relevant from a pedagogical perspective. It invites students to recognise the complexity of cultural heritage and to reflect on the interdependence between material elements (objects, places, artefacts) and immaterial dimensions (rituals, memories, practices, narratives). This awareness is essential for developing culturally sensitive and meaningful digital or gamified solutions, especially when dealing with living heritage or community-based cultural expressions.

Equally important is the identification of the **geographical and socio-cultural context** of the asset. Students are asked to situate the asset within a specific territory, environment, or social setting, acknowledging the role of place, history, and community in shaping its meaning. This contextualisation fosters a work-based and reality-oriented mindset, in line with the principles of Work-Based Learning, and helps students understand that cultural assets do not exist in isolation, but are embedded in networks of relationships, practices, and values.

The inclusion of the **community or social groups connected to the asset** further reinforces this relational perspective. By identifying who recognises, preserves, uses, or transmits the asset, students begin to consider culture as a shared and negotiated process. This early attention to communities and stakeholders lays the groundwork for later reflections on impact, inclusiveness, and ethical responsibility, which are central to the project's human-centred approach.

Finally, the request to indicate **main sources**—whether oral, archival, institutional, or digital—introduces students to a first level of methodological rigour. It encourages them to engage with multiple forms of knowledge and to value non-academic sources, such as oral testimonies or local narratives, alongside more formal documentation. This plural approach to sources is coherent with the art-inspired methodology, which recognises experiential, narrative, and embodied knowledge as legitimate components of cultural understanding.

In summary, Section 1 functions as a **conceptual and reflective gateway** to the project work. It activates students' awareness of cultural complexity, situates their work within a real-world context, and establishes a solid foundation for meaningful creative and technological exploration. The quality of this initial identification directly influences the depth, coherence, and cultural relevance of all subsequent deliverables.

SECTION 2 – CULTURAL DESCRIPTION AND MEANING

Guiding Aspects	Description
Narrative description of the asset	
Origin and historical background	
Cultural, social, and symbolic values	
Tangible and intangible elements involved	

Section 2 – *Cultural Description and Meaning* represents the conceptual and interpretative core of the *Cultural Asset Sheet*. It is the stage at which the cultural asset moves beyond mere identification and begins to be **understood, interpreted, and narrated**. From a pedagogical perspective, this section marks a fundamental shift: from objective information to **meaning-making**.

Within the framework of the *ART-Inspired Teaching Handbook*, Section 2 is designed to support the development of a critical cultural gaze, enabling students to recognise cultural assets as complex systems of meaning rather than as isolated objects or contents to be simply digitalised.

To begin with, the **narrative description of the asset** invites students to adopt a form of writing that goes beyond technical or neutral description. A narrative approach allows the lived experience of the asset to emerge, making visible elements that are often overlooked in standard descriptive formats, such as gestures, atmospheres, relationships, rhythms, and emotions. Narrating an asset means situating it in time and space while also making it imaginable to audiences who may not be familiar with it. This methodological choice is intentional, as the ability to narrate a cultural asset is closely connected to the capacity to translate it into a coherent digital, playful, or immersive experience in later stages of the project.

The **historical dimension** of the asset is addressed not as a purely chronological reconstruction, but as a way of understanding how the asset has been shaped, transformed, and re-signified over time. Students are encouraged to reflect on the origins of the asset, the social or cultural contexts that contributed to its emergence, and the key transformations that have influenced its current meaning. This approach helps to avoid static or decontextualised interpretations and supports an understanding of the asset as a living cultural phenomenon, characterised by continuity, change, and adaptation. Acknowledging this historical depth is essential for identifying which aspects of the asset can be creatively reinterpreted and which require particular care and cultural sensitivity.

A central component of Section 2 is the analysis of the **cultural, social, and symbolic values** associated with the asset. At this stage, attention shifts from what the asset is to what it represents. Students are asked to consider the role the asset plays within a community, the meanings it conveys, and the values it embodies. These may include dimensions related to collective memory, identity, social cohesion, or intergenerational knowledge transmission. This reflective exercise is particularly important from a design perspective, as it directly informs narrative choices, aesthetic orientations, and experiential strategies in the development of digital or gamified solutions.

The distinction between **tangible and intangible elements** further supports a deeper understanding of the asset's complexity. Students are encouraged to identify both the material components of the asset, such as objects, spaces, or artefacts, and the immaterial dimensions that give it meaning, including practices, rituals, stories, skills, and social norms. This analytical step serves a dual purpose. On the one hand, it reveals how cultural assets are inherently hybrid, combining physical and symbolic layers. On the other hand, it prepares the ground for design decisions by clarifying

which elements may be translated into interactive, narrative, or experiential features, and which require a more careful and respectful approach.

Overall, Section 2 is not intended to produce definitive or exhaustive interpretations, but to initiate a process of **informed cultural reflection**. It encourages students to slow down, observe, interpret, and articulate meaning, thereby laying the foundations for project outcomes that are not only technologically effective, but also culturally grounded and socially responsible. In this sense, Section 2 plays a key role in aligning creative and technological exploration with the art-inspired, inclusive, and reflective values that underpin the learning pathway.

SECTION 3 – CURRENT STATE OF USE AND VALORISATION

Guiding Aspects	Description
Current forms of access or fruition	
Existing audiences and users	
Communication channels currently used	
Main limitations or critical issues	

Section 3 – Current State of Use and Valorisation represents a key turning point within the *Cultural Asset Sheet*, as it marks the transition from a primarily cultural and symbolic understanding of the asset to a situated, concrete, and critical reading of the present. At this stage, students are no longer asked merely to describe the asset or to recognise its cultural value, but to carefully observe how it is currently experienced, communicated, and made accessible, and to whom.

The deeper purpose of this section is to develop a consciously project-oriented perspective. Any digital, gamified, or immersive solution developed in later phases should emerge as a response to a recognisable and meaningful need. For this reason, Section 3 encourages students to engage critically with the present, avoiding two common risks in creative processes: on the one hand, abstract and self-referential design; on the other, the uncritical addition of technology without a clear cultural or social function.

When referring to *use* and *valorisation*, it is important to clarify that these concepts are not synonymous. *Use* concerns the concrete ways in which people come into contact with the asset: visiting a place, participating in a ritual, listening to a story, consulting an archive, attending an event, or engaging with it in an educational context. *Valorisation*, by contrast, refers to the strategies, languages, and tools through which the asset is made visible, communicated, and recognised as meaningful. An asset may be deeply experienced by a local community while remaining poorly valorised beyond it; conversely, it may be extensively promoted yet experienced in a superficial, hurried, or stereotyped manner. Section 3 is designed precisely to bring such tensions to the surface.

In describing the current state of use, students are invited to reflect on the type of experience that is presently available. Is the experience mainly passive or participatory? Is it mediated by digital tools, or does it rely almost exclusively on physical presence? Is it designed for a general audience or for users who already possess specialist knowledge? The aim of this analysis is not to pass judgement, but to understand the nature of the existing experience and its structural limitations. Very often, what emerges is not an absolute lack, but rather an inadequacy in relation to contemporary audiences, their expectations, languages, and cultural practices.

A central component of this section is the analysis of audiences. Identifying who currently engages with the asset means reflecting on who is included and who remains excluded. In many cases, the asset is accessible primarily to specialist audiences, occasional visitors, or a restricted local community. Young people, students, tourists, new residents, people with disabilities, or individuals from diverse cultural backgrounds may be marginally involved or entirely absent. Bringing these dynamics to light allows students to connect cultural reflection with issues of inclusion, accessibility, and the democratisation of culture, which are core values of the project framework.

The reflection on existing communication channels completes this picture. Here, students analyse how the asset is currently narrated and disseminated: through institutional websites, social media, informational materials, events, digital archives, or, in some cases, through fragmented and uncoordinated means. Beyond listing available channels, students are encouraged to assess the quality of communication. Is the language accessible and engaging? Does the experience foster curiosity, participation, and a sense of connection, or does it remain predominantly informational? This step often reveals that the challenge lies not in the absence of content, but in the absence of a meaningful and engaging narrative.

The final part of the section, dedicated to limitations and critical issues, is particularly significant from a design perspective. Here, students are expected to synthesise what is not working or what could be improved. Such issues may include limited accessibility, a lack of emotional or experiential engagement, minimal opportunities for interaction, the gradual loss of cultural memory, or difficulties in transmitting the asset to younger generations. Articulating these limitations does not diminish the value of the asset; rather, it highlights the gap between its cultural potential and its current modes of use and valorisation.

When developed effectively, Section 3 produces a clear and valuable outcome: it makes explicit why a creative and digital intervention is needed and where it can generate cultural and social value. In this sense, it functions as a preliminary diagnosis that informs and guides the entire project. The final solution will not simply stem from a creative idea, but from a deep and critical understanding of the present, its constraints, and its possibilities.

SECTION 4 – CREATIVE AND DIGITAL TRANSFORMATION POTENTIAL

Guiding Aspects	Description
Opportunities for reinterpretation	
Experiential dimensions to be activated (emotional, educational, playful, immersive, etc.)	
Possible links with digital technologies (XR, gaming, ai, web, etc.)	
Contribution to the twin transition (digital innovation and sustainability)	

Section 4 represents a pivotal moment within the Cultural Asset Sheet, as it marks the transition from cultural analysis to creative and project-oriented thinking. While the previous sections are primarily concerned with understanding the cultural asset as it currently exists, this section invites students to explore how that asset might be meaningfully reinterpreted through creative, digital, or gamified approaches.

The purpose of this section is not to define a final technical solution, nor to anticipate detailed design or development choices. Rather, it aims to activate a forward-looking and imaginative perspective, encouraging students to identify latent possibilities embedded in the cultural asset and to consider how technology can act as a mediator of cultural experience rather than as a purely instrumental tool.

At this stage, students are encouraged to distance themselves from a logic of simple digital reproduction. The focus should not be on transferring existing content into a digital format, but on rethinking the cultural experience that the asset can generate. This involves reflecting on how narratives, symbols, emotions, practices, or values associated with the asset could be transformed into engaging experiences capable of reaching new audiences and fostering deeper forms of cultural understanding.

A key dimension of this section concerns the identification of experiential qualities. Students should consider which dimensions of experience the asset is particularly suited to activate—such as emotional engagement, playful exploration, embodied interaction, learning through discovery, or immersive storytelling. These reflections help to clarify whether the asset lends itself more naturally to interactive storytelling, game-based dynamics, extended reality

environments, participatory platforms, or other forms of digital mediation. Importantly, this process remains exploratory and open-ended, privileging creative intuition supported by cultural insight.

Another essential aspect of Section 4 is the reflection on the relationship between the cultural asset and digital technologies. Students are invited to identify possible technological languages—such as augmented or virtual reality, web-based interactive media, game engines, artificial intelligence, or immersive audiovisual environments—that could meaningfully enhance the communication and experience of the asset. This reflection should be guided by coherence rather than technological novelty: technology is considered appropriate insofar as it amplifies cultural meaning, accessibility, and engagement, not simply because it is available or innovative.

Within the framework of the project, particular attention is also given to the concept of the Twin Transition, which integrates digital transformation with principles of environmental, social, and cultural sustainability. In this section, students are therefore encouraged to reflect on how their initial ideas of creative and digital transformation may contribute to more inclusive, accessible, and sustainable forms of cultural valorisation. This may include, for example, reaching underrepresented audiences, reducing physical impact through digital alternatives, preserving fragile intangible heritage, or fostering long-term cultural awareness through educational experiences.

Crucially, Section 4 functions as a conceptual bridge between analysis and design. It allows students to articulate a preliminary vision that will later be refined and structured through the As-Is / To-Be analysis and the Concept Document. By externalising early intuitions and creative hypotheses, this section supports a reflective design process in which ideas are progressively shaped, questioned, and developed rather than imposed from the outset.

From a pedagogical perspective, this section embodies the principles of art-inspired coaching that underpin the entire learning pathway. It values imagination, metaphorical thinking, and exploratory reasoning, while simultaneously encouraging students to ground their creativity in cultural responsibility and contextual awareness. The emphasis is placed on possibility, coherence, and cultural sensitivity, rather than on technical feasibility at this stage.

In sum, Section 4 invites students to look at the cultural asset not only as a heritage object or practice to be preserved, but as a living cultural resource capable of generating new meanings, experiences, and forms of engagement through creative and digital mediation. It is within this space of possibility that the foundations for innovative, culturally grounded project ideas begin to take shape.

SECTION 5 – STAKEHOLDERS AND EXPECTED IMPACT

Guiding Aspects	Description
Key Stakeholders (institutions, communities, users, professionals)	
Expected cultural and social impact	
Ethical considerations or potential risks	

Section 5 invites students to move beyond the analysis of the cultural asset itself and to reflect on its relational, social, and ethical dimensions. Cultural heritage does not exist in isolation; it is embedded in networks of people, institutions, and practices that shape how it is interpreted, transmitted, and transformed over time. This section therefore encourages students to adopt a systemic and human-centred perspective, which is essential when designing digital or gamified solutions for cultural communication.

From a pedagogical standpoint, this section plays a crucial role in bridging cultural analysis, work-based learning, and responsible innovation. By identifying stakeholders and anticipating impact, students learn to situate their creative and technological ideas within real-world cultural ecosystems, recognising that every act of valorisation implies choices, responsibilities, and consequences.

The first step consists in identifying the key stakeholders connected to the cultural asset. Stakeholders may include cultural institutions, local authorities, museums, archives, associations, educators, creative professionals, tourists, or local communities. In the case of intangible heritage, stakeholders often include bearers of knowledge, practitioners, and intergenerational communities who actively sustain the asset through lived practices.

Students are encouraged to consider stakeholders not merely as “users” or “beneficiaries”, but as active agents whose perspectives, values, and interests influence the meaning and future of the asset. This approach fosters awareness of cultural plurality and helps avoid reductive or extractive interpretations of heritage. Particular attention should be paid to communities that are directly connected to the asset but may be underrepresented in current narratives or digital representations.

The second component of this section focuses on the expected impact of the proposed valorisation process. Rather than asking students to predict concrete results in technical terms, this reflection aims to explore how a digital or gamified reinterpretation might contribute to cultural awareness, accessibility, inclusion, and engagement.

Students should reflect on questions such as:

How could this project broaden access to the cultural asset?

Which new audiences might be reached?

In what ways could the project strengthen cultural identity, intergenerational dialogue, or local pride?

This reflection aligns with the broader objectives of the CULT project, which emphasise culture as a driver for social cohesion and meaningful digital innovation. Impact is therefore understood not only in terms of visibility or dissemination, but also in terms of cultural value creation and social relevance.

A distinctive feature of Section 5 is its explicit attention to ethical considerations. Students are invited to critically examine potential risks related to representation, appropriation, simplification, or stereotyping. Digital technologies and gamified formats, while powerful, can unintentionally distort cultural meanings or prioritise entertainment over respect and accuracy.

By engaging with these issues, students develop a sense of ethical responsibility towards cultural heritage and its communities. They are encouraged to ask themselves whether their proposed approach respects the integrity of the asset, acknowledges its complexity, and gives voice to those who are culturally connected to it. This reflection is particularly important when working with living heritage, minority cultures, or sensitive historical themes.

From a learning perspective, Section 5 supports the development of key transversal competences, including critical thinking, ethical judgement, stakeholder awareness, and social responsibility. These competences are increasingly recognised as essential for professionals operating at the intersection of culture, technology, and creativity.

By articulating stakeholders and expected impact at an early stage of the project, students learn to frame innovation as a situated and accountable process, rather than as a purely technical or aesthetic exercise. This orientation prepares them for subsequent phases of the project work, such as the *As-Is / To-Be analysis* and the design of digital solutions, ensuring coherence between cultural values, technological choices, and social implications.

Within the overall structure of the project work, Section 5 acts as a reflective anchor that grounds creative ideation in cultural and social reality. It reinforces the idea that cultural innovation is not only about creating new experiences, but also about nurturing respectful relationships between heritage, people, and technology.

In this sense, the *Stakeholders and Expected Impact* section embodies the core principles of the art-inspired and coaching-based methodology underpinning the Handbook: awareness, reflection, responsibility, and purposeful action.

SECTION 6 – REFLECTIVE AND PERSONAL DIMENSION

Guiding Aspects	Description
Motivation for choosing this asset	
Personal or emotional connections	
Initial insights and learning outcomes	

The *Reflective and Personal Dimension* represents a core pedagogical component of the Cultural Asset Sheet. Unlike the previous sections, which are primarily oriented towards analysis, contextualisation, and strategic reasoning, this section explicitly invites students to engage with the project from a subjective, experiential, and reflexive standpoint.

Its purpose is not to add personal opinions as an appendix to the analytical work, but to make visible the relationship between the learner and the cultural asset as a meaningful element of the creative and learning process.

Within an art-inspired and coaching-oriented pedagogical framework, learning is understood as an experience that integrates cognitive, emotional, and reflective dimensions. Cultural interpretation, in particular, is never neutral: it is shaped by personal histories, values, sensitivities, and lived experiences. For this reason, Section 6 acknowledges subjectivity not as a bias to be eliminated, but as a resource to be recognised and critically examined.

This section encourages students to articulate the reasons behind their choice of the cultural asset. Such motivation may stem from personal memories, emotional resonance, curiosity, or a perceived relevance of the asset to contemporary social or cultural issues. By explicitly naming these motivations, students become more aware of the perspectives they bring into the project, which is a fundamental step towards developing critical cultural awareness. Rather than weakening the analytical rigour of the work, this awareness strengthens it, as it allows students to distinguish between observation, interpretation, and personal positioning.

Furthermore, the reflective dimension supports the development of metacognitive skills. Students are asked to observe not only the cultural asset, but also their own learning process: what surprised them, what challenged their assumptions, and what new questions emerged during the exploration of the asset. This reflective stance aligns with experiential learning models, in which reflection transforms experience into learning and prepares the ground for purposeful action in subsequent project phases.

From a creative perspective, Section 6 plays a crucial role in activating authentic engagement. Digital and gamified solutions for cultural heritage are more meaningful and impactful when they are grounded in genuine interest and personal connection. By recognising their emotional and intellectual engagement with the asset, students are better positioned to design experiences that are sensitive, inclusive, and culturally respectful. This is particularly relevant when working with intangible heritage, local traditions, or community-based cultural practices, where empathy and ethical awareness are essential.

It is important to emphasise that this section is not assessed in terms of right or wrong answers. Instead, the focus is on clarity, coherence, and depth of reflection. Students are encouraged to write in a clear and articulate manner, linking personal insights to the broader cultural and educational objectives of the project. Superficial or generic statements should be avoided in favour of thoughtful, concrete reflections that demonstrate genuine engagement with the asset and with the learning process.

Finally, Section 6 establishes a continuity between the Cultural Asset Sheet and the subsequent phases of the project work. The insights articulated here often become implicit drivers of the creative choices made during concept development, prototyping, and storytelling. In this sense, the reflective and personal dimension functions as a conceptual and emotional anchor for the entire project, ensuring coherence between cultural analysis, creative vision, and digital design.

In conclusion, the *Reflective and Personal Dimension* is an essential space for meaning-making within the Cultural Asset Sheet. It supports students in recognising themselves as active cultural interpreters, fosters reflective and ethical engagement, and reinforces the art-inspired pedagogical approach that underpins the overall learning pathway.

CULTURAL ASSET SHEET

Sample – Expected Level Example

SECTION 1 – IDENTIFICATION OF THE CULTURAL ASSET

Field	Description
Title of the Cultural Asset	<i>The Night of the Fires</i> – Traditional Community Bonfire Ritual
Type of Asset	☒ Intangible ☐ Tangible ☐ Hybrid
Geographical Location	Rural area of Central Italy (Apennine villages)

Field	Description
Cultural / Social Context	Annual ritual linked to seasonal cycles and collective memory, traditionally organised by local communities
Community or Groups Connected to the Asset	Local inhabitants, elderly custodians of the tradition, families, informal community groups
Main Sources (oral, archival, digital, etc.)	Oral testimonies, local archives, interviews with community elders, regional cultural association websites

SECTION 2 – CULTURAL DESCRIPTION AND MEANING

Guiding Aspects	Description
Narrative Description of the Asset	The Night of the Fires is a communal ritual celebrated at the end of winter, during which bonfires are lit in public spaces. The event combines collective gathering, storytelling, food sharing, and symbolic gestures related to purification and renewal.
Origin and Historical Background	The ritual has pre-Christian origins connected to agrarian calendars and was later reinterpreted within local Christian festivities. Although it has changed over time, its core symbolic structure has remained stable.
Cultural, Social, and Symbolic Values	The ritual symbolises transition, community cohesion, intergenerational transmission of memory, and the relationship between humans and nature.
Tangible and Intangible Elements Involved	Intangible elements include oral narratives, gestures, and collective participation. Tangible elements include firewood, public squares, and traditional objects used during the ritual.

SECTION 3 – CURRENT STATE OF USE AND VALORISATION

Guiding Aspects	Description
Current Forms of Access or Fruition	Participation is limited to local communities and takes place once a year. There is no structured documentation or mediated access.
Existing Audiences and Users	Mainly elderly residents and local families; young people and external audiences are marginally involved.
Communication Channels Currently Used	Word of mouth, small local posters, occasional social media posts by municipalities.
Main Limitations or Critical Issues	The ritual risks gradual disappearance due to ageing custodians, lack of digital documentation, and limited engagement of younger generations.

SECTION 4 – CREATIVE AND DIGITAL TRANSFORMATION POTENTIAL

Guiding Aspects	Description
Opportunities for Reinterpretation	The ritual could be reinterpreted as a narrative experience focused on memory, symbolism, and community participation rather than as a static event.
Experiential Dimensions to Be Activated	Emotional engagement, immersive storytelling, playful exploration of symbols, educational reflection on traditions.
Possible Links with Digital Technologies	AR storytelling layers, a narrative-driven mini-game, or an interactive digital archive combining oral history and visual metaphors.
Contribution to the Twin Transition	Digital preservation supports cultural sustainability, while dematerialised access reduces the need for physical travel and resources.

SECTION 5 – STAKEHOLDERS AND EXPECTED IMPACT

Guiding Aspects	Description
Key Stakeholders	Local municipalities, cultural associations, schools, community elders, young residents, cultural tourists.
Expected Cultural and Social Impact	Increased awareness of intangible heritage, intergenerational dialogue, and renewed interest from younger audiences.
Ethical Considerations or Potential Risks	Risk of folklorisation or oversimplification of cultural meanings; need for respectful representation and community involvement.

SECTION 6 – REFLECTIVE AND PERSONAL DIMENSION

Guiding Aspects	Description
Motivation for Choosing This Asset	We chose this ritual because it represents a fragile yet meaningful form of cultural heritage that is strongly connected to collective identity.
Personal or Emotional Connections	Some group members experienced the ritual during childhood, while others discovered it through interviews, generating a sense of shared responsibility.
Initial Insights and Learning Outcomes	We realised that cultural value does not depend on visibility or scale, but on meaning, memory, and the capacity to connect people across generations.

5.4.2. As-Is / To-Be Analysis

The **As-Is / To-Be Analysis** is a core methodological device within the ART-Inspired Teaching framework, designed to support students in understanding, interpreting and transforming real cultural contexts through a structured yet creative approach. Rather than functioning as a purely diagnostic or technical assessment, this analysis operates as a **reflective and strategic learning process**, bridging critical observation and future-oriented imagination.

At its core, the As-Is / To-Be Analysis enables students to move from an initial exploration of reality towards the construction of a meaningful and grounded vision for change. This process is particularly relevant in the field of cultural heritage and digital innovation, where interventions must be deeply rooted in the specificities of cultural assets, communities and organisational ecosystems, while simultaneously responding to broader processes of digital and sustainable transition.

The **As-Is Analysis** focuses on the current state of the organisation, cultural asset or context under investigation. Its primary objective is to develop a **situated and evidence-based understanding of how things function at present**, without immediately seeking solutions or proposing improvements.

From a pedagogical perspective, this phase trains students to observe reality critically and systematically, resisting the temptation to impose preconceived ideas or technologically driven solutions. Students are encouraged to analyse the existing modes of cultural valorisation, organisational practices, available resources, and patterns of user experience, as well as the broader territorial and cultural ecosystem in which the asset is embedded.

Particular attention is devoted to the assessment of **digital maturity and green readiness**, in line with the Twin Transition paradigm. This entails examining the extent to which digital tools are currently integrated into cultural practices, the level of technological awareness within the organisation, and the presence (or absence) of sustainable and environmentally responsible approaches. Importantly, this evaluation is not intended as a benchmarking exercise, but as a means of identifying constraints, gaps and latent potentials.

Through the As-Is Analysis, students learn to identify strengths that can be leveraged, critical issues that hinder cultural access or engagement, unmet needs affecting users or communities, and emerging opportunities that may not yet have been fully recognised. This reflective process fosters analytical rigour, contextual sensitivity and ethical awareness—competences that are essential for responsible cultural innovation.

The **To-Be Analysis** represents the forward-looking dimension of the process. Building upon the insights generated during the As-Is phase, students are invited to articulate a **desired future scenario** that is both aspirational and realistic. Rather than describing a detailed technical solution, the To-Be focuses on envisioning how the cultural asset and its modes of use could evolve if existing limitations were addressed through creative, digital and sustainable strategies.

Within the ART-Inspired Teaching framework, the To-Be phase is explicitly linked to **art-based and imaginative practices**. Students are encouraged to employ visual thinking, metaphors, storytelling and other creative tools to explore alternative futures, allowing non-linear and symbolic forms of reasoning to complement analytical thinking. This approach supports the development of future literacy and enables students to conceive transformation as a process of cultural meaning-making, rather than mere technological enhancement.

The To-Be Analysis also requires students to define clear **transformation objectives**, encompassing cultural, digital, social and sustainability-related dimensions. These objectives function as strategic orientations that guide subsequent design choices, ensuring coherence between vision, values and action. In this sense, the To-Be phase fosters intentionality and responsibility in the design of digital and gamified solutions for cultural heritage.

A defining feature of the As-Is / To-Be Analysis is the explicit **connection between present conditions and future possibilities**. The value of the To-Be scenario lies in its capacity to respond meaningfully to the issues identified in the As-Is Analysis, transforming constraints into opportunities and building upon existing strengths rather than disregarding them.

This connective dimension encourages students to reflect on continuity and change, recognising which elements of the current context should be preserved, enhanced or reinterpreted, and which aspects require transformation. Through this process, students develop a systemic understanding of cultural contexts and learn to justify their design decisions in relation to real-world conditions.

Within the ART-Inspired Teaching Handbook, the As-Is / To-Be Analysis serves a dual function. On the one hand, it operates as a **mandatory project deliverable**, ensuring methodological rigour and contextual coherence. On the other hand, it acts as a powerful **learning device**, fostering critical thinking, reflective awareness and creative imagination. By integrating analytical tools with art-based methodologies, this approach supports a holistic form of learning that bridges cognition, emotion and creativity. It prepares students to engage with cultural heritage as a living and dynamic system, capable of evolving through thoughtful, inclusive and sustainable digital innovation.

Ultimately, the As-Is / To-Be Analysis positions students not merely as designers of technical solutions, but as **reflective cultural innovators**, capable of interpreting the present and shaping meaningful futures within complex cultural ecosystems.

Below is the template for the As-Is/To-Be analysis.

As-Is/To-Be Analysis Template

A.1 Organisation / Context Analysed

- **Name of the organisation / cultural context:**
.....
- **Type** (e.g. museum, archive, event, community, local authority, etc.):

-
- **Geographical location:**

.....

- **Mission and cultural objectives:**

.....

- **Current target audiences:**

.....

A.2 Cultural Asset Analysed

- **Description of the cultural asset (tangible / intangible):**

.....

- **Cultural, symbolic and social value:**

.....

- **Current modes of access and use:**

.....

1. B. AS-IS ANALYSIS

B.1 Internal Analysis

Cultural valorisation processes

- How is the asset currently communicated and promoted?

.....

Use of digital technologies

- Which digital tools or platforms are currently in use?

.....

Skills and resources

- Existing competences (cultural, digital, creative):

.....

- Available resources (technical, organisational, financial):

.....

User experience

- Accessibility:
.....
- Inclusiveness (gender, age, cultural background):
.....
- Level of engagement:
.....

B.2 External Analysis

- Potential audiences not currently reached:
.....
- Relationship with the local cultural and territorial ecosystem:
.....
- Existing or potential partnerships:
.....
- Relevant trends (digital transformation, participation, sustainability):
.....

B.3 Digital Maturity & Green Readiness

- Level of digital maturity (low / medium / advanced):
.....
- Presence of sustainable (green) practices:
.....
- Alignment with the Twin Transition (digital and green):
.....

B.4 As-Is Summary

- Strengths:
.....
- Critical issues:

.....

- **Unmet needs:**

.....

- **Emerging opportunities:**

.....

2. C. TO-BE ANALYSIS

C.1 Future Vision

- How could the cultural asset evolve in an ideal yet realistic scenario? What kind of cultural experience should be offered to users in the future?

.....

C.2 Transformation Objectives

Cultural objectives

-

Digital objectives

-

Social and inclusive objectives

-

Sustainability objectives

-

C.3 Innovation Opportunities

- Priority areas for intervention (e.g. storytelling, access, user experience, gamification, AI, XR, etc.):
.....
- Connection with the competences and ICT modules of the learning pathway:
.....
- Role of the artistic and creative approach:
.....

3. D. AS-IS / TO-BE CONNECTION

- How does the To-Be scenario address the critical issues identified in the As-Is analysis?
.....

- Which elements of the As-Is situation should be preserved and enhanced?
.....

4. F. FINAL REFLECTION

- What new insights emerged from analysing the real context?
.....
- How does this analysis inform and guide the final project concept?
.....

As-Is/To-Be Analysis Example

A.1 Organisation / Context Analysed

- **Name of the organisation / cultural context:**
Local Ethnographic Museum of Valle del Tronto
- **Type** (e.g. museum, archive, event, community, local authority, etc.):
Small local museum dedicated to rural traditions and intangible heritage
- **Geographical location:**
Rural area in Central Italy
- **Mission and cultural objectives:**
The museum aims to preserve, document and disseminate local traditions, with particular attention to rural life, craftsmanship and community memory.
- **Current target audiences:**
Local community members, schools from the surrounding area, occasional tourists.

A.2 Cultural Asset Analysed

- **Description of the cultural asset** (tangible / intangible):
Traditional female weaving practices, transmitted orally and through embodied knowledge across generations.
- **Cultural, symbolic and social value:**
The asset represents a form of female knowledge, social cohesion and collective identity. It embodies memory, labour and creativity within the local community.

- **Current modes of access and use:**

The practices are documented through physical artefacts, photographs and written descriptions displayed in the museum.

5. B. AS-IS ANALYSIS

B.1 Internal Analysis

Cultural valorisation processes

- How is the asset currently communicated and promoted?

The cultural asset is currently presented through static displays and explanatory panels. Storytelling is mainly descriptive and focused on objects rather than lived experiences.

Use of digital technologies

- Which digital tools or platforms are currently in use?

Digital tools are minimally used. The museum website provides basic information but does not offer interactive or multimedia content related to the weaving practices.

Skills and resources

- Existing competences (cultural, digital, creative):

The museum staff has strong cultural and historical knowledge but limited digital competences.

- Available resources (technical, organisational, financial):

Financial and technological resources are constrained.

User experience

- Accessibility:

Physical access is limited for some users; digital access is minimal.

- Inclusiveness (gender, age, cultural background):

The female dimension of the heritage is underrepresented.

- Level of engagement:

Visitors tend to have a passive experience, with limited interaction.

B.2 External Analysis

- Potential audiences not currently reached:

Young people, digital-native users, international audiences.

- Relationship with the local cultural and territorial ecosystem:
Strong ties with the local community but limited collaboration with educational or creative institutions.
- Existing or potential partnerships:
Schools, universities, cultural associations, digital creatives.
- Relevant trends (digital transformation, participation, sustainability):
Growing interest in intangible heritage, digital storytelling, participatory culture and gender-focused narratives.

B.3 Digital Maturity & Green Readiness

- **Level of digital maturity** (low / medium / advanced):
Low
- **Presence of sustainable (green) practices:**
Informal sustainability practices are present, but they are not explicitly framed or communicated.
- **Alignment with the Twin Transition (digital and green):**
Currently weak, due to limited digital integration and lack of strategic sustainability communication.

B.4 As-Is Summary

- **Strengths:**
Strong cultural authenticity, deep community roots, valuable intangible heritage.
- **Critical issues:**
Low digital visibility, limited engagement, risk of knowledge loss.
- **Unmet needs:**
Need for narrative-driven, inclusive and accessible cultural mediation.
- **Emerging opportunities:**
Digital storytelling, youth engagement, valorisation of female knowledge.

6. C. TO-BE ANALYSIS

C.1 Future Vision

- How could the cultural asset evolve in an ideal yet realistic scenario? What kind of cultural experience should be offered to users in the future?

The cultural asset evolves into a digitally mediated, narrative-based experience that allows users to engage with weaving practices as living stories rather than static traditions. The museum becomes a hybrid physical–digital space where heritage is explored, listened to and reinterpreted.

C.2 Transformation Objectives

Cultural objectives

- To preserve and transmit intangible heritage through experiential storytelling.

Digital objectives

- To introduce accessible digital tools that extend the museum experience beyond its physical space.

Social and inclusive objectives

- To foreground women’s voices and promote intergenerational dialogue.

Sustainability objectives

- To ensure cultural continuity through low-impact, scalable digital solutions.

C.3 Innovation Opportunities

- Priority areas for intervention (e.g. storytelling, access, user experience, gamification, AI, XR, etc.): Interactive storytelling, narrative environments, basic gamification.
- Connection with the competences and ICT modules of the learning pathway: Web-based platforms, multimedia content, storytelling tools.
- Role of the artistic and creative approach: Use of metaphors, narratives and visual thinking to shape user experience.

7. D. AS-IS / TO-BE CONNECTION

- How does the To-Be scenario address the critical issues identified in the As-Is analysis? The To-Be scenario responds directly to the critical issues identified in the As-Is analysis by shifting from a static and object-centred mode of cultural presentation to a narrative and participatory model of cultural mediation. The lack of digital visibility and low user engagement are addressed through the introduction of interactive storytelling and accessible digital environments, which allow the cultural asset to be experienced beyond the physical museum space. Furthermore, the risk of loss of intangible knowledge is mitigated by transforming oral memories and embodied practices into narrative-driven digital content that can be accessed, explored and shared by new generations.
- Which elements of the As-Is situation should be preserved and enhanced? Key elements of the As-Is situation that should be preserved include the authenticity of the cultural practices, the strong connection with the local community, and the emphasis on experiential and embodied knowledge. These elements constitute the core cultural value of the asset and provide the foundation upon which digital

innovation is built. Rather than replacing existing practices, the To-Be scenario enhances them by amplifying their visibility, accessibility and interpretative depth through digital and artistic mediation.

8. F. FINAL REFLECTION

- What new insights emerged from analysing the real context?

The analysis revealed that the primary challenge does not lie in the absence of cultural value, but in the limited capacity of existing mediation tools to communicate that value to contemporary audiences. It became evident that intangible heritage requires narrative, emotional and experiential forms of representation in order to remain meaningful and accessible, particularly for younger and digitally oriented users.

- How does this analysis inform and guide the final project concept?

The insights gained from the As-Is / To-Be Analysis directly informed the development of the final project concept by clarifying the need for a narrative-based and user-centred digital solution. The analysis provided a clear rationale for adopting storytelling, metaphor and interactive exploration as core design principles, ensuring that the concept remains grounded in the real context while addressing both cultural and digital transformation objectives in a coherent and responsible manner.

5.4.3. Concept Document

The Concept Document constitutes one of the central mandatory deliverables of the ART-Inspired Teaching framework, as it represents the moment in which analysis, interpretation and imagination converge into a coherent project vision. Within the overall learning pathway, this deliverable plays a crucial connective role: it transforms the descriptive and analytical insights developed through the Cultural Asset Sheet and the As-Is / To-Be Analysis into a clearly articulated conceptual proposal that will guide all subsequent design and prototyping activities.

From a methodological perspective, the Concept Document is not intended to be a technical specification or a detailed design blueprint. Rather, it functions as a conceptual synthesis, in which students make explicit the underlying idea of their project, the cultural and experiential intentions that inform it, and the strategic direction of the proposed solution. It is at this stage that students are required to demonstrate their ability to move from observation to interpretation, and from interpretation to intentional design.

The starting point of the Concept Document is the cultural asset itself, as previously analysed in the Cultural Asset Sheet. The asset is not approached as a neutral object or as a repository of content to be digitised, but as a meaningful cultural expression embedded within a specific social, historical and symbolic context. The concept must therefore emerge from a deep understanding of the asset's value, identity and relevance, preserving its integrity while reinterpreting it through contemporary forms of mediation and engagement.

At the same time, the Concept Document must be firmly grounded in the results of the As-Is / To-Be Analysis. The current conditions identified in the As-Is phase—such as limitations in access, communication, participation or digital maturity—provide the critical foundation upon which the concept is built. Likewise, the To-Be scenario offers the horizon of transformation that the concept seeks to address. In this sense, the Concept Document embodies a reasoned response to real needs and opportunities, ensuring that the proposed solution is neither arbitrary nor disconnected from the context.

Within the ART-Inspired Teaching approach, particular emphasis is placed on the experiential dimension of the concept. Students are encouraged to reflect not only on what the solution does, but on the type of cultural experience it aims to generate. This includes considering how users will encounter the asset, how meaning will be constructed through interaction, and how emotional, narrative or playful elements may support engagement and understanding.

The use of metaphors, storytelling and visual imaginaries is explicitly encouraged, as these tools help articulate complex ideas and clarify the identity of the project beyond purely functional descriptions.

The Concept Document also represents a key moment for integrating the Twin Transition perspective. Digital technologies are conceived as enablers of cultural access, participation and innovation, rather than as ends in themselves. At the same time, sustainability is understood in a broad sense, encompassing inclusiveness, social impact, responsible use of resources and long-term cultural value. A well-developed concept demonstrates awareness of how digital and sustainable dimensions are intrinsically interwoven within the proposed solution, shaping its objectives and scope.

From a pedagogical standpoint, the Concept Document supports the development of higher-order competences, such as strategic thinking, critical reasoning and reflective design. By articulating the logic of their concept in a structured yet creative manner, students learn to justify their choices, to align intentions with context, and to communicate a project vision effectively. This process reinforces learner autonomy and responsibility, in line with the principles of coaching and work-based learning that underpin the Handbook.

Within the overall structure of the Project Work, the Concept Document corresponds to Phase 5 – Concept of the Digital/Gamified Solution. It consolidates the outcomes of the preceding analytical phases and provides a shared reference point for both students and teachers before entering the stages of digital prototyping, testing and validation. As such, it functions as a conceptual anchor, ensuring coherence and continuity throughout the development process. Ultimately, the Concept Document positions students not merely as developers of digital artefacts, but as cultural designers and reflective innovators, capable of interpreting complex contexts and envisioning meaningful, context-aware solutions. Its value lies not only in what it proposes, but in the quality of the reasoning and imagination that underpin the proposal, making it a cornerstone of the ART-Inspired Teaching methodology.

CONCEPT DOCUMENT

(Mandatory Deliverable – Project Work)

1. PROJECT IDENTIFICATION

- **Project title:**
.....
- **Name(s) of student(s):**
.....
- **Organisation / cultural context involved:**
.....
- **Cultural asset addressed:**
.....

2. CONTEXTUAL COHERENCE

2.1 Link with the Cultural Asset Sheet

Briefly explain how the proposed concept relates to the cultural asset, highlighting its cultural, symbolic and social value.

.....
.....

2.2 Link with the As-Is / To-Be Analysis

Explain how the concept responds to the main critical issues, needs and opportunities identified in the As-Is / To-Be Analysis.

.....
.....

3. CORE CONCEPT DESCRIPTION

3.1 Concept Overview

Provide a clear and concise description of the proposed digital or gamified solution.
What is the core idea of the project?

.....
.....

3.2 Cultural Intention

What cultural objectives does the concept pursue?
How does it contribute to the valorisation, interpretation or transmission of the cultural asset?

.....
.....

3.3 Target Users

Primary target users:

.....

Secondary or potential users:

.....

3.4 User Experience and Interaction Logic

Describe the type of experience the users will have (e.g. exploratory, narrative, playful, immersive, participatory).

.....
.....

4. ART-INSPIRED APPROACH

4.1 Narrative, Metaphor or Creative Framework

Describe the narrative, metaphor or artistic framework that underpins the concept.

.....
.....

4.2 Use of Art-Based Techniques

Which art-based techniques informed the development of the concept (e.g. storytelling, visual mapping, collage, metaphors)?

.....
.....

5. DIGITAL ORIENTATION

5.1 Role of Digital Technologies

Explain the role of digital technologies within the concept (e.g. gamification, AI, XR, web platforms).
Why are they meaningful in relation to the cultural asset?

.....
.....

5.2 Expected Level of Digital Innovation

☐ Low ☐ Medium ☐ High

Brief justification:

.....

6. TWIN TRANSITION ALIGNMENT

6.1 Digital Transition

How does the concept support digital transformation in the cultural context?

.....
.....

6.2 Sustainability and Inclusiveness

How does the concept address sustainability, accessibility and inclusiveness?

.....
.....

7. EXPECTED IMPACT

7.1 Cultural Impact

.....

7.2 Social Impact

.....

7.3 Educational Impact

.....

8. COHERENCE AND FEASIBILITY

8.1 Coherence with Context

Why is this concept appropriate and relevant for the specific cultural context?

.....
.....

8.2 Feasibility Considerations

Briefly reflect on the feasibility of the concept in relation to available resources, skills and constraints.

.....
.....

9. FINAL REFLECTION

What is the added value of this concept compared to existing solutions?

.....
.....

CONCEPT DOCUMENT EXAMPLE

- **Project title:**
Voices of the Loom
- **Name(s) of student(s):**
Anna Rossi – Marta Bianchi – Sofia Conti
- **Organisation / cultural context involved:**
Local Ethnographic Museum of Valle del Tronto
- **Cultural asset addressed:**
Traditional female weaving practices of Valle del Tronto (intangible cultural heritage)

2. CONTEXTUAL COHERENCE

2.1 Link with the Cultural Asset Sheet

The concept is directly rooted in the cultural asset analysed in the Cultural Asset Sheet, namely the traditional female weaving practices of Valle del Tronto. These practices represent not only a technical craft, but also a form of collective memory, female knowledge transmission and social identity. The concept aims to preserve and reinterpret this heritage by transforming oral memories, gestures and symbolic meanings into an accessible and engaging digital experience.

2.2 Link with the As-Is / To-Be Analysis

The As-Is Analysis highlighted limited digital presence, low engagement of younger audiences and the risk of loss of intangible knowledge due to generational discontinuity. The To-Be scenario envisioned a more participatory,

narrative-based and digitally mediated experience. The proposed concept responds to these issues by offering an interactive and narrative digital solution that makes the intangible heritage visible, accessible and meaningful for new audiences.

3. CORE CONCEPT DESCRIPTION

3.1 Concept Overview

Voices of the Loom is a narrative-based digital experience that allows users to explore traditional weaving practices through stories, voices and symbolic actions. Users are guided through a digital journey in which each loom represents a story, a woman and a piece of collective memory, blending cultural storytelling with interactive exploration.

3.2 Cultural Intention

The main cultural intention is to valorise intangible heritage by focusing on women's voices and embodied knowledge. The concept seeks to shift attention from the final artefact (the textile) to the process, the gestures and the stories behind it, reinforcing the cultural and social significance of traditional craftsmanship.

3.3 Target Users

- **Primary target users:**
Young people aged 15–30, students and digital-native audiences.
- **Secondary or potential users:**
Tourists, educators, local community members and cultural professionals.

3.4 User Experience and Interaction Logic

The user experience is primarily narrative and exploratory. Users navigate through interactive environments, activate stories by interacting with objects, and gradually unlock fragments of memory, sounds and images associated with weaving practices.

4. ART-INSPIRED APPROACH

4.1 Narrative, Metaphor or Creative Framework

The central metaphor of the project is the loom as a storyteller. Each thread represents a memory, and weaving becomes a metaphor for connecting past and present. This metaphor guided both the narrative structure and the interaction design.

4.2 Use of Art-Based Techniques

The concept was developed using storytelling workshops, visual mapping and metaphor-based reflection. Collage techniques were used to visualise the emotional and symbolic dimensions of the heritage, while narrative exercises helped shape the user journey.

5. DIGITAL ORIENTATION

5.1 Role of Digital Technologies

Digital technologies are used as mediators of cultural experience rather than as ends in themselves. The concept foresees a web-based interactive platform with narrative elements, basic gamification mechanics and multimedia content (audio, images, micro-animations).

5.2 Expected Level of Digital Innovation

☐ Low ☐ Medium ☒ High

Justification:

The concept integrates interactive storytelling, multimedia narration and participatory exploration, offering an innovative approach to intangible heritage communication.

6. TWIN TRANSITION ALIGNMENT

6.1 Digital Transition

The concept supports digital transition by introducing a structured digital narrative environment that expands access to cultural heritage beyond the physical museum space.

6.2 Sustainability and Inclusiveness

The project promotes sustainability by focusing on cultural continuity rather than material production, and inclusiveness by foregrounding female knowledge and offering accessible, multilingual content.

7. EXPECTED IMPACT

7.1 Cultural Impact

Increased awareness and appreciation of intangible cultural heritage and female craftsmanship traditions.

7.2 Social Impact

Strengthened connection between generations and reinforcement of local cultural identity.

7.3 Educational Impact

Support for experiential learning, storytelling-based education and heritage literacy.

8. COHERENCE AND FEASIBILITY

8.1 Coherence with Context

The concept is coherent with the museum's mission and responds to its need for innovative, low-cost digital engagement strategies.

8.2 Feasibility Considerations

The project is feasible using existing digital skills developed during the ICT modules and relies on scalable technologies that do not require advanced infrastructure.

9. FINAL REFLECTION

The added value of this concept lies in its ability to transform intangible heritage into a living, participatory and emotionally engaging experience, moving beyond static documentation toward meaningful cultural interaction.

5.4.4. Digital or gamified prototype

The **Digital or Gamified Prototype** is a mandatory deliverable because it marks the moment in which students move from interpretation and vision to **experiential making**. Within the ART-Inspired Teaching framework, prototyping is not treated as a purely technical step, nor as the production of a polished final artefact. Rather, it is understood as a **pedagogical transition**: students learn to transform cultural meaning into an interactive experience, and to test whether their conceptual assumptions actually work when translated into a concrete digital form.

From an educational standpoint, the prototype acts as a **material mediator of learning**. It allows students to externalise ideas that are initially abstract—such as cultural value, narrative intention, symbolic meaning, or engagement strategies—into an artefact that can be explored, discussed, challenged and improved. In this sense, prototyping becomes a tool for thinking: it enables students to “see” and “touch” the logic of their concept, identifying inconsistencies, gaps, or opportunities for refinement that cannot easily emerge through written documents alone.

A key purpose of this deliverable is therefore to support **learning-by-doing and reflective experimentation**. The prototype makes it possible to adopt an iterative mindset: students are encouraged to build a first version, observe how it performs (even informally), gather feedback, and progressively refine it. This approach shifts the emphasis away from perfection and towards **process quality**, cultivating tolerance of ambiguity, creativity under constraints and openness to revision—competences that are essential in innovation-oriented cultural contexts.

Within Work-Based Learning, the prototype also plays an important role as an artefact that connects the learning environment to the organisational and professional reality of the **ICC sector**. Cultural and creative organisations often need solutions that are feasible, adaptable and user-centred, even when resources are limited. By producing a prototype, students learn to work with the typical constraints of cultural organisations—time, budget, skills, infrastructures—and to turn those constraints into design parameters rather than obstacles. The deliverable therefore trains students to approach cultural innovation not as an abstract exercise, but as a **context-sensitive practice** grounded in real needs and real conditions.

Moreover, the Digital or Gamified Prototype is educationally valuable because it requires students to integrate multiple competences in a coherent way. Prototyping involves cultural interpretation, narrative choices, basic interaction design, usability considerations, and the responsible selection of technologies. Even when the tools are simple and free, students must decide what to prioritise, what to keep essential, and how to communicate cultural meaning through interface, interaction and user journey. This strengthens strategic thinking and helps students develop an awareness that digital innovation is not about adding features, but about designing **meaningful experiences**.

In alignment with the art-based coaching approach, the prototype is also understood as an outcome of a creative process where artistic resources function as catalysts of ideation and sense-making. The creative work conducted in earlier phases—through metaphors, storytelling, collage, visual mapping or embodied exercises—does not remain a separate “creative moment”, but is translated into design decisions that shape the prototype. This continuity is crucial: the prototype should embody a specific narrative voice, a symbolic frame, and an experiential logic that reflect the cultural asset and the students’ interpretative approach. Prototyping, in this sense, becomes a form of **applied artistic mediation**.

Finally, this deliverable supports the broader objectives of the project related to **twin transition** and inclusiveness. By developing prototypes with accessible tools, students gain confidence in using digital environments as spaces of expression and innovation, supporting their positioning in STEAM trajectories. At the same time, the prototype encourages students to consider inclusiveness, accessibility and sustainability as integral parts of the design process, not as optional add-ons. Even a simple prototype can demonstrate responsible design choices—for instance, through inclusive narratives, accessible interaction patterns, low-impact digital formats, or community-oriented participation. Overall, the purpose of the Digital or Gamified Prototype is to enable students to demonstrate that they can translate analysis and concept into an initial but meaningful digital solution, while developing professional and transversal competences through an iterative, reflective and creative process. It functions as both a **learning artefact** and a **communication device**, allowing students, teachers and stakeholders to share a tangible representation of the project’s potential and to evaluate its cultural relevance, feasibility and user-centred value before moving towards final documentation and presentation.

Coherence with Previous Deliverables

The Digital or Gamified Prototype should not be understood as an isolated technical exercise, nor as a product developed independently of the learning path completed in the previous phases. Within the ART-Inspired Teaching framework, the prototype represents the concrete materialisation of a progressive process of understanding, interpretation and transformation of a cultural context. For this reason, its quality and effectiveness depend largely on the degree of coherence it demonstrates with the preceding deliverables: the Cultural Asset Sheet, the As-Is / To-Be Analysis, and the Concept Document. In other words, a prototype is considered successful not because of its technical sophistication, but because it is grounded, justified and logically connected to the analytical and conceptual work carried out beforehand.

Firstly, coherence with the Cultural Asset Sheet concerns the cultural identity of the project. The prototype must clearly show that it has been developed around a well-identified and well-understood cultural asset. The asset should not be treated merely as informational content or as a decorative background, but as the core cultural element that shapes the meaning and purpose of the digital experience. The prototype is expected to reflect the cultural, symbolic and social value of the asset, respecting its specificity and avoiding reductive or superficial interpretations. In this sense, the Cultural Asset Sheet provides the cultural matrix of the project: the prototype should enable users to perceive what makes that asset meaningful, authentic and relevant within its community or cultural ecosystem.

Secondly, coherence with the As-Is / To-Be Analysis relates to the strategic and contextual dimension of the project. The prototype is developed in response to a real organisational, cultural or territorial context, characterised by specific constraints, available resources, existing practices and identifiable audiences. Consequently, the prototype should

clearly address the needs, critical issues and opportunities identified during the As-Is analysis. For example, if low engagement of younger audiences emerged as a key issue, the prototype should incorporate interaction and user experience choices aimed at increasing engagement; if the analysis highlighted a low level of digital maturity within the organisation, the prototype should adopt realistic and sustainable technological solutions rather than overly complex or resource-intensive ones; if the cultural asset is intangible and at risk of being lost due to generational discontinuity, the prototype should translate this challenge into a narrative, participatory or experiential strategy capable of making the heritage accessible without trivialising it.

The To-Be vision plays a particularly important role in this respect, as it provides the strategic orientation for the prototype. The digital solution should embody this desired future scenario in a recognisable way, demonstrating how the proposed experience contributes to transforming cultural access, participation or interpretation towards a more inclusive, digital and sustainable model. From this perspective, coherence is not merely technical, but fundamentally conceptual and logical: each design choice—whether related to format, tools, interaction mechanisms or communication style—should be traceable back to a need or opportunity identified in the analysis and aligned with the envisioned transformation.

Finally, coherence with the Concept Document concerns the creative and design dimension of the project. The prototype represents the operational outcome of the concept and should therefore faithfully reflect its core idea, narrative structure, metaphor or artistic framework. If the concept defines a narrative or exploratory experience, the prototype should make such an experience tangible through its interaction design; if the concept is based on a guiding metaphor (for instance, “the loom as a storyteller”), this metaphor should become perceptible through the game mechanics, user pathways, visual language or overall structure of the digital experience. The Concept Document also defines key elements such as target users, user journey, cultural objectives and expected impact, all of which should be verifiable—at least at a preliminary level—through interaction with the prototype.

In summary, coherence with previous deliverables functions as a transversal quality criterion that ensures the prototype is not an improvised artefact, but a culturally informed, strategically grounded and conceptually consistent digital solution. This aspect is particularly relevant within the Cultural and Creative Industries, where effective innovation does not primarily depend on the adoption of advanced technologies, but on the capacity to design digital experiences that are meaningful for their context, respectful of cultural identity, and capable of generating real value for users, organisations and communities.

Nature of the Prototype

Within the ART-Inspired Teaching framework, the prototype should be understood as a purposeful approximation of the final solution rather than a finished digital product. Its role is to make the concept experienceable and therefore discussable: it allows students, teachers and—where possible—ICC stakeholders to see, try, question and refine what has been imagined in the Concept Document, in direct relation to the evidence gathered through the Cultural Asset Sheet and the As-Is / To-Be Analysis.

A prototype, in this sense, is not primarily a technical milestone; it is a cultural and experiential test. It demonstrates how the proposed solution might work in practice, what kind of interaction it enables, and whether it meaningfully translates cultural value into a user-centred digital experience. This is particularly important in cultural contexts, where the “success” of an intervention depends not only on functionality, but on whether it generates engagement, understanding, emotional resonance and ethical cultural representation.

Prototyping as a spectrum: from concept to experience

The Nature of the Prototype is best described as a spectrum of fidelity and functionality. Students may create prototypes that range from low-fidelity representations of an interaction to medium-fidelity functional experiences. Choosing the appropriate level depends on time, available skills, tool accessibility, and the maturity of the concept—rather than on an expectation of technological complexity.

- A low-fidelity prototype may simulate the experience through clickable screens, storyboards, scripted interactions or interactive slides. It helps test narrative structure, user flow, clarity of communication and basic engagement mechanics, without requiring full development.
- A medium-fidelity prototype may include working interactions, limited game mechanics, basic AI dialogue flows, or a small portion of an immersive environment. It is suitable when students can implement core features to explore usability, enjoyment, and coherence with the To-Be scenario.

In both cases, the prototype is considered successful when it makes the concept testable and enables feedback that can be incorporated into iteration.

What the prototype should “prove”

Rather than “proving” technical mastery, the prototype should provide evidence that the project concept is viable and meaningful by demonstrating, at minimum, the following aspects:

1. Cultural mediation logic

The prototype should show how cultural value is communicated: through narrative framing, interpretative choices, interactive prompts, visual language, sound, or participatory elements. It should make clear what is being transmitted (knowledge, memory, identity, practice, emotion) and why the chosen format is appropriate for that asset.

2. User experience and engagement

The prototype should demonstrate what the user does, feels, and learns. This includes the interaction flow (entry point, progression, conclusion), the type of engagement (exploration, challenge, discovery, reflection, co-creation), and the intended outcome (curiosity, understanding, attachment, empowerment).

3. Coherence with the As-Is / To-Be pathway

The prototype must visibly respond to the critical issues identified in the As-Is analysis—such as limited accessibility, low engagement of younger audiences, weak digital presence, or underrepresentation of certain narratives—and embody the To-Be vision by offering a plausible improvement in the experience, reach or impact of the cultural asset.

4. A clear and consistent “core mechanic”

Even when the solution is not a game, the prototype should clarify the central mechanism that drives interaction. In gamified solutions, this might be a quest, a challenge, a collection or a feedback loop. In narrative prototypes, it might be branching choices, unlocking stories, or exploring a spatial path. The key requirement is that the mechanic supports the cultural intention rather than distracting from it.

Acceptable prototype formats in cultural innovation projects

Because cultural innovation can take many forms, several prototype types are considered valid, provided they are coherent with the concept and sufficiently testable. The following formats are particularly relevant for ICC-oriented laboratory sessions:

- **Interactive UX prototype (clickable interface simulation)**
Suitable for concepts such as museum apps, digital archives, cultural service platforms or visitor experiences. These prototypes test navigation, clarity, accessibility, and interaction sequences (e.g., booking, discovery routes, object interpretation, educational tasks).
- **Narrative prototype (interactive storytelling or branching story)**
Highly relevant for intangible heritage, oral traditions, myths, and memory-based assets. This prototype type explores voice, tone, narrative structure, user agency and emotional engagement. It is especially effective when the concept aims to “give voice” to communities or to reframe cultural narratives inclusively.
- **Gamified micro-experience (short playable scenario)**
A compact experience designed to test one or two game mechanics aligned with learning or cultural exploration—such as a short quest, a puzzle, a scavenger hunt, or a decision-based scenario. This format is ideal for rapid iteration and user testing in workshops.
- **Immersive or spatial prototype (3D scene or XR environment)**

Appropriate when the To-Be vision relies on space, embodiment and situated experience (e.g., reconstructing a heritage site, creating a virtual exhibition room, or enabling embodied exploration). Even a single room or a short route can be sufficient if it communicates the intended experience.

- **Conversational prototype** (scripted chatbot or dialogue simulation)
Particularly relevant for interpretative guides, cultural companions, or educational assistants. The prototype may be a structured conversation flow with a small dataset of curated content, allowing testing of tone, inclusiveness, interpretative accuracy and user trust.

Crucially, the chosen format should match the nature of the cultural asset and the identified need. For example, an intangible heritage practice may benefit more from narrative and participatory prototypes than from purely informational interfaces; conversely, a museum service challenge might require a stronger UX and accessibility focus.

Prototyping as iteration and reflection

In ART-Inspired Teaching, prototyping is not a single production moment, but an iterative reflective cycle. Students are encouraged to build quickly, test early, and refine based on feedback. This aligns with the broader coaching and art-based approach, where learning develops through experimentation, observation and re-signification.

Iteration may involve adjusting the narrative metaphor, simplifying mechanics, improving inclusivity, refining language, or rebalancing the relationship between digital novelty and cultural clarity. A prototype that changes significantly through feedback is not a failure; it is evidence of meaningful learning and responsiveness to context.

Feasibility and responsible design

Finally, the Nature of the Prototype must be realistic in relation to the constraints of ICC contexts. Many cultural organisations operate with limited budgets, small teams and varying levels of digital maturity. For this reason, prototypes should favour lightweight, accessible and scalable approaches, demonstrating that innovation can be meaningful without being technologically excessive.

At the same time, students should be guided to adopt a responsible approach to cultural representation. Prototypes should avoid cultural simplification, stereotypical storytelling or extractive narratives. They should demonstrate respect for the cultural asset, acknowledge community perspectives where applicable, and reflect on inclusivity and accessibility as integral design principles rather than optional additions.

In summary, the prototype is a learning instrument, a cultural mediation test, and a communication artefact. Its value lies in making the concept tangible, enabling feedback and refinement, and ensuring that the project's cultural ambition is translated into an experience that is coherent, engaging and feasible within real ICC environments.

Recommended free and accessible tools

Selecting the “right” tool for a **Digital or Gamified Prototype** is less about technical sophistication and more about **fitness for purpose**: the tool should help students make the concept *testable* (Can users understand it? Is it engaging? Does it respect the cultural asset?), while remaining realistic in terms of time, skills, and available devices. In the ART-Inspired Teaching approach, tools are not neutral: they shape the narrative, the interaction model, and even the kind of cultural meaning that can be expressed. For this reason, teachers are encouraged to frame tool choice as a **design decision**, explicitly linked to the Concept Document and the needs emerging from the As-Is / To-Be Analysis.

Below is a curated set of widely used tools that are typically available in a **free tier** and are particularly suitable for simple cultural prototypes produced during lab sessions. The descriptions focus on: what the tool enables, why it fits cultural innovation, and what a “good” student prototype might look like.

1) Interface and UX prototyping

Best when the concept requires a clear user journey (e.g., a digital guide, an interactive archive, a cultural service app), and students need to test navigation, layout, and interaction logic without coding.

Figma (free tier)

Figma is an excellent choice for turning a Concept Document into a **clickable user experience**. Students can prototype screens, define user flows, and simulate interactions through hotspots. In cultural contexts, Figma works particularly well for:

- museum or heritage “micro-apps” (home → map → object page → story → quiz);
- interactive catalogues (filter, browse, save favourites);
- inclusive interfaces (high-contrast variants, simplified language modes, alternative pathways).

What a simple cultural prototype could be:

A 10–15 screen clickable prototype for a “digital companion” that guides visitors through a local tradition, using short texts, audio snippets, and a mini-quest structure.

Why it is pedagogically strong:

It pushes students to be precise about *who* the users are, *what* they do, and *why* each interaction matters—without being blocked by programming.

Canva (free tier)

Canva is often underestimated for prototyping, yet it is extremely effective for producing a coherent and visually readable “prototype package” when students are short on time. It supports:

- interface mock-ups (static but polished);
- interactive presentations (basic click-through storytelling);
- social-media style outputs (useful for ICC communication prototypes).

What a simple cultural prototype could be:

A “digital exhibition” structured as a sequence of interactive boards: introduction → cultural asset context → story fragments → user choice points → call-to-action for participation.

Why it is pedagogically strong:

It prioritises clarity, narrative and visual coherence—core competences for ICC innovation.

2) Interactive storytelling and branching narratives

Best when the cultural asset is best communicated through **choices, perspectives, and narrative exploration** (myths, oral traditions, biographies, rituals, memory routes).

Twine (open source)

Twine is ideal for creating **non-linear stories** where users make choices and discover content progressively. It is particularly relevant for intangible heritage because it supports:

- multiple viewpoints (e.g., “the craftswoman”, “the apprentice”, “the visitor”);
- moral dilemmas and cultural interpretation (what do you preserve, what do you transform?);
- replayability (users return to explore alternative paths).

What a simple cultural prototype could be:

A branching story of 12–20 passages where the user “unlocks” fragments of oral history by making interpretative choices, with short audio clips or images embedded.

Why it is pedagogically strong:

It naturally integrates narrative design, cultural meaning-making, and user agency—without demanding complex technical skills.

Genially (free tier)

Genially is a practical option for building **interactive cultural micro-experiences**: clickable maps, timelines, hotspots, quizzes, escape-room style pages. It is especially suitable when the prototype needs to be shown quickly and tested in class.

What a simple cultural prototype could be:

An interactive map of a historical centre with clickable points: each point opens a mini-story and a challenge (puzzle, quiz, “find the symbol”), ending with a reflective prompt.

Why it is pedagogically strong:

It makes it easy to prototype engagement mechanisms (micro-gamification) while keeping the focus on cultural content.

3) Simple game creation without heavy coding

Best when the concept requires basic game logic (points, levels, collectables, simple rules), but students need a low barrier to entry.

Scratch (free)

Scratch is excellent for entry-level cultural games, especially when the goal is to prototype mechanics rather than deliver a polished commercial product. It supports:

- mini-games (matching, timing, collecting);
- interactive dialogues (character-based storytelling);
- basic simulations (cause-effect cultural scenarios).

What a simple cultural prototype could be:

A short game where users collect “memory fragments” (audio/text) from a set of cultural objects, earning badges for completing interpretative tasks.

Why it is pedagogically strong:

Scratch makes game logic visible, helping students reflect on how rules shape learning and engagement.

GDevelop (free tier)

GDevelop is a no-code/low-code engine suited for **2D games** with more flexibility than Scratch. It is useful when students want:

- a more “game-like” feel (menus, scenes, collisions);
- simple inventories and quest logic;
- exportable builds (depending on chosen workflow).

What a simple cultural prototype could be:

A 2D narrative exploration where the user walks through a space and triggers stories at locations, completing small tasks to unlock a final cultural insight.

Why it is pedagogically strong:

It allows students to experiment with game structure while still focusing on cultural narrative and UX.

4) Immersive and spatial prototyping

Best when the concept aims to create presence and situated experience (virtual visit, reconstructed space, immersive storytelling), but the project remains “light”.

CoSpaces Edu (free tier)

CoSpaces makes it relatively easy to create **simple 3D environments** with interactive elements. It is particularly useful for:

- small virtual scenes (a workshop, a ritual setting, a historical room);
- object-based storytelling (click an artefact → hear a story);
- guided exploration (structured visitor path).

What a simple cultural prototype could be:

A 3D “memory room” where each object triggers a short story, and the user completes a reflective quest (e.g., “identify the values carried by this tradition”).

Why it is pedagogically strong:

It supports spatial thinking and embodied understanding of culture—highly consistent with art-based approaches.

Mozilla Hubs (free)

Mozilla Hubs supports **multi-user virtual spaces**, useful for participatory cultural scenarios: a virtual exhibition opening, a collective storytelling event, or a co-creation session with stakeholders.

What a simple cultural prototype could be:

A virtual room where visitors move between “story stations”, leaving messages or choices that become part of the evolving exhibition narrative.

Why it is pedagogically strong:

It introduces the social dimension of digital culture: participation, co-presence and community building.

5) Location-based cultural experiences

Best when the cultural asset is tied to a territory and the prototype must connect heritage to place (routes, neighbourhood stories, local myths).

Google My Maps (free)

My Maps is a straightforward tool for prototyping cultural routes and storytelling layers on maps. Students can add points, images, short texts, and thematic routes.

What a simple cultural prototype could be:

A “women’s heritage walk” where each stop includes a story, a question, and a small task (e.g., “take a photo of a symbol and compare it to the archive”).

Why it is pedagogically strong:

It supports contextualisation and links cultural meaning to lived environments—highly aligned with WBL logics.

Actionbound (free/education plans vary)

Actionbound is widely used for **scavenger hunts** and educational missions. Even when a full free version is limited, it is still a strong reference for simple “quest-based” cultural prototypes.

What a simple cultural prototype could be:

A route-based mission: scan a QR code → listen to a testimony → answer a riddle → unlock the next location.

Why it is pedagogically strong:

It makes gamification concrete: tasks, progression, feedback, and learning goals.

(If licensing constraints arise, similar mechanics can be simulated through Google Forms + QR codes.)

6) Quizzes, microlearning and lightweight gamification

Best when students need fast prototyping of “playful learning” features (quizzes, branching questions, instant feedback), often useful for museum education services.

Google Forms (free)

Google Forms can be used creatively for **branching narratives**, quizzes, and simple decision trees. It is particularly useful as a “minimum viable prototype” for testing content and flow.

What a simple cultural prototype could be:

A branching “choose-your-path” cultural story: each answer leads to a different content block, ending with a personalised cultural insight.

Why it is pedagogically strong:

It is accessible, quick, and enables immediate user testing—ideal for iterative lab work.

Kahoot! (free tier)

Kahoot is effective for testing engagement and comprehension quickly. It is not a full prototype platform, but it is useful when the concept includes **learning outcomes**.

What a simple cultural prototype could be:

A live quiz used as part of a museum experience, where questions are framed as interpretative prompts rather than factual tests.

7) Audio, video and micro-content production

Best when the prototype needs cultural “materials” (voices, soundscapes, short video narratives) to communicate intangible heritage effectively.

Audacity (free, open source)

Audacity supports basic audio editing: cleaning recordings, cutting interviews, building soundscapes. This is crucial for intangible heritage prototypes where **voice and sound** carry cultural meaning.

What a simple cultural prototype could be:

A set of 8–10 audio fragments (30–60 seconds each) embedded into a Twine or Genially narrative.

CapCut (free tier)

CapCut is useful for rapid short-form video production (social storytelling, micro-documentaries). It can support ICC-oriented prototypes that include promotional or educational content.

What a simple cultural prototype could be:

A 60–90 second “heritage teaser” that introduces the cultural asset and invites participation in the digital experience.

Projects centred on **augmented reality experiences** for traditional rituals aim to overlay digital narratives, symbols or instructions onto physical environments. The focus is not on photorealistic AR development, but on **contextual mediation, storytelling and experiential layering**.

Tools such as **Adobe Aero** allow students to create marker-based or surface-based AR experiences without coding. This makes it possible to associate images, sounds or short animations with ritual objects or locations, supporting experiential interpretation rather than technical complexity.

Similarly, **ZapWorks** (free tier) enables the creation of simple AR interactions activated by images or symbols, which is particularly suitable for ritual artefacts, costumes or gestures documented during field research.

For early exploration and conceptual validation, **Assemblr** can be used to prototype AR storytelling scenarios quickly, allowing students to test how digital layers interact with physical space before refining narrative coherence.

These tools support the learning objectives of **immersive cultural communication**, enabling students to reason about spatial storytelling, embodiment and ritual meaning without being constrained by technical barriers.

Narrative games based on local myths require tools that balance **storytelling, interaction and spatial exploration** while remaining accessible to non-programmers.

Twine is particularly effective during early phases, as it allows students to structure branching narratives, character perspectives and moral choices that are central to mythological storytelling. Twine supports narrative logic independently of visual complexity, reinforcing story coherence.

For spatial and visual prototyping, **GDevelop** (free version) enables the creation of simple 2D or 2.5D games without coding. It allows students to integrate basic mechanics, exploration and symbolic interaction aligned with cultural narratives.

At a more immersive level, **CoSpaces Edu** supports the creation of simple 3D environments and narrative scenes. This tool is particularly appropriate for representing mythological spaces, symbolic landscapes or narrative journeys in an accessible way.

Together, these tools align with the **Video Game Design** and **Game Technologies for Cultural Heritage** modules, supporting experimentation with narrative structure, interaction logic and cultural symbolism.

AI-based chatbots for museums aim to enhance **interpretation, accessibility and engagement**, rather than to automate curatorial authority. Consequently, tools should support **conversational design and ethical reflection**.

Platforms such as **Botpress** (open-source) or **Dialogflow** (free tier) allow students to design conversational flows, intents and responses that simulate a digital cultural mediator.

For rapid prototyping and narrative experimentation, students may also use **ChatGPT** in a critical and guided way, scripting dialogues and testing interpretative approaches while reflecting on issues of bias, authority and representation.

These tools are particularly coherent with the **Artificial Intelligence for Digital Heritage Innovation** module, as they foreground not only technical affordances but also ethical responsibility, inclusiveness and transparency in cultural mediation.

Projects focused on digital archives of oral traditions prioritise **narrative organisation, accessibility and gender-sensitive representation** over advanced technical development.

Omeka (Classic version) is a widely used open-source platform for cultural collections and storytelling. It allows students to curate oral histories, images and metadata while structuring interpretative narratives through exhibitions. For more visually driven storytelling, **StoryMapJS** enables the creation of narrative paths that combine audio, images and text, particularly effective for situating oral traditions within territorial or biographical contexts.

In parallel, **Canva** can be used to design accessible interfaces, visual identities and narrative supports, reinforcing inclusiveness and clarity of communication.

These tools align strongly with the **Digital Storytelling for Cultural Heritage** and **Gender Equality and Inclusion in STEAM** modules, supporting projects that foreground female voices, memory and cultural continuity.

Across all four cases, the recommended tools share common characteristics: they are **accessible, free or low-cost**, and **support conceptual clarity rather than technical virtuosity**. Their pedagogical value lies in enabling students to focus on **cultural meaning, user experience and ethical responsibility**, while experimenting with technologies that reflect current practices within the Cultural and Creative Industries.

Students are encouraged to select tools **strategically**, based on the cultural challenge identified and the competences developed during the ICT modules, rather than attempting to adopt multiple tools superficially. This approach reinforces the ART-Inspired Teaching principle that technology serves cultural interpretation and creative inquiry, not the other way around.

Expected Outputs

The **Expected Outputs** for the Digital or Gamified Prototype should make the students' work **visible, testable and intelligible** to teachers, peers and—where applicable—stakeholders from the ICC organisation. The prototype is expected to demonstrate not only a technical result, but also a coherent translation of the **Concept Document** into a concrete experience, grounded in the findings of the **As-Is / To-Be Analysis** and respectful of the cultural meaning clarified in the **Cultural Asset Sheet**. For this reason, the output package should be conceived as a *prototype bundle*: a combination of a functional artefact and a short set of supporting materials that allow the solution to be understood and evaluated.

1) A functional prototype or an interactive simulation

Students are expected to deliver a **working prototype** or, where technical constraints apply, a **robust interactive simulation** that enables a reviewer to experience the core idea. The prototype does not need to be fully developed or polished, but it must allow the user to engage with the essential mechanics of the solution: navigation, interaction, narrative progression, gamified feedback, or experiential exploration.

A valid prototype may take different forms, depending on the concept and the tool adopted. For instance, it may be a clickable interface demonstrating the user journey (e.g. a Figma prototype), a branching narrative experience (e.g. Twine), a small playable scenario (e.g. Scratch or GDevelop), an interactive educational object (e.g. Genially), or a simple immersive space (e.g. CoSpaces). Regardless of format, the prototype must make it possible to observe how the solution works from the user's perspective, even if content and features are intentionally limited.

2) Clear access instructions and a stable delivery format

The prototype must be delivered in a way that is **easy to access, open and stable**. Students should provide a shareable link (where the tool supports it), or a packaged file that can be opened without specialised software beyond what is commonly available. The goal is to avoid “prototype friction”: reviewers should not have to guess how to run, navigate or interpret the artefact.

Access instructions should be concise and practical. They should specify what device is recommended (mobile, desktop), whether headphones are needed (for audio-based storytelling), and what a user is expected to do first. If the prototype is intended for a specific context (e.g. an on-site museum visit), students should briefly indicate how the prototype could be experienced in that setting.

3) A short description of the prototype’s logic and design choices

Alongside the artefact, students should provide a short explanatory text (typically one page) that clarifies the **logic** of the prototype. This explanation should not replicate the Concept Document; rather, it should focus on the translation from concept to interaction. In particular, it should state:

- what the user can do in the prototype (core actions and flow);
- what the prototype is designed to demonstrate (the “slice” of the full idea);
- what has been prioritised, simplified or intentionally left out at this stage.

This short rationale helps teachers assess whether the prototype is an appropriate and coherent representation of the concept, and it supports a fair evaluation even when the prototype is deliberately minimal.

4) Cultural grounding and interpretative coherence

A key output is the explicit demonstration that the prototype is **culturally grounded**. Students should therefore indicate—briefly but clearly—how cultural meaning has been preserved and translated. This may include the narrative framing, the selection of symbols, the tone of communication, the representation of intangible heritage (voices, gestures, rituals), or the way users are invited to interact with cultural content.

In practical terms, the prototype should include at least a minimal set of cultural elements (texts, images, audio, objects, or micro-stories) that make the relationship to the cultural asset recognisable. Even when students use placeholder content, they should clarify what the final cultural materials would be and why they matter. The prototype is not merely a technical demonstration: it is a **cultural mediation device**.

5) A user journey overview and key screens / moments

To support understanding and evaluation, students should provide either a brief **user journey overview** or a visual summary of key moments. This may take the form of:

- a short storyboard (3–6 frames),
- a set of screenshots with captions,
- a simple flow diagram of the interaction steps,
- a “happy path” description of the intended user experience.

This output is particularly important when prototypes are non-linear or exploratory. It ensures that reviewers can understand what the prototype is meant to convey, even if they do not explore every branch or feature.

6) A minimal testing record and evidence of iteration

Although the deliverable is a prototype, it should still include evidence that it has been **tested and iterated**, even in a lightweight way. Students should provide a brief testing record indicating:

- who tested the prototype (e.g. peers, classmates, a teacher, a small user sample);
- what feedback emerged (e.g. clarity, engagement, accessibility, cultural relevance);
- what changes were made as a consequence, even if minor.

The purpose is not to produce a formal evaluation report, but to demonstrate that students have adopted an iterative mindset and that the prototype has evolved in response to real reactions. This is especially aligned with Work-Based Learning and with the reflective nature of the ART-Inspired Teaching approach.

7) Accessibility, inclusiveness and basic ethical considerations

Students should include a short note on how the prototype addresses **accessibility and inclusiveness**, in coherence with the project's values. This may refer to readability, language choices, visual clarity, interaction simplicity, or the respectful representation of cultural identities and communities. Where relevant, students should indicate how gender perspectives, diverse audiences, or intergenerational access have been considered.

If AI features or AI-generated content are included, students should briefly clarify how AI has been used and what measures were taken to avoid misleading, appropriative or culturally insensitive outputs. The expectation is not exhaustive compliance documentation, but **awareness and responsible intent**.

8) A concise “prototype status” statement

Finally, the deliverable should include a short statement clarifying the current status of the prototype, written in a transparent and professional tone. Students should specify what is functional now, what remains conceptual, and what the next development steps would be if the project continued. This makes the prototype easier to evaluate as a learning outcome and prevents unrealistic expectations from stakeholders.

Pedagogical Value

Within the ART-Inspired Teaching framework, the **Digital or Gamified Prototype** has a distinctive pedagogical value because it shifts the learning process from conceptual reasoning to **embodied and situated experimentation**. Prototyping is not merely a production phase; it is a formative moment in which students learn to make their ideas testable, communicable and accountable. By producing an artefact that can be experienced—however partially—students engage in an iterative cycle of action and reflection that strengthens both creative confidence and analytical rigour.

A first pedagogical contribution lies in the way prototyping helps students **translate cultural meaning into interaction**. Cultural heritage, particularly when intangible, is not easily transferred through informational content alone. The prototyping phase obliges students to ask what it means to “communicate” a cultural asset through digital media: what is the experience that users will have, what emotions or forms of understanding are activated, and how narrative choices shape interpretation. This encourages students to treat culture not as static data, but as a living system of meanings, practices and values that must be mediated responsibly through design.

Prototyping also fosters a highly valuable competence: **learning through constraints**. In real ICC settings, innovation is often developed under conditions of limited resources, time and technical capacity. Working with accessible and often free tools allows students to experience these constraints as part of the learning process rather than as obstacles. They learn to prioritise, simplify and make strategic decisions, focusing on what is essential for the user experience and the cultural intention. This supports a pragmatic mindset that is particularly relevant for Work-Based Learning, because it mirrors the practical conditions in which ICC organisations frequently operate.

Another key dimension concerns the development of **user-centred and inclusive thinking**. A prototype makes it possible to observe—through testing, feedback and peer review—how different users may experience the proposed solution. Students are encouraged to reflect on accessibility, clarity, engagement, and cultural sensitivity, moving beyond assumptions about “what users want”. This is particularly important in cultural contexts, where users may differ significantly in age, language, digital confidence, and cultural background. Prototyping therefore becomes a practical tool for fostering empathy, inclusiveness and responsible design, helping students recognise that accessibility and participation are not add-ons but structural qualities of cultural innovation.

From the standpoint of the art-inspired approach, the prototype functions as a **creative artefact** that can embody metaphors, narratives and aesthetic choices. Students can experiment with visual languages, storytelling structures, symbolic objects and interaction rhythms, understanding how artistic strategies can enhance meaning-making and engagement. Importantly, this experimentation is not limited to “making something look good”; it supports deeper reflection on how artistic devices shape cultural interpretation, invite curiosity, and create emotional resonance. In

this sense, prototyping becomes an extension of art-based coaching methods, where making is itself a reflective practice.

The prototyping phase also strengthens students' **digital self-efficacy**. For many learners—particularly those coming from humanistic backgrounds—the transition into digital production can be perceived as intimidating. Low-threshold tools reduce entry barriers and enable students to experience competence through tangible progress. This has a strong motivational impact, because it reframes technology as a space of agency rather than exclusion. Within the broader aims of the project—supporting women's participation and leadership in STEAM domains—this dimension is pedagogically significant, as it builds confidence, encourages risk-taking and supports a more empowered relationship with digital tools.

Equally important is the way prototyping supports **critical thinking and validation**. A concept that appears convincing on paper may reveal weaknesses when translated into interaction: unclear flows, mismatched narratives, lack of engagement, or unrealistic assumptions. By making ideas visible and testable, prototyping invites students to question their own decisions and to treat feedback as a resource rather than a judgement. This helps develop a reflective professional attitude aligned with the learning goals of higher education and with iterative design methodologies.

Finally, the prototype has a substantial pedagogical value in terms of **communication and collaboration**. A prototype enables students to communicate their ideas more effectively to peers, teachers and external stakeholders, because it provides a shared reference point for discussion. It supports teamwork by clarifying roles (content, narrative, UX, technical implementation) and by making the project progress visible. In Work-Based Learning contexts, it also facilitates dialogue with ICC partners, as organisations can react to concrete interactions rather than abstract descriptions, and can provide feedback grounded in real needs and operational realities.

In conclusion, the Digital or Gamified Prototype is pedagogically valuable because it consolidates the entire learning pathway: it integrates cultural analysis, creative thinking, digital experimentation, inclusiveness, and reflective practice into a single tangible artefact. It allows students to experience cultural innovation as a process of meaning-making and iterative improvement, preparing them to engage responsibly with digital transformation in the ICC sector.

Position in the workshop

Within the overall structure of the Project Work, the **Digital or Gamified Prototype** occupies a central and strategic position, as it represents the moment in which analytical understanding, creative ideation and technological exploration converge into a concrete and observable artefact. Positioned after the **Concept Document** and before the phases of **testing, validation and final documentation**, the prototype marks the transition from conceptual design to experiential verification.

At this stage of the Project Work, students are required to translate the intentions and assumptions articulated in the previous deliverables into a tangible form that can be experienced, interacted with and discussed. The prototype therefore functions as a **material hypothesis**, allowing students to examine whether the proposed concept effectively responds to the cultural challenge identified, aligns with the To-Be vision, and generates a coherent and meaningful user experience.

From a methodological perspective, this phase embodies the principles of **iterative and experiential learning**. Rather than aiming for completeness or technical perfection, the Digital or Gamified Prototype encourages experimentation, exploration and learning through making. Students are invited to test ideas in a low-risk environment, where errors and limitations are considered integral components of the learning process. This approach supports the development of critical awareness regarding feasibility, usability and cultural coherence.

The position of the prototype within the Project Work also reflects the logic of **Work-Based Learning**. By engaging with realistic tools, constraints and production dynamics typical of the Cultural and Creative Industries, students simulate professional practices in a protected educational setting. The prototype becomes a shared object around which dialogue with teachers, peers and, where possible, cultural organisations can take place, fostering feedback-driven refinement and reflective discussion.

Within the ART-Inspired Teaching framework, the prototyping phase further serves as a space for integrating **art-based coaching methodologies**. Artistic and creative approaches continue to inform the process, not only in the aesthetic dimension of the artefact, but also in the way students reflect on their choices, reinterpret challenges and explore alternative solutions. Visual thinking, narrative experimentation and metaphorical reasoning remain active throughout this phase, reinforcing the continuity between creative exploration and digital development.

Importantly, the Digital or Gamified Prototype acts as a preparatory step for the subsequent phases of **testing and validation**. By externalising the concept into an interactive or semi-functional artefact, students create the conditions for meaningful evaluation of user experience, cultural relevance and impact. The prototype thus enables informed feedback, supporting evidence-based refinement rather than abstract speculation.

Finally, within the overall Project Work trajectory, this deliverable contributes to consolidating students' sense of authorship and professional identity. Seeing their ideas take shape in a tangible digital form enhances confidence, reinforces the connection between analysis and action, and prepares students for the articulation of their work in the **final pitch and portfolio**. In this sense, the Digital or Gamified Prototype represents not only a methodological step, but also a formative milestone in the development of reflective and creative cultural innovators.

5.4.5. Creative-technological portfolio

Purpose and function of the creative-technological portfolio

The **Creative-Technological Portfolio** is conceived as the key documentary and reflective output of the Project Work, designed to capture both the **final results** and the **learning trajectory** that led to them. Its purpose goes beyond showcasing what students produced; it aims to make the project intelligible as a coherent process in which cultural analysis, creative exploration and digital experimentation are progressively integrated. In this sense, the portfolio functions as a structured narrative of transformation: it records how an initial cultural asset and a real organisational context are interpreted, re-framed and ultimately translated into a feasible digital or gamified proposal.

From an educational standpoint, the portfolio serves as an instrument of **meaning-making**. Students are invited to connect evidence, decisions and outcomes across phases, thereby strengthening their ability to articulate a clear rationale for their work. The portfolio helps students demonstrate that their design choices are not arbitrary, purely aesthetic, or technology-led, but grounded in a critical understanding of cultural value and contextual needs. By explicitly linking the *Cultural Asset Sheet* and the *As-Is / To-Be Analysis* to the *Concept Document* and the *Prototype*, the portfolio becomes a tool for ensuring methodological coherence and for consolidating students' capacity to justify their design process.

At the same time, the Creative-Technological Portfolio has a strong **reflective function**. Within the ART-Inspired Teaching framework, reflection is not treated as an ancillary activity, but as a core dimension of learning. The portfolio provides a dedicated space for students to identify what they learned through iterative making, how their assumptions evolved, and how feedback informed revisions. This reflective component supports metacognitive development: students learn to recognise patterns in their own creative and problem-solving processes, to acknowledge constraints and trade-offs, and to evaluate their choices in relation to cultural relevance, user experience, inclusiveness and sustainability.

A further function of the portfolio is communicative. In a Work-Based Learning context, students are expected to engage with real cultural organisations and to operate within constraints similar to those faced by the Cultural and Creative Industries. The portfolio therefore acts as a **communication artefact** that can be shared with external stakeholders, making the project understandable to non-academic audiences such as museum staff, cultural managers, educators or local communities. For this reason, clarity, structure and narrative coherence are essential. The portfolio should allow a reader to understand the project's purpose, audience, cultural intention and prototype logic without requiring extensive additional explanation.

Importantly, the portfolio also supports the development of a **professional identity**. It enables students to present themselves not only as learners, but as emerging cultural innovators capable of bridging culture and technology responsibly. By documenting the process as well as the outcome, students provide evidence of competences valued within ICC contexts: contextual analysis, creativity, digital literacy, collaborative work, iterative design, and the ability to communicate complex ideas effectively. In this way, the portfolio can also be repurposed as a professional asset for employability, internship applications or future project proposals.

Finally, the portfolio functions as a pedagogical anchor for assessment. It offers teachers a comprehensive view of the student's journey, allowing evaluation to focus not solely on the final prototype, but on the quality of reasoning, coherence across deliverables, and the student's capacity to learn through experimentation. This aligns with the broader educational logic of the handbook, where the Project Work is not conceived as a product-oriented task, but as a structured pathway for developing creative-technological competences through reflection, making and contextual engagement.

Coherence with the mandatory deliverables

Coherence is the defining quality criterion of the Creative-Technological Portfolio. In practice, this means that the portfolio should not read as a set of unrelated attachments, but as a **single, continuous narrative** that demonstrates how each deliverable logically informed the next, and how the final prototype emerged from a well-grounded chain of reasoning, creativity and experimentation.

To achieve this, students should explicitly position the portfolio as the “thread” that connects **cultural meaning, contextual evidence, design intention** and **digital execution**. The portfolio becomes the space where the project's internal logic is made visible: the reader should be able to understand not only *what* was produced, but *why* it was produced in that specific way, and *how* decisions evolved through feedback, constraints and iteration.

A coherent portfolio typically begins by re-anchoring the entire project in the **Cultural Asset Sheet**. Rather than reproducing the sheet in full, students should highlight its most consequential elements: the identity and value of the cultural asset, the reasons it matters for a community or an organisation, and the interpretative angle chosen (for instance, intangible practices, local memory, women's knowledge, or underrepresented narratives). At this stage, coherence is demonstrated when students make clear that the cultural asset is not treated as “content” to be digitised, but as a **meaningful cultural framework** that shapes the project's tone, narrative choices and ethical stance.

The portfolio should then show how the Cultural Asset Sheet was translated into an evidence-based understanding through the **As-Is / To-Be Analysis**. Coherence here is achieved when students explicitly connect the present context (resources, audiences, digital maturity, constraints, opportunities) to the transformation vision. The portfolio should make the reasoning traceable: for example, if the As-Is analysis revealed low engagement of younger audiences, limited accessibility, or weak digital presence, the portfolio should clarify how these observations became design drivers rather than generic statements. Equally, the To-Be scenario should not remain aspirational: it should be presented as a **direction-setting framework** that provides criteria for what the concept and prototype must accomplish (e.g., more participatory engagement, narrative mediation, accessible formats, sustainability awareness). Once this analytical foundation is established, the portfolio should clearly articulate how the project's **Concept Document** emerged as the synthesis of cultural relevance (from the Cultural Asset Sheet) and contextual needs (from the As-Is / To-Be Analysis). Coherence at this stage depends on the student's ability to demonstrate conceptual intentionality: the portfolio should explain the core idea, the chosen experience type (exploratory, narrative, playful, immersive, participatory), and the role of the art-inspired approach (metaphor, storytelling, visual thinking) as part of the concept's identity. In other words, the portfolio should communicate that the concept is not merely “an idea”, but a **structured proposition** with an explicit cultural purpose, a defined audience, and a clear experiential logic.

The strongest indicator of coherence is then found in how students document the transition from the Concept Document to the **Digital or Gamified Prototype**. The portfolio should make explicit which parts of the concept were prototyped and why those were prioritised. This is particularly important because the prototype is not expected to be

a complete product: students must therefore justify scope decisions (what was included, what was simplified, what was postponed). Coherence is achieved when the prototype can be read as a **material test of the concept's assumptions**: for instance, a clickable prototype may test user flow and comprehension; an interactive story may test narrative engagement; a simple mini-game may test motivational mechanics. The portfolio should also provide transparency about tools chosen (especially if free or entry-level), explaining how they supported feasibility within the lab setting and how they served the cultural objectives rather than dominating them.

Finally, coherence across deliverables is strengthened when the portfolio explicitly addresses **iteration and learning**. Students should show how feedback and testing (even informal peer testing) influenced refinements, and how constraints (time, skills, data availability, organisational realities) shaped design decisions. This reflective linkage is essential: it demonstrates that the project evolved through a process of inquiry rather than remaining fixed from the outset.

In summary, “coherence with the mandatory deliverables” means that the portfolio must function as a **traceable argument**: the cultural asset motivates the project; the As-Is / To-Be analysis grounds it in reality and defines the direction of change; the concept organises intentions into a structured vision; the prototype tests that vision through an experiential artefact; and the portfolio narrates and evidences the full pathway in a way that is clear, justified and reflective.

Portfolio as a reflective learning artefact

Within the ART-Inspired Teaching framework, the **Creative-Technological Portfolio** is not intended to be a mere repository of outputs, nor a chronological “logbook” of tasks completed. Instead, it functions as a **reflective learning artefact**: a structured space in which students make sense of their experience, articulate the reasoning behind their decisions, and demonstrate how their thinking evolved from the initial cultural exploration to the final digital or gamified prototype. In this sense, the portfolio captures *learning in motion*, not only the final result.

A reflective portfolio is particularly valuable in complex design processes—especially those dealing with cultural assets—because the quality of the outcome depends on a sequence of interpretative choices: how students understood the cultural value, how they framed the challenge, which audiences they prioritised, what kind of experience they wanted to create, and how they negotiated constraints typical of ICC contexts (skills, time, resources, digital maturity). The portfolio enables students to render these choices **explicit and traceable**, showing that the project is not the product of improvisation, but of a deliberate and coherent process grounded in analysis and creative exploration. This is fully aligned with the handbook’s emphasis on coaching, reflection and experiential learning.

From a pedagogical perspective, the reflective dimension has three main functions.

First, it supports metacognition and self-awareness. Students are guided to recognise what they learned, which competences they developed, and how they managed uncertainty. Rather than presenting a flawless narrative, students are encouraged to acknowledge the *real* dynamics of creative work: moments of doubt, initial assumptions that proved incorrect, discarded ideas, and turning points. This does not weaken the portfolio; on the contrary, it demonstrates maturity and critical capacity, because it shows that students can evaluate their own process and learn from it.

Second, it strengthens coherence across deliverables. Reflection helps students connect each output to the next in a meaningful way: how the Cultural Asset Sheet shaped their interpretation of the heritage; how the As-Is / To-Be Analysis clarified needs, gaps and opportunities; how these insights influenced the Concept Document; and how the concept was subsequently tested, adjusted and embodied through prototyping. In practical terms, reflection turns the portfolio into a “thread” that holds the entire Project Work together, ensuring that the prototype is not detached from context, but anchored in cultural meaning and real-world considerations.

Third, it encourages responsibility and ethical awareness. Cultural innovation is never neutral: it involves representation, selection, inclusion and narrative framing. A reflective portfolio invites students to consider questions such as: *Which voices are being amplified? Who might be excluded by this design choice? What cultural meanings*

might be simplified or distorted? What does accessibility mean in this specific context? By engaging with these issues, students learn to position themselves as responsible cultural innovators rather than purely technical designers. To make reflection concrete and assessable, students should be encouraged to include short reflective passages at key moments of the portfolio, for example:

- **Framing reflection:** what initial assumptions did we have about the context and the cultural asset, and how did these change after research and observation?
- **Decision reflection:** which alternatives did we consider (narrative structure, target users, platform, interaction model), and why did we select one option over the others?
- **Feedback reflection:** what did peer/teacher/stakeholder feedback reveal, and how did it influence the prototype? What did we modify—and what did we decide not to change, and why?
- **Constraint reflection:** which constraints shaped the project (time, tools, skills, organisational limitations), and how did we respond creatively rather than treating them as obstacles?
- **Impact reflection:** what cultural, social, educational or sustainability impact do we aim for, and how does the prototype actually support it?

In the ART-Inspired Teaching approach, reflection is also enriched through **art-based methods**. This means that reflective elements do not need to be purely written or analytical. Students may include *visual thinking artefacts*—concept maps, metaphor diagrams, collages, storyboards, moodboards—not as decoration, but as evidence of how their understanding developed. For example, a collage used in the ideation phase can be accompanied by a brief reflection explaining which emotions, tensions or values it surfaced and how it influenced later design choices. In this way, the portfolio becomes a multimodal record of learning, integrating analytical and symbolic forms of reasoning. Ultimately, treating the portfolio as a reflective learning artefact shifts the assessment focus from “How polished is the final product?” to “How well can students justify and communicate their process, learning and decisions?” This is crucial in educational contexts where prototyping is intentionally exploratory. The portfolio therefore becomes both a **tool for learning** (supporting reflection and iteration) and a **tool for evaluation** (providing evidence of coherence, critical thinking and purposeful design).

Creative and technological documentation

The **Creative and Technological Documentation** section is the part of the portfolio where students make the *making* visible. Its purpose is not simply to show what has been produced, but to demonstrate how the project evolved through iterative decisions that connect **cultural meaning**, **creative exploration** and **digital feasibility**. In other words, this documentation turns the portfolio into an intelligible “project story”, enabling teachers, peers and external stakeholders to understand both the outcome and the reasoning that generated it.

From a creative perspective, students should document the development of the project’s narrative, metaphor, visual language and experience design. This may include early sketches, moodboards, collage outputs, conceptual maps, storyboards, character or scenario drafts (where relevant), and snapshots of alternative ideas that were explored and then discarded. These materials are not included as decorative elements, but as evidence of **creative inquiry**: they show how cultural insights were translated into forms, symbols, tone of voice and interaction logic. A strong portfolio does not hide uncertainty; it demonstrates how ambiguity was navigated, how ideas were reframed, and which creative stimuli contributed to convergence.

Equally important is the technological documentation, which should explain how the concept was translated into a prototype through practical choices about tools, platforms, interaction mechanisms and content formats. Students should clarify, in accessible language, what they built (e.g., a clickable UX prototype, an interactive narrative, a mini-game, a simple XR environment), which software or platforms were used, and why those choices were appropriate given the context, skills and constraints identified during the As-Is / To-Be Analysis. The aim is to demonstrate **responsible technological mediation**—technology as an enabler of cultural experience, rather than an end in itself.

In this section, documentation should follow a clear logic that readers can easily track. A recommended approach is to present materials in **chronological and iterative order**, showing at least three meaningful stages: (1) an initial creative direction (concept seeds and early references), (2) a structured design proposal (user journey, interaction flow, narrative structure), and (3) the prototype implementation (screens, scenes, levels, interactive nodes). For each stage, students should include brief commentary explaining what changed, what was learned, and what decisions were taken as a result. This can be done in a reflective yet concise style: the focus is on clarity, not on lengthy reporting. A particularly valuable practice is to make the **relationship between creative artefacts and prototype features explicit**. For example, a moodboard may be linked to decisions about colour palette, typography, sound atmosphere or interaction tone; a metaphor map may be linked to the structure of a user journey; a storyboard may be linked to specific scenes, screens or game mechanics. By drawing these links, students demonstrate that the final prototype is not arbitrary but conceptually grounded in the cultural asset and the creative process.

Technological documentation should also include a transparent account of prototype fidelity and limitations. Students are encouraged to state what is functional, what is simulated, and what would require further development in a real-world ICC setting. This is not a weakness; it is an indicator of **professional awareness**. Where relevant, students may add short notes on constraints such as time, access to data, organisational readiness, or tool limitations (for example, restrictions of free versions). The key is to show that feasibility was considered and that design choices were made deliberately within realistic boundaries.

To strengthen communicative effectiveness, this section should incorporate **evidence-based materials** such as screenshots, short video walkthroughs (even a simple screen recording), links to prototypes, and brief user-flow diagrams. If user testing has taken place (even informally), students may add a short synthesis of the feedback received and describe how it informed improvements. The portfolio should therefore read as a coherent record of iteration: not merely “what we did”, but “what we learned and how we adapted”.

Finally, students should be encouraged to document creative and technological work in a way that reflects the programme’s attention to **inclusion, ethics and sustainability**. This might include notes on accessibility choices (readability, language options, inclusive imagery), respectful cultural representation (especially for sensitive heritage narratives), and responsible use of digital resources (e.g., reuse of open assets, lightweight solutions). If generative AI tools have been used, documentation should clarify *how* they supported the process (for example, drafting alternative narrative options or generating dialogue variations) and how students ensured cultural accuracy, authorship responsibility and transparency.

Professional and employability-oriented value

Beyond its academic role, the Creative-Technological Portfolio is intentionally designed as a career-facing artefact that can support students’ entry into, or progression within, the Cultural and Creative Industries (CCIs). In a sector where professional opportunities are often project-based and hybrid in nature, students are rarely assessed solely on formal qualifications. Instead, they are frequently evaluated on their ability to demonstrate applied competences, communicate a coherent project logic, and provide evidence of what they can actually deliver. The portfolio addresses this need by making students’ skills visible through a structured narrative of practice.

A key employability value of the portfolio lies in its ability to document **end-to-end project competence**. Rather than presenting isolated outputs, it shows that students can move from cultural understanding to problem framing, from ideation to prototyping, and from reflection to iteration. This capacity to connect analysis, creativity and technology mirrors real professional workflows in museums, heritage organisations, cultural start-ups, creative agencies and public cultural services. The portfolio therefore becomes a credible indicator of work readiness, even when students have limited professional experience.

Equally important is the portfolio’s function as evidence of **transferable skills**. Through the documentation of decision-making, collaboration, feedback integration and project management, students demonstrate competences that are highly valued across roles and contexts. These include critical thinking, communication, teamwork, planning,

adaptability and the ability to learn autonomously. By articulating how they navigated constraints—such as limited time, limited resources, or organisational requirements—students also show professional maturity and an understanding of real-world conditions typical of the CCIs.

The portfolio is particularly relevant in the context of the growing demand for **hybrid professional profiles**, capable of bridging cultural content with digital mediation. Many organisations seek individuals who can translate cultural meaning into engaging formats and experiences, while also understanding the basic logic of digital tools and user experience. A well-developed portfolio makes this hybrid profile tangible: it demonstrates not only sensitivity to cultural value and narratives, but also the ability to prototype digital interactions, design user journeys, and justify technological choices in relation to cultural objectives.

From an employability perspective, the portfolio also strengthens students' ability to engage in **professional self-presentation**. It trains them to communicate their work with clarity, concision and purpose, selecting relevant evidence and framing it for specific audiences. This is essential for job applications, interviews, internships, freelance opportunities and grant-based projects, where candidates must often explain complex ideas to non-specialist stakeholders. The portfolio acts as a structured “professional story” that students can adapt to different contexts, highlighting what they contributed, what impact they achieved, and what they learned.

In addition, the portfolio functions as a practical tool to support entry into professional networks. It can be shared with cultural organisations involved in Work-Based Learning sessions, used as a basis for discussion with mentors, and circulated as a digital artefact within creative communities. In this way, it facilitates opportunities for visibility, collaboration and recognition. For students, this matters: employability in the CCIs is frequently shaped not only by formal recruitment but also by connections, reputational signals and the ability to demonstrate value through concrete work.

Finally, by explicitly documenting attention to **inclusiveness, sustainability and responsible innovation**, the portfolio aligns students' competences with emerging priorities in European cultural policy and contemporary cultural management. Organisations increasingly expect cultural innovation to address accessibility, participation, ethical use of technologies and sustainability-related considerations. When students show that these dimensions were not added superficially but integrated into their design logic, they position themselves as reflective practitioners capable of contributing to meaningful and responsible cultural transformation.

Position within the project work

Within the Project Work architecture, the **Creative-Technological Portfolio** occupies a distinctive position: it is not simply the “last document to submit”, but the **integrative structure** that consolidates the entire trajectory of learning, making the process intelligible, assessable and transferable. In practical terms, it corresponds to **Phase 8 – Portfolio and Final Documentation**, yet its function extends beyond a chronological final step. It acts as the *connecting thread* that aligns all deliverables into a coherent narrative of cultural analysis, creative exploration and technological development.

At this stage, students are required to take a step back from the intensity of making and prototyping and engage in a more reflective, editorial mode of work. The portfolio therefore becomes the place where scattered outputs—notes, sketches, conceptual maps, partial prototypes, feedback, iterations—are reorganised into a structured account that demonstrates **intentionality**. This shift is pedagogically significant: students move from “doing” to “understanding what they did”, and from “producing artefacts” to “constructing meaning” around those artefacts.

Because the portfolio is positioned after the **Digital or Gamified Prototype** phase, it naturally captures evidence of iteration and learning through experimentation. The prototype often reveals what does *not* work: constraints, usability issues, narrative gaps, cultural misalignments, technical limitations. The portfolio is where those discoveries are not hidden, but **interpreted**, showing how constraints informed decisions and how feedback shaped refinement. In other words, the portfolio formalises the value of the prototyping phase by documenting the evolution from an initial assumption to a more robust solution logic.

In the ART-Inspired Teaching framework, Phase 8 is also the stage in which students are expected to demonstrate **coherence across deliverables**. The portfolio should make explicit how the project originates in the **Cultural Asset Sheet**, is justified through the **As-Is / To-Be Analysis**, is crystallised in the **Concept Document**, and is embodied in the **Prototype**. This coherence is not merely administrative: it ensures that the final output is not a generic digital product but a culturally grounded intervention that responds to a real context and aligns with the To-Be vision. The portfolio functions as the main space where that alignment is demonstrated through a clear chain of reasoning.

Importantly, the portfolio's position immediately before the **Final Pitch** means it also serves as a preparatory device for communication. While the pitch is necessarily concise and persuasive, the portfolio provides depth and traceability. It equips students with a structured evidence base to justify their claims, articulate impact, and respond to questions from teachers, peers and—where relevant—ICC stakeholders. In this sense, the portfolio is both a synthesis and a support mechanism: it strengthens the pitch by anchoring it in documented analysis, design choices and prototypes rather than in abstract statements.

Finally, Phase 8 has a formative role in helping students consolidate a sense of **authorship and professional identity**. By curating the portfolio, students practise a form of professional self-representation common in creative and digital sectors: selecting what matters, articulating rationale, showing process and outcomes, and communicating value to external audiences. This is particularly aligned with Work-Based Learning aims, as it simulates how creative-technological work is documented and presented in professional environments, not only as a “final product”, but as a process of problem framing, iteration and cultural meaning-making.

Creative Technological Portfolio Template

1. PROJECT OVERVIEW

- **Project title:**
.....
- **Student(s):**
.....
- **Course / Module:**
.....
- **Organisation / ICC context involved:**
.....
- **Cultural asset addressed:**
.....

2. PROJECT RATIONALE AND CONTEXT

2.1 Cultural Asset and Context

Briefly summarise the cultural asset and its relevance within the organisational and territorial context.

.....
.....

2.2 Key Insights from the As-Is / To-Be Analysis

Highlight the main findings of the As-Is / To-Be Analysis that informed the project direction.

- **Main critical issues identified (As-Is):**
.....
- **Main opportunities and desired transformation (To-Be):**
.....

3. CONCEPT DEVELOPMENT

3.1 Core Concept

Describe the core idea of the project and its cultural intention.

.....
.....

3.2 Evolution of the Concept

Explain how the concept evolved throughout the creative and coaching process.

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.....

4. CREATIVE AND ART-BASED PROCESS

4.1 Art-Based Techniques Used

Indicate which art-based techniques were used and for what purpose (e.g. collage, storytelling, visual maps, metaphors).

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.....

4.2 Role of Artistic Mediation

Reflect on how artistic practices supported reflection, ideation and decision-making.

.....
.....

5. DIGITAL OR GAMIFIED PROTOTYPE

5.1 Prototype Description

Describe the digital or gamified prototype developed.

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.....

5.2 Tools and Technologies Used

List the tools, platforms or technologies employed (free or freemium).

.....
.....

5.3 User Experience and Interaction

Explain how users are expected to interact with the prototype.

.....
.....

6. ITERATION, TESTING AND FEEDBACK

6.1 Testing Activities

Describe how the prototype was tested (informally or formally).

.....
.....

6.2 Feedback and Improvements

Explain how feedback influenced revisions or refinements.

.....
.....

7. TWIN TRANSITION AND IMPACT

7.1 Digital Innovation

How does the project contribute to digital transformation in the cultural context?

.....
.....

7.2 Sustainability and Inclusiveness

How does the project address sustainability, accessibility and social inclusion?

.....
.....

8. REFLECTIVE LEARNING

8.1 Key Learning Outcomes

Identify the main competences and insights developed during the Project Work.

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.....

8.2 Challenges and Problem-Solving

Reflect on the main challenges encountered and how they were addressed.

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.....

8.3 Personal and Professional Development

Explain how this project contributed to your development as a cultural and creative professional.

.....
.....

9. FINAL SYNTHESIS

Provide a concise synthesis explaining the overall value of the project and its potential future development.

.....
.....

Creative-technological portfolio Example

1. PROJECT OVERVIEW

- **Project title:**
Voices of the Loom
- **Student(s):**
Anna Rossi – Marta Bianchi – Sofia Conti
- **Course / Module:**
ART-Inspired Teaching – Digital Innovation for Cultural Heritage
- **Organisation / ICC context involved:**
Local Ethnographic Museum of Valle del Tronto
- **Cultural asset addressed:**
Traditional female weaving practices of Valle del Tronto (intangible cultural heritage)

2. PROJECT RATIONALE AND CONTEXT

2.1 Cultural Asset and Context

The project focuses on traditional female weaving practices as a form of intangible cultural heritage deeply rooted in the local community. These practices represent embodied knowledge, social identity and intergenerational

transmission, but are currently at risk of marginalisation due to limited visibility and reduced engagement of younger audiences.

2.2 Key Insights from the As-Is / To-Be Analysis

- **Main critical issues identified (As-Is):**
Low digital presence, limited narrative mediation, passive user experience and risk of loss of intangible knowledge.
- **Main opportunities and desired transformation (To-Be):**
Development of a narrative-based, participatory and digitally accessible cultural experience capable of engaging new audiences and preserving collective memory.

3. CONCEPT DEVELOPMENT

3.1 Core Concept

Voices of the Loom is a narrative-driven digital experience that allows users to explore weaving traditions through stories, sounds and symbolic interaction. The concept shifts the focus from static artefacts to lived experiences and oral memory.

3.2 Evolution of the Concept

The concept evolved from an initial idea of digital documentation into an interactive storytelling experience. Feedback during coaching sessions highlighted the importance of emotional engagement and user agency, leading to the adoption of a metaphor-based narrative structure.

4. CREATIVE AND ART-BASED PROCESS

4.1 Art-Based Techniques Used

The project employed storytelling workshops, visual mapping and metaphor-based reflection. Collage techniques were used to explore emotional and symbolic dimensions of the heritage, while narrative exercises supported the structuring of the user journey.

4.2 Role of Artistic Mediation

Artistic mediation played a key role in transforming analytical insights into meaningful design choices. Metaphors helped articulate the cultural value of the asset, while visual thinking supported shared understanding within the team.

5. DIGITAL OR GAMIFIED PROTOTYPE

5.1 Prototype Description

The prototype consists of an interactive web-based storytelling environment where users explore a virtual loom. Each interaction activates audio narratives, images and short texts linked to specific weaving practices.

5.2 Tools and Technologies Used

- Twine (interactive storytelling)
- Canva (visual assets)
- Figma (interface mock-ups)

5.3 User Experience and Interaction

Users navigate freely through the environment, selecting narrative nodes and unlocking stories. Interaction is intuitive and exploratory, encouraging curiosity rather than task completion.

6. ITERATION, TESTING AND FEEDBACK

6.1 Testing Activities

The prototype was tested informally with peers and museum educators during laboratory sessions. Short walkthroughs were used to observe user behaviour and comprehension.

6.2 Feedback and Improvements

Feedback highlighted the need for clearer narrative cues and improved visual hierarchy. As a result, interaction prompts were simplified and narrative sequences were made more explicit.

7. TWIN TRANSITION AND IMPACT

7.1 Digital Innovation

The project contributes to digital innovation by introducing an accessible narrative platform that extends the museum experience beyond the physical space.

7.2 Sustainability and Inclusiveness

Sustainability is addressed through low-impact digital solutions and a focus on cultural continuity. Inclusiveness is promoted by foregrounding women's voices and offering multilingual content options.

8. REFLECTIVE LEARNING

8.1 Key Learning Outcomes

The project strengthened competences in cultural analysis, narrative design, digital prototyping and interdisciplinary collaboration.

8.2 Challenges and Problem-Solving

The main challenge was balancing narrative richness with usability. This was addressed through iterative testing and simplification of interaction flows.

8.3 Personal and Professional Development

The project enhanced our confidence in applying creative and digital methods to real cultural contexts and clarified potential professional pathways within the Cultural and Creative Industries.

9. FINAL SYNTHESIS

Voices of the Loom demonstrates how intangible cultural heritage can be transformed into a meaningful digital experience through narrative, artistic mediation and accessible technology. The project lays the foundation for future development and integration within the museum's cultural services.

5.4.6. Final Pitch

The **Final Pitch** represents the culminating moment of the Project Work, in which students are required to synthesise cultural analysis, creative vision and technological choices into a clear, coherent and persuasive presentation. Within this context, the **integration with the ICT modules of the CULT course** is not conceived as a technical appendix, but as a structural dimension of the project narrative. The Final Pitch must therefore make explicit how the knowledge, tools and perspectives developed across the ICT modules informed the design and implementation of the proposed digital or gamified solution.

From a pedagogical standpoint, this integration reinforces the coherence of the learning path by demonstrating that ICT modules are not isolated units of technical instruction, but **enablers of cultural innovation**. Students are encouraged to articulate their projects by highlighting how specific technological competences were mobilised to respond to real cultural needs identified through the As-Is / To-Be Analysis, and how these competences contributed to shaping the final concept and prototype.

Rather than requiring the exhaustive use of all ICT modules, the Handbook promotes a **selective and meaningful integration**. Students are invited to identify which modules are most relevant to their project objectives and to justify their choices. This approach reflects professional practice within the Cultural and Creative Industries, where technologies are selected strategically in relation to context, resources and impact, rather than adopted for their own sake.

In practical terms, the Final Pitch should clearly indicate how different ICT modules contributed to specific aspects of the project. For example, competences developed in the **Digital Storytelling for Cultural Heritage** module may inform narrative structure, tone and audience engagement strategies, while modules focused on **Immersive Cultural Communication** or **Design and Development of Immersive Experiences** may underpin spatial storytelling, navigation design or the choice of immersive platforms. Similarly, modules dedicated to **Video Game Design** or **Game Technologies for Cultural Heritage** may support the definition of game mechanics, interaction logic and playful learning dynamics within gamified solutions.

The integration of ICT modules related to **Artificial Intelligence** can be reflected in the use of AI-driven tools for sound design, conversational interfaces or content generation, accompanied by critical reflection on ethical implications and cultural responsibility. In parallel, the **GIS for Cultural Heritage** module may inform spatial narratives, mapping-based storytelling or location-aware cultural services. The **Gender Equality and Inclusion in STEAM** module provides a transversal framework, guiding inclusive design choices, team dynamics and representational strategies across all technological applications.

Within the Final Pitch, this integration should not be presented as a list of tools or platforms, but as a **reasoned alignment between cultural objectives and technological means**. Students are encouraged to explain how ICT competences enhanced accessibility, participation, sustainability or inclusiveness, and how they contributed to the twin transition by combining digital innovation with socially responsible practices.

From an educational perspective, the integration with ICT modules also supports reflective learning. By explicitly linking their project outcomes to the modules followed, students become more aware of their own competence development and of the interdisciplinary nature of cultural innovation. This reflection strengthens their ability to communicate professional value, an essential skill for future engagement with cultural organisations, creative industries and interdisciplinary teams.

Finally, the integration of ICT modules within the Final Pitch provides teachers with a clear framework for evaluation. It enables the assessment of not only the final solution, but also the student's capacity to mobilise and articulate technological knowledge in a culturally meaningful way. In this sense, the Final Pitch functions as a bridge between learning and practice, demonstrating how the CULT training pathway equips students to operate as reflective, creative and technologically aware cultural professionals.

ICT Module (CULT)	Core Competences Developed	Contribution to the Project Work	Relevant Deliverables
Digital Storytelling for Cultural Heritage	Narrative design, multimedia storytelling, ethical representation	Supports the construction of meaningful cultural narratives, defines storytelling strategies and audience engagement approaches	Cultural Asset Sheet; Concept Document; Digital/Gamified Prototype; Final Pitch
GIS for Cultural Heritage	Spatial analysis, mapping, location-based data visualisation	Enables spatial storytelling, territorial contextualisation of cultural assets, and development of map-based or location-aware cultural services	As-Is / To-Be Analysis; Digital/Gamified Prototype; Creative-Technological Portfolio
Foundations of Immersive Cultural Communication	Immersive storytelling, spatial experience	Informs the design of immersive user experiences, virtual tours and interactive cultural environments	Concept Document; Digital/Gamified Prototype

ICT Module (CULT)	Core Competences Developed	Contribution to the Project Work	Relevant Deliverables	Mandatory
	design, audience engagement			
Design and Development of Immersive Cultural Experiences	Prototyping immersive experiences, platform selection, UX design	Supports the translation of concepts into immersive prototypes and the evaluation of user experience	Digital/Gamified Prototype; Creative-Technological Portfolio	
Introduction to Video Game Design	Game design principles, mechanics, player experience	Provides foundations for gamification strategies, playful learning and interaction design	Concept Document; Digital/Gamified Prototype	
Video Game Design Technologies for Cultural Heritage	Game engines, real-time interaction, serious games	Enables the development of interactive and game-based heritage experiences using accessible or professional engines	Digital/Gamified Prototype; Creative-Technological Portfolio	
Artificial Intelligence–Powered Music and Audio Creation	AI-supported sound design, audio storytelling, creative AI literacy	Enhances narrative immersion through soundscapes, voices and audio-driven interaction, with ethical awareness	Concept Document; Digital/Gamified Prototype	
Gender Equality and Inclusion in STEAM	Inclusive design, gender awareness, equitable collaboration	Provides a transversal framework for inclusive narratives, accessible interfaces and responsible technological choices	As-Is / To-Be Analysis; Concept Document; Creative-Technological Portfolio; Final Pitch	

Guidelines for the final pitch

The Final Pitch represents the concluding moment of the Project Work and offers students the opportunity to present their project in a clear, structured and persuasive manner. It is not simply a summary of the work completed, but a strategic narrative that demonstrates how cultural analysis, creative reasoning and technological competences have been integrated into a coherent and meaningful proposal.

Students should approach the Final Pitch as a professional presentation, similar to those delivered in cultural organisations, creative agencies or innovation labs. The objective is to communicate the value of the project to an audience that may include teachers, peers and potential stakeholders from the Cultural and Creative Industries.

Structuring the narrative of the pitch

The pitch should follow a logical and progressive structure, guiding the audience from the initial cultural challenge to the proposed solution and its potential impact. Students are encouraged to frame their presentation as a story of transformation, clearly articulating the journey from context analysis to design outcomes.

The pitch should begin by briefly introducing the cultural context and asset addressed. This introduction should highlight why the cultural asset is relevant, which needs or challenges it faces, and why it deserves innovative intervention. The aim is to establish cultural significance and contextual awareness from the outset.

Students should then refer to the As-Is / To-Be Analysis, explaining in a concise manner what they discovered about the current situation and which future scenario they envisioned. Rather than presenting the full analysis, they should focus on the most relevant insights that motivated their project choices and defined the direction of transformation.

Presenting the concept and the prototype

At the core of the Final Pitch lies the Concept Document. Students should clearly articulate the central idea of their project, explaining what kind of digital or gamified solution they propose and what type of user experience it offers. This part of the pitch should make explicit the cultural intention behind the concept and the rationale guiding design decisions.

The Digital or Gamified Prototype should then be presented as a concrete embodiment of the concept. Students are encouraged to describe how the prototype works, how users interact with it, and which aspects of the experience are already implemented or simulated. Visual materials, short demonstrations or screenshots can support clarity, but the focus should remain on explaining how the prototype responds to the identified cultural challenge.

Integrating ICT modules in a meaningful way

A key requirement of the Final Pitch is to demonstrate how the project integrates competences developed through the ICT modules of the CULT course. Students should explicitly reference the modules that were most relevant to their project and explain how the knowledge gained informed specific aspects of the solution.

Rather than listing technologies or tools, students should highlight why certain ICT approaches were chosen and how they contributed to cultural innovation. This may include, for example, explaining how digital storytelling techniques shaped narrative design, how immersive technologies supported spatial or experiential engagement, or how game design principles enhanced participation and learning.

Students are also encouraged to reflect on transversal perspectives introduced by the ICT modules, such as ethical considerations, inclusiveness, sustainability and gender awareness, showing how these dimensions influenced their design choices.

Communicating impact and value

The Final Pitch should clearly articulate the expected impact of the project. Students should explain what value the proposed solution creates for users, cultural organisations and communities. Cultural, social, educational and digital impacts should be addressed in an integrated way, demonstrating awareness of the broader implications of the project.

Where appropriate, students may also reflect on the feasibility and scalability of their solution, acknowledging constraints and identifying possible future developments. This demonstrates realism and professional maturity.

Reflective dimension and learning outcomes

In addition to presenting the project outcome, students should briefly reflect on what they learned through the process. This may include insights gained from interdisciplinary collaboration, challenges encountered during prototyping, or new perspectives on the relationship between culture and technology. This reflective element reinforces the educational value of the pitch and highlights personal and professional growth.

Style, clarity and timing

The Final Pitch should be clear, concise and well-paced. Students are encouraged to use accessible language, avoid unnecessary technical jargon, and support their explanations with visual materials where helpful. Time management is essential: the pitch should prioritise key messages rather than attempting to cover every detail.

Above all, students should aim to communicate confidence, coherence and intentionality, demonstrating that their project is not only creative and technically informed, but also culturally grounded and critically developed.

Guidance for female students: developing the Final Pitch presentation

The **Final Pitch presentation** is not simply a visual support for speaking, but a **strategic communication tool** that helps you translate a complex learning journey into a clear, engaging and professional narrative. Its purpose is to make visible the coherence between cultural analysis, creative reasoning and technological choices, rather than to impress through visual effects or technical sophistication.

When choosing tools and structuring your presentation, priority should be given to **clarity, storytelling and coherence**, in line with the principles of ART-Inspired Teaching and Work-Based Learning.

Choosing the right tool

Students are encouraged to use **accessible, reliable and widely adopted tools**, preferably free or freemium, which allow them to focus on content rather than technical complexity.

Tools such as **Canva, Google Slides** or **Microsoft PowerPoint** are all suitable for developing the Final Pitch. The choice of tool is not evaluated in itself; what matters is how effectively it supports your narrative and design intentions.

Canva is particularly useful if you wish to work with **visual storytelling, layouts and mood**, while Google Slides or PowerPoint may be preferable if you are collaborating in real time or integrating diagrams and structured content. In all cases, simplicity and consistency should guide your decisions.

Designing the presentation as a narrative

The Final Pitch presentation should be conceived as a **visual narrative**, not as a written report transferred onto slides. Each slide should support what you say orally, rather than duplicate it.

Effective presentations usually follow a clear narrative flow:

- introduction of the cultural context and challenge;
- explanation of the transformation from As-Is to To-Be;
- presentation of the concept and its cultural intention;
- illustration of the prototype and user experience;
- reflection on ICT integration, impact and feasibility.

Slides should therefore contain **key ideas, images, diagrams or short statements**, leaving detailed explanations to your spoken pitch. Avoid overcrowding slides with text, as this reduces both clarity and engagement.

Visual language and consistency

Visual coherence is essential. Choose a limited colour palette, a consistent typography and a clear visual hierarchy. Images, sketches or screenshots should be used **strategically**, not decoratively, to support understanding of the concept, prototype or user journey.

Whenever possible, integrate visual materials already developed during the Project Work—such as concept sketches, narrative maps or prototype screenshots—so that the presentation reflects the **continuity of your design process**. This reinforces coherence with the Creative-Technological Portfolio and demonstrates methodological rigour.

Integrating ICT modules visually

When referring to ICT modules from the CULT course, avoid listing technologies or modules in isolation. Instead, use **simple visual associations**, such as diagrams or icons, to show how specific competences informed concrete design decisions.

For example, a slide might visually connect storytelling principles to narrative choices, or game design concepts to interaction logic. This approach helps evaluators understand not only *what* you used, but *why* and *how* it mattered for your project.

Supporting oral communication

Remember that the Final Pitch is primarily an **oral performance**, and the presentation should support your voice, not replace it. Slides act as anchors for attention and memory, helping the audience follow your reasoning.

Practising with your slides is essential: check that each slide corresponds to a clear moment in your spoken narrative, and that transitions between slides reflect logical steps in your argument. A well-designed presentation should allow the audience to understand the project even if they focus alternately on visuals and speech.

Professional tone and feasibility

Finally, aim for a **professional but authentic tone**. The presentation does not need to appear as a finished commercial product, but it should communicate seriousness, awareness of context and responsibility toward cultural heritage.

By using accessible tools thoughtfully and structuring your presentation as a coherent story, you demonstrate not only technical competence, but also your ability to communicate complex cultural and technological ideas clearly—an essential skill for future work in the Cultural and Creative Industries.

Example of a Final Pitch

Opening – Setting the Cultural Context

Pitch (spoken content)

Our project, *Voices of the Loom*, begins with a simple yet critical observation: although traditional female weaving practices in the Valle del Tronto represent a rich form of intangible cultural heritage, they are currently at risk of becoming invisible to younger generations. These practices are mainly preserved through objects and written descriptions, while the stories, gestures and embodied knowledge connected to them remain largely inaccessible within contemporary cultural experiences.

Commentary

This opening demonstrates clear coherence with the **Cultural Asset Sheet** and the **As-Is Analysis**. The pitch does not start from technology, but from cultural value and a real contextual problem, showing awareness of the ICC environment and its challenges.

From As-Is to To-Be – framing the transformation

Pitch (spoken content)

Through our As-Is / To-Be Analysis, we identified a significant gap between the cultural value of this heritage and the ways in which it is currently communicated. The existing experience is static and object-centred, whereas the desired scenario is narrative-driven, participatory and digitally accessible. Our To-Be vision imagines the museum as a hybrid space, where weaving is not only displayed but narrated and experienced through voices, memories and interaction.

Commentary

This section explicitly articulates the **As-Is / To-Be connection**, demonstrating that the project is grounded in structured analysis rather than an arbitrary idea. This is a key element for methodological evaluation.

Presenting the Concept – cultural and creative logic

Pitch (spoken content)

On the basis of this vision, we developed the concept of *Voices of the Loom*: a narrative-driven digital experience in which the loom becomes a storyteller. Each interaction reveals fragments of personal stories, sounds and symbolic gestures, allowing users to explore weaving as a living practice rather than a static tradition.

Commentary

This part directly derives from the **Concept Document**. The pitch highlights metaphor, cultural intention and user experience without yet focusing on technical implementation.

Art-Inspired and user-centred approach

Pitch (spoken content)

An art-inspired approach guided the entire design process. We used storytelling, visual mapping and metaphor-based reflection to shape the user journey. This allowed us to translate analytical insights into an emotionally engaging and culturally respectful experience, with particular attention to women's voices and intergenerational transmission.

Commentary

Here, the pitch reinforces coherence with the **ART-Inspired Teaching framework** and the **Creative-Technological Portfolio**, showing that artistic practices played a structural role rather than a decorative one.

Digital or Gamified Prototype – Making the Concept Tangible

Pitch (spoken content)

To test and communicate our concept, we developed a digital storytelling prototype using accessible tools such as Twine, Canva and Figma. The prototype simulates an interactive environment in which users navigate freely, activate narratives and construct their own pathways through the heritage. The aim was not technical perfection, but experiential clarity.

Commentary

This section clearly connects the pitch to the **Digital or Gamified Prototype**, clarifying the level of fidelity in line with the Handbook: exploratory, communicative and learning-oriented rather than finalised.

Integration with ICT Modules – From Learning to Practice

Pitch (spoken content)

The project integrates several ICT modules from the CULT course. The *Digital Storytelling for Cultural Heritage* module informed our narrative structure and ethical approach to representation. *Foundations of Immersive Cultural Communication* guided our spatial and experiential design choices. Principles from *Introduction to Video Game Design* supported the definition of interaction logic and engagement dynamics, while the *Gender Equality and Inclusion in STEAM* module shaped our focus on women's voices and inclusive design.

Commentary

This section directly addresses **Section 5.5 – Integration with ICT Modules**. Rather than listing tools, it highlights **applied competences**, demonstrating critical and reflective use of ICT learning outcomes.

Impact and Twin Transition

Pitch (spoken content)

In terms of impact, *Voices of the Loom* contributes to the digital transition by extending the museum experience beyond the physical space, and to sustainability by promoting cultural continuity through low-impact digital solutions. Inclusiveness is central to the project, both in content and access, in line with the principles of the twin transition.

Commentary

At this point, the pitch shows the ability to frame the project in **strategic and systemic terms**, rather than solely creative or technical ones.

Reflection and Feasibility

Pitch (spoken content)

Throughout the process, prototyping and feedback helped us refine the balance between narrative richness and usability. The project is feasible within the museum's constraints and scalable for future development, while remaining faithful to the cultural identity of the asset.

Commentary

This passage reflects the **Work-Based Learning dimension** and demonstrates awareness of real constraints typical of ICC contexts.

Closing – Professional Positioning

Pitch (spoken content)

In conclusion, *Voices of the Loom* demonstrates how cultural heritage can be innovated responsibly through the integration of cultural analysis, artistic practices and digital technologies. It represents not only a project outcome, but a learning journey that prepares us to work as reflective cultural and creative professionals.

Commentary

The closing refers back to the **Creative-Technological Portfolio** as a synthesis of the entire pathway and reinforces students' emerging professional identity.

5.5 Integration with ICT Modules

5.5.1. How each module contributes to the solution

5.5.1.1 Project Work as an integrated outcome of multiple learning outcomes

Within the ART-Inspired Teaching framework, the final Project Work should not be understood as the direct application of a single module, but rather as the integrated outcome of multiple learning experiences that converge into a coherent project proposal. This approach is methodologically central: the final project is not valid because it demonstrates the use of a specific tool or technology, but because it highlights students' ability to connect diverse knowledge, skills, languages, and tools, mobilizing them in a reflective and contextually relevant manner.

Each ICT module of the CULT curriculum contributes specific perspectives, dedicated skills, and methodological tools that fuel different phases of the Project Work: context analysis, creative exploration, narrative structuring, experience design, prototyping, ethical reflection, and final communication.

The value of Project Work, therefore, lies in the students' ability to:

- recognize which module informs which part of the project;
- activate appropriate skills at different moments in the process;
- motivate design choices in light of the training path undertaken;
- integrate culture, creativity and technology without reducing the project to a simple "sum of tools".

From a pedagogical point of view, this vision is very important because it shifts the focus:

- from the logic of the "technical task" to the logic of interdisciplinary synthesis;
- from the use of technology as an end to the use of technology as cultural mediation;
- from modular fragmentation to the construction of an integrated design competence.

In this framework, Project Work becomes the place where students demonstrate not only what they can do, but above all how they know how to connect what they have learned.

5.5.1.2 The contribution of the Digital Storytelling for Cultural Heritage module

The Digital Storytelling for Cultural Heritage module plays a fundamental role in defining the cultural, narrative, and ethical logic of the solution. It helps students understand cultural heritage not as a static collection of objects or information, but as a narrative construct, that is, as something that acquires meaning through processes of selection, interpretation, narration, mediation, and restitution to audiences.

Through this module, students learn to:

- identify significant stories;
- define narrative perspectives;

- distinguish between content and narrative;
- address ethical issues related to voice, representation, authenticity, and framing;
- structure narrative experiences consistent with the cultural value of the asset.

These skills directly inform:

- the Cultural Asset Sheet;
- the Concept Document;
- the narrative structure of the digital or gamified prototype.

The module's contribution is particularly important because it ensures that technology doesn't obscure cultural meaning, but rather becomes a vehicle for it. In other words, it helps students avoid proposals in which the digital element prevails over the content, and instead guides them toward solutions in which technology supports and reinforces the narrative.

Applied example

If the project concerns women's memories linked to a local tradition, the Digital Storytelling module helps students go beyond simply "uploading audio files and images" to construct a narrative sequence in which each testimony leads to the next, creating continuity, depth, and a sense of shared memory.

5.5.1. 3 The contribution of the GIS for Cultural Heritage module

The GIS for Cultural Heritage module provides spatial analysis and territorial interpretation skills, particularly relevant in the As-Is/To-Be Analysis phase. It allows students to understand that cultural heritage is not an isolated entity, but rather embedded in physical, social, environmental, and symbolic relationships.

Through GIS, students learn to:

- interpret the relationship between cultural heritage and territory;
- analyse spatial distributions, routes, accessibility and proximity;
- understand the relationship between places, audiences, and cultural practices;
- use maps and spatial data as interpretive tools;
- connect narrative and localization.

Even when GIS tools are not directly incorporated into the final prototype, the module leaves a decisive contribution in terms of spatial thinking.

This thinking informs design decisions relating to:

- geolocalized storytelling;
- activating content in specific locations;
- physical and symbolic accessibility;
- sustainability and adherence to the real context.

Applied example

In the case of a traditional ritual that takes place in multiple locations in the historic centre, GIS helps students map key points of a procession, understand the symbolic sequence of the route, and transform this information into an AR experience or a narrative map.

5.5.1.4 The contribution of the Foundations of Immersive Cultural Communication and Design and Development of Immersive Cultural Experiences modules

The Foundations of Immersive Cultural Communication and Design and Development of Immersive Cultural Experiences modules support the transition from narrative concept to experience design.

Their contribution is decisive in projects that include:

- virtual environments;
- augmented reality;

- interactive archives;
- virtual exhibitions;
- spatial storytelling;
- immersive experiences.

They provide:

- conceptual frameworks for understanding immersion, presence, and engagement;
- tools for designing environments and paths;
- criteria for working on orientation, navigation and pace of experience;
- user-centred design principles applied to cultural mediation.

The value of these modules lies in making it clear that an immersive experience is not defined by the level of visual sophistication, but by the quality of the relationship between:

- space;
- content;
- perception;
- narration;
- interaction.

Applied example

In a virtual exhibition project on a local ritual, students can use these modules to structure the experience not as a simple collection of materials, but as a spatial path that accompanies the user through thresholds, environments, symbols, and moments of transformation.

5.5.1.5 The contribution of the Introduction to Video Game Design module

The Introduction to Video Game Design module offers a structured understanding of:

- interaction;
- mechanics;
- rules;
- feedback;
- user engagement.

Its contribution to Project Work is not so much to encourage the development of complete video games as to provide design principles applicable to a wide range of cultural experiences: gamified archives, interactive narrative journeys, learning devices, myth explorations, and mediation tools.

Students learn to use game design logic to build experiences that are:

- significant;
- legible;
- engaging;
- oriented towards interpretation and not just entertainment.

Applied example

In a project on a local myth, students can transform the story into an interactive experience in which the user makes choices that alter the narrative path. In this case, the game isn't about competition, but rather about experiencing the myth's cultural significance through action.

5.5.1.6 The contribution of the Video Game Design Technologies for Cultural Heritage module

The Video Game Design Technologies for Cultural Heritage module introduces students to the technological ecosystems and professional workflows used in heritage visualization and in serious games. Its contribution is particularly important in the prototyping phase because it develops awareness of:

- feasibility;
- scalability;
- technical constraints;
- sustainability of development;
- relationship between creative ambition and available resources.

This module helps students make more realistic and informed decisions, strengthening the quality of the prototype and the credibility of the Final Pitch.

Applied example

If a group imagines a 3D exploration game on a heritage site, the module helps them understand that in the context of the workshop, it is more appropriate to prototype a key scene or a representative part of the experience, rather than promising full development that is not realistic.

5.5.1.7 The contribution of the Artificial Intelligence module – Powered Music and Audio Creation

The Artificial Intelligence – Powered Music and Audio Creation module adds an expressive, sensorial, and emotional dimension to Project Work. Through experimentation with audio, music, and AI tools, students learn how sound can:

- strengthen the atmosphere;
- support emotional involvement;
- increase accessibility;
- enrich the narrative experience.

The module also promotes critical reflection on:

- authorship;
- transparency;
- bias;
- cultural responsibility in the use of AI.

Applied example

In a museum chatbot, an AI-generated soundscape can accompany the story without overwhelming it, but students must explicitly state in their portfolio and pitch:

- how it was generated;
- why it was chosen;
- what ethical limits it entails;
- how to avoid replacing authentic materials with inappropriate simulations.

5.5.1.8 The transversal contribution of the Gender Equality and Inclusion module in STEAM

The Gender Equality and Inclusion in STEAM module has a transversal function that spans all phases of the Project Work. It doesn't introduce a specific technology, but rather guides the way in which students:

- read the contents;
- build collaboration;
- make decisions;
- select the voices;
- design accessibility;
- reflect on the dynamics of power and representation.

Its contribution is particularly important in projects working on:

- intangible heritage;
- community memories;
- oral traditions;

- testimonial archives;
- visibility of women and marginalized subjects.

Applied example

In a digital archive of women's oral traditions, this module helps students construct a proposal in which women are not just "objects of the story," but active agents of knowledge, memory, and cultural transmission.

5.5.1.9 Summary: Modules as integrated lenses

Taken together, the modules do not act as separate compartments, but as integrated lenses through which students:

- read complex cultural issues;
- construct interpretations;
- imagine answers;
- design culturally grounded digital and game-based solutions.

The Project Work thus becomes a synthesis of:

- analytical rigor;
- creative exploration;
- technological awareness;
- ethical responsibility;
- interdisciplinary integration skills.

For this reason, it is useful for students to explicitly state in their portfolio or final presentation:

- which modules influenced which decisions;
- how a learned skill was translated into a design choice;
- how the different teachings contributed to the construction of the solution.

5.5.2. Available tools and technologies

5.5.2.1 General pedagogical principle

The selection of tools and technologies available during Project Work is guided by a clear pedagogical principle: technology must serve cultural interpretation, creative exploration, and learning, and not dominate or predetermine the project's outcomes.

In the ART-Inspired Teaching framework, tools are understood as:

- reflection mediators;
- prototyping supports;
- enablers of experimentation;
- communication and thought visualization tools.

Their value depends on their ability to support the translation of a cultural analysis into a meaningful solution, and not on their degree of technical sophistication.

This approach has at least four important methodological consequences:

1. The choice of the tool must be consistent with the problem

Students should not first ask themselves "what tool can we use?", but:

- what experience do we want to build?;
- what meaning do we want to convey?;
- which audience do we want to engage?;
- which form of expression is most consistent with the objective?

2. Technical complexity does not coincide with design quality

A methodologically strong project can be prototyped with simple tools, if these clearly reveal the cultural, narrative, and experiential logic of the proposal.

3. Accessibility of tools is a pedagogical choice

The Handbook favours the use of tools that are:

- free, open source or freemium;
- accessible to students from different backgrounds;
- also usable by students of humanities, arts and social sciences;
- consistent with a logic of inclusion and low entry threshold.

4. Reflective use of technology is part of the competence

The goal is not to use as many platforms as possible, but to choose tools that really help to:

- clarify the problem;
- articulate the vision;
- show the logic of the concept;
- prototype the experience;
- discuss the project with others.

From this perspective, the use of technology is an integral part of design competence: knowing how to choose the right tool, at the right time, for the right function is already an indicator of professional maturity.

5.5.2.2 Tools for analysis, reflection, ideation and concept development

In the initial phases of Project Work—particularly in the construction of the Cultural Asset Sheet, the As-Is/To-Be Analysis, and the Concept Document—the students' work does not consist of already producing a complete technical prototype, but rather of progressively making intuitions, data, hypotheses, meanings, needs, and project directions visible, debatable, and structurable.

At this stage, the most common risk is twofold: on the one hand, remaining in a dimension that is too abstract, discursive, or dispersive; on the other, anticipating the technological solution too quickly, without having clarified the cultural value, the real problem, and the rationale for the experience to be designed.

For this reason, of particular use are tools that support:

- **visual thinking**, that is, the ability to make relationships, connections, tensions and scenarios legible;
- **narrative construction**, that is, the ability to organize contents and perspectives into a meaningful structure;
- **brainstorming and ideation**, to generate alternatives before converging on a single proposal;
- **collaborative reflection**, necessary to transform group work into a process of debate and co-construction;
- **organization of materials and references**, so as to avoid the dispersion and unselected accumulation of sources, ideas and suggestions.

The value of these tools, therefore, is not simply operational. They perform a cognitive, methodological, and pedagogical function.

Cognitive, because they help students externalize their thinking and transform implicit intuitions into observable artifacts. **Methodological**, because they allow them to move from gathering materials to structuring them into insights, scenarios, paths, and design hypotheses. **Pedagogical**, because they make the process easier for the teacher to guide, enabling them to better understand how the group is constructing its reasoning, where it is getting stuck, and which steps require further clarification.

In keeping with the ART-Inspired Teaching framework, these tools should not be used as shortcuts to "produce something quickly," nor as simple aesthetic or technical aids. Their use is truly meaningful when it allows students to:

- clarify the problem before solving it;
- visualize the relationship between heritage, organization, public and mediation;
- test narrative and conceptual alternatives;

- build a first architecture of the project;
- document the journey in a reflective way;
- arrive at prototyping with a more solid cultural and methodological foundation.

In this sense, these tools also have a strong inclusive value. Since many students may come from non-technical backgrounds, accessible, low-threshold tools allow them to initiate complex design processes without creating unnecessary barriers. They help to understand that the quality of project work doesn't initially depend on mastery of sophisticated software, but on the ability to construct meaning, interpret context, articulate concepts, and translate thinking into shareable forms.

From a teaching perspective, it is useful for teachers to present these tools not as a list of platforms to "learn", but as a set of mediators in the design process, each with a different function:

- some are more useful for collecting and organizing materials;
- others to map problems and stakeholders;
- still others to simulate narrative paths, build interaction drafts or structure the group's work.

For this reason, the choice of tool should always answer a clear methodological question: "What do we need at this stage of the project to think better, collaborate better, and make our proposal more legible?"

When this question guides the use of tools, the technology does not anticipate the project or weigh it down, but coherently supports its construction.

1. ChatGPT

Link: <https://chatgpt.com/auth/login>

What is it?

ChatGPT is an AI-based conversational system that allows natural language interaction, developing iterative dialogues and generating texts, ideas, structures, and discourse variants. The official login page presents ChatGPT as a conversational service with login, registration, and initial trial options.

What is it for in Project Work?

It can be used as a support for:

- initial idea generation;
- formulation of narrative hypotheses;
- writing first drafts of the concept;
- simulation of dialogues or conversational interactions;
- exploring alternative perspectives;
- support for critical reflection and reformulation of content.

Strengths

- fosters an iterative dialogue;
- helps clarify concepts and formulations;
- supports the transition from intuition to structured text;
- allows you to quickly compare narrative or descriptive alternatives.

Methodological considerations

- it should not replace the judgment and planning responsibility of students;
- the contents produced must be verified, selected and reworked;
- it is important to clarify the use, limits and authorial responsibility;
- it should be used as a reflective support tool, not as an automatic project driver.

Recommended use

- initial brainstorming;
- draft of micro-narratives;

- conversation simulation for cultural chatbots;
- assistance in formulating guiding questions;
- linguistic revision of preparatory texts.

2. Miro

Link: <https://miro.com/>

What is it?

Miro is a visual collaboration platform that presents itself as an “AI innovation workspace,” with collaborative canvases, documents, diagrams, prototypes, slides, talk tracks, and templates designed to take teams from brainstorming to execution.

What is it for in Project Work?

It is particularly useful to:

- map ideas, problems and stakeholders;
- build As-Is / To-Be analysis;
- collect images, keywords, metaphors and insights;
- support art-based coaching activities;
- build shared conceptual frameworks;
- visualize relationships between needs, audiences, content, and solutions.

Strengths

- great visual flexibility;
- real-time collaboration;
- ease of connecting different contents;
- strong support for externalizing thinking;
- availability of ready-made templates and work structures.

Methodological considerations

- if used without structure it can become dispersive;
- requires clear deliverables and predefined templates;
- the teacher should help distinguish between raw material and project synthesis;
- it is very powerful, but for this very reason it requires methodological direction.

Recommended use

- stakeholder map;
- problem framing;
- cultural research board;
- concept mapping;
- group interim review;
- visualization of To-Be scenarios.

3. Padlet

Link: <https://padlet.com/>

What is it?

Padlet presents itself as a visual collaboration platform for creative and educational work. It is a digital collaborative bulletin board designed to collect and share content in a simple and accessible way.

What is it for in Project Work?

It is very useful to:

- document references;

- collect images, videos, audio and links;
- build repertoires of cultural materials;
- organize a group work archive;
- share intermediate outputs easily;
- create inspirational collections and thematic repertoires.

Strengths

- ease of use;
- accessibility even for non-technical users;
- good effectiveness for brainstorming and documentation;
- suitable for participatory and inclusive dynamics.

Methodological considerations

- must be accompanied by clear selection criteria;
- otherwise, it risks becoming an undifferentiated deposit of materials;
- the teacher should help students move from collection to classification and then to synthesis.

Recommended use

- source collection;
- visual and sound repertoire;
- process documentation;
- common group noticeboard;
- gathering stimuli for storyboards and concepts.

4. Twine

Link: <https://twinery.org/>

What is it?

Twine is an open-source tool for telling interactive, non-linear stories. The official website specifies that it allows you to create stories without writing code for simple cases, but that it can be extended with variables, conditional logic, images, CSS, and JavaScript when needed. It publishes directly in HTML and is free for commercial use.

What is it for in Project Work?

It is ideal to:

- structure branching stories;
- simulate user journeys;
- prototype narrative experiences;
- explore multiple perspectives;
- test narrative logic before moving on to more complex visual or technical forms.

Strengths

- ease of access;
- strong coherence with digital storytelling;
- ability to work on nonlinear structures;
- particularly suitable for myths, memoirs, narrative archives and oral traditions.

Methodological considerations

- it does not replace the concept document;
- it works well when the narrative structure has already been at least outlined;
- it requires attention to clarity, coherence and readability of the paths;
- the teacher should help avoid confusing or arbitrary branching.

Recommended use

- interactive storytelling;
- narrative archives;
- narrative chatbot prototypes;
- multiple-choice educational experiences;
- user journey simulation in heritage-based projects.

5. Notion

Link: <https://www.notion.com/>

What is it?

Notion presents itself as a unified workspace for capturing knowledge, organizing projects, finding information, and supporting workflows, with pages, databases, templates, integrations, and AI capabilities. The official website describes it as a "one workspace" with flexible workflows and management of large or small projects.

What is it for in Project Work?

It can be very useful to:

- organize the group's work;
- build structured project documentation;
- keep notes, tasks, references, deliverables, and versions together;
- collect materials for portfolios and concept documents;
- monitor roles, deadlines, and reviews.

Strengths

- strong organizational skills;
- useful for connecting contents, documents and tasks;
- suitable for groups that need a shared "operational base";
- good for making the process more traceable.

Methodological considerations

- it is not a visual thinking tool in the strong sense of Miro or Milanote;
- it works better as a project framework than as an open ideation space;
- it should be used without weighing down the group too much with premature formalization.

Recommended use

- group project hub;
- repository of materials and decisions;
- process documentation;
- organization of deliverables and continuous review.

6. Google Forms

Link: <https://workspace.google.com/products/forms/>

What is it?

Google Forms is Google Workspace's tool for creating forms and collecting responses online. The official page describes it as an online form creator integrated into the Workspace suite.

What is it for in Project Work?

It can be very usefully integrated when the group needs to:

- collect quick impressions from users or stakeholders;
- conduct mini-exploratory surveys;
- validate initial hypotheses;
- gather feedback on a concept draft or narrative prototype;

- easily document preliminary consultations.

Strengths

- extreme ease of use;
- speed of data collection;
- useful for small initial validation activities;
- accessible even in non-technical teaching contexts.

Methodological considerations

- it does not replace qualitative analysis or dialogue with stakeholders;
- it is suitable for simple and targeted surveys, not for complex investigations;
- the teacher should help students construct truly relevant questions.

Recommended use

- preliminary feedback;
- small questionnaires on needs and expectations;
- gathering reactions to initial ideas;
- support for the context reading phase.

Final methodological note

At this stage of Project Work, these tools should not be chosen because they are "fashionable" or technically more advanced, but rather on their ability to support a specific design function.

In practical terms:

- **ChatGPT** helps generate and reformulate texts, ideas, and questions;
- **Miro** helps to see problems, relationships and scenarios together;
- **Padlet** helps collect and share materials;
- **Twine** helps test narrative logic and interactive paths;
- **Notion** helps organize the process and documents;
- **Google Forms** helps collect feedback and light exploratory data.

Their value, therefore, is greatest when used selectively, intentionally, and consistently with the work phase. In this logic, the tools don't anticipate the solution, but help students construct it better, with greater awareness, clarity, and reflective quality.

5.5.2.3 Tools for visualization, presentation and conceptual prototyping

Visualization, presentation, and conceptual prototyping tools play a strategic role in Project Work, helping students transform intuitions, analyses, and nascent ideas into visible, debatable, and progressively refined artifacts.

Their value does not simply consist of "making a project more beautiful," but in enabling the transition from an implicit or dispersed thought to a shareable, arguable, and verifiable form.

In this sense, they act as true mediators between reflection, planning and communication.

From a methodological point of view, these tools are particularly useful in three moments of the Project Work.

In the first phase, they help externalize thinking, organizing insights, connections, narratives, paths, and design alternatives.

In a second phase, they allow you to prototype the concept, that is, to give initial shape to flows, interfaces, storyboards, mock-ups, or experience architectures.

In a third phase, they support the presentation and discussion of the project, clarifying the objectives, audience, cultural value, structure of the experience, and coherence of the choices.

In keeping with ART-Inspired Teaching, these tools should not be used as aesthetic shortcuts or as substitutes for design thinking. Their use is truly formative when it helps students:

- clarify the problem;

- visualize complex relationships;
- compare alternative solutions;
- build a narrative of the project;
- simulate user experience before technical development;
- communicate the cultural value of the proposal in a more rigorous and conscious way.

For this reason, teachers should present them not as "software to be learned," but as cognitive and design tools, each with a different function within the process.

Another valuable aspect is accessibility. Platforms like Canva, Figma, Milanote, and Whimsical are designed to facilitate collaboration, visual thinking, rapid prototyping, and idea sharing, even among non-specialist users. This aspect is particularly important in an interdisciplinary program like the CULT Curriculum, where many students may come from humanities, arts, cultural heritage, or social sciences and require tools that lower the technical entry threshold without compromising project quality.

Finally, these tools have a specific educational value because they help maintain a balance between creative openness and design rigor. They allow for iterative work: sketching, demonstrating, receiving feedback, revising, simplifying, and clarifying. In this sense, they are ideal tools for project work that aims not only to produce a final result, but also to make the solution-building process visible and manageable.

1. CANVA VISUAL SUITE 2.0

Official link: [Canva Visual Suite](#)

Further information: [Canva Create 2025 – Visual Suite 2.0](#)

What is it?

Canva is no longer just an online platform for basic graphic design, but an integrated suite for producing visual content. With Visual Suite 2.0, Canva has extended its logic to a unified environment where different formats—presentations, visual documents, whiteboards, videos, websites, and other outputs—can be developed within a single ecosystem, without fragmenting the project into separate files and workflows.

Canva describes this evolution as a unified format that allows you to create “across every design type” within a single working framework.

What is it for in Project Work?

In Project Work, Canva Visual Suite 2.0 is especially useful when the group needs to work in an integrated way on:

- final presentations;
- storyboard;
- project poster;
- visual mock-ups;
- narrative panels;
- synthetic portfolios;
- accessible and inclusive layouts;
- visual boards and materials for the Final Pitch.

The suite's new setup is particularly advantageous when the project requires seamless transition from a concept board to a presentation, from a narrative sequence to a visual document, or from a storyboard draft to a more refined communication artifact.

Strengths

- very low entry threshold even for non-designer students;
- wide availability of templates and visual components;
- possibility of building very different materials in the same environment;
- strong effectiveness for visual storytelling, project synthesis and Final Pitch;

- useful also for groups who need to transform complex materials into neat and persuasive visual narratives.

Methodological considerations

- Canva shouldn't lead to privileging visual impact over the quality of design thinking;
- templates should be used critically, adapting them to the content and not being subjected to their logic;
- it is very useful for summarizing and presenting, but it should not replace more suitable tools when you need to prototype interactions or navigation logic;
- the teacher should remind students to always explicitly highlight the cultural value of the proposal, avoiding that the presentation "covers" the fragility of the concept.

Recommended use

- Final Pitch;
- visual concept;
- project summary tables;
- synthetic storyboards;
- introductory portfolio;
- panels for public or semi-professional presentations.

When it is particularly indicated

Canva is ideal when the team needs to organize and communicate the project in a clear, legible, and visually consistent way, especially during the reporting, presentation, documentation, and construction phases of the proposal's visual narrative.

2. FIGMA

Official link: <https://www.figma.com/>

Official Guide: [Guide to prototyping in Figma](#)

What is it?

Figma is a collaborative platform for interface design, wireframing, and prototyping.

The official documentation emphasizes that it allows you to design and prototype within the same environment, building interactive and shareable prototypes without leaving the main workflow.

What is it for in Project Work?

In Project Work, Figma is particularly useful when the concept has already reached a sufficient level of clarity and it is necessary to show:

- the interface structure;
- the navigation logic;
- transitions between screens or sections;
- the user experience of an app, an archive, a digital exhibition or an interactive tour;
- the system's consultation, choice and response flows.

It is, therefore, a key tool to:

- create wireframes;
- build clickable prototypes;
- simulate user flow;
- test UX logic;
- discuss the organization of the experience before the technical development.

Strengths

- real-time collaboration;
- very widespread standard in professional digital design workflows;
- ability to make the structure of the experience visible in a precise way;

- effective for testing sequences, hierarchies, interaction choices and consultation logic.

Methodological considerations

- Figma works well when the concept is already fairly clear; if used too early, it can push the team into visual or layout details before the cultural and narrative logic is truly solidified.
- it should not be confused with the ideation phase: it is more suitable for translating the concept into an interaction prototype;
- the teacher should help students use Figma to clarify the design, not to prematurely “beautify” it;
- it is important that every choice of screen, navigation or flow is linked to a user need and a cultural mediation function.

Recommended use

- interface prototypes;
- user flow;
- wireframes of digital archives;
- browsing virtual exhibitions or cultural apps;
- UX testing;
- interactive path simulation.

When it is particularly indicated

Figma is particularly suitable when the team needs to demonstrate how the solution works, not just what it says. It is, therefore, invaluable when the project moves from vision and concept to observable and debatable experience.

3. MILANOTE

Official link: <https://milanote.com/>

Visual project management: <https://milanote.com/product/project-management>

Creative Uses Overview: <https://milanote.com/product>

What is it?

Milanote is a visual tool for organizing creative projects through flexible boards that can combine notes, images, videos, links, files, and references. The platform presents itself as a space for organizing ideas and projects into visual boards, with a strong focus on creativity, gathering inspiration, and building non-linear work structures.

What is it for in Project Work?

Milanote is particularly useful in phases where the group must:

- gather materials and inspirations;
- build moodboards and vision boards;
- organize cultural, iconographic and narrative references;
- move from brainstorming to selection;
- store research, images, concepts, storyboards and working notes in one place.

It is very suitable when the project requires a working environment that supports:

- visual thinking;
- curation of materials;
- construction of atmospheres, moods and narrative direction;
- creative organization of the project.

Strengths

- very effective for gathering and organizing inspiration;
- allows you to easily combine search, images, notes and project structure;
- helps build boards that show visual direction, tone, imagery, and relationships between elements;
- particularly suited to less linear and more associative creative processes.

Methodological considerations

- it can become an archive of poorly selected suggestions if it is not accompanied by clear instructions;
- the teacher should help to move from inspirational collection to project synthesis;
- it is very useful for building the project's direction, but it should be integrated with more structured tools when it is necessary to describe flows, interactions, or final deliverables.

Recommended use

- moodboard;
- vision board;
- iconographic collection;
- preliminary storyboards;
- visual organization of the creative process;
- building the tone and identity of the project.

When it is particularly indicated

Milanote is very effective when the group is at the stage where it needs to visually shape the vision, organize references, and move from scattered insights to a more coherent image of the project.

4. WHIMSICAL

Official link: <https://whimsical.com/>

Wireframes: <https://whimsical.com/wireframes>

Flowcharts: <https://whimsical.com/flowcharts>

What is it?

Whimsical is a collaborative platform for visual thinking and planning, with dedicated tools for boards, diagrams, flowcharts, mind maps, docs, and wireframes. The platform is designed to help teams capture ideas, visualize processes, and quickly build shared structures.

What is it for in Project Work?

Whimsical is especially useful when the group needs to:

- clarify processes and flows;
- view user journey;
- build flowcharts or logic maps;
- sketch low-fidelity wireframes;
- quickly move from an idea to a readable and shareable structure.

It is, therefore, very effective to:

- map the user experience;
- represent the functioning of a system;
- outline the navigation logic;
- produce quick wireframes before moving on to more refined tools.

Strengths

- quickly builds flowcharts, maps and wireframes;
- good legibility for processes, user paths and decision structures;
- useful for groups that need to quickly clarify logic and relationships;
- it effectively combines the conceptual phase and the first operational structuring.

Methodological considerations

- it can lead to a representation that is too schematic if the group has not yet clarified the cultural value of the proposal;

- the teacher should help ensure that diagrams and flowcharts do not replace narrative reflection, but make it clearer;
- it is very useful for structuring, less so for developing the final visual component of the project.

Recommended use

- experience flowchart;
- navigation maps;
- low-fidelity wireframe;
- journey map;
- schematization of paths and interactions;
- group alignment on complex processes.

When it is particularly indicated

Whimsical is very effective when the group needs to make the project logic understandable: what happens, in what order, with what branches, for which user's benefit, and with what outcome.

5. GOOGLE SLIDES

Official link: <https://workspace.google.com/products/slides/>

What is it?

Google Slides is the presentation tool in the Google Workspace suite, geared towards collaborative creation and online sharing.

What is it for in Project Work?

It is especially useful to:

- build collaborative presentations;
- prepare the Final Pitch;
- share updated versions with teachers and stakeholders;
- build a linear narrative of the project that is very easy to use.

Strengths

- simplicity;
- synchronous collaboration;
- ease of commenting and reviewing;
- good adherence to teaching processes that require continuous updating.

Methodological considerations

- it is a very effective tool for presentation, but less suitable for complex conceptual prototyping;
- it should be used especially in the synthesis, restitution and debate phases.

Recommended use

- Final Pitch;
- intermediate reviews;
- presentations to stakeholders;
- synthesis of the concept and process.

Concluding methodological note

These tools are totally valid in Project Work when used intentionally, selectively, and methodologically consistent. In practical terms:

- **Canva Visual Suite 2.0** is very strong in terms of visual synthesis, presentation and construction of the project's story;
- **Figma** is best suited when you need to show interaction, navigation and structure of the experience;
- **Milanote** effectively supports phases of exploration, mood, collection and creative direction;

- **Whimsical** is very effective for processes, flowcharts, quick wireframes and system logic;
- **Google Slides** remains useful for shared presentation and discussion with stakeholders.

The choice of tool should always stem from a methodological, not a technical, question: "What visualization or prototyping form do we need to clarify our project?" When this question guides the selection, technology truly enhances learning and the quality of the Project Work.

5.5.2.4 Tools for immersive experiences and spatial storytelling

Tools for immersive experiences and spatial storytelling take on a specific value in Project Work when the group seeks to go beyond simply communicating cultural content, but instead design a situated experience in which space, route, orientation, presence, relationship with places, and exploration methods become integral to the meaning. From this perspective, heritage is no longer treated as a simple content to be displayed, but as something to be navigated, encountered, explored, and interpreted through spatial and experiential logic.

From a pedagogical perspective, these tools are valuable because they help students make a decisive shift: from thinking of the project as a set of information or screens to thinking of it as an environment, sequence, threshold, orientation, and engagement.

They allow you to work on dimensions that remain weaker in other tools: the relationship between body and space, between content and path, between vision and navigation, between physical place and digital content, between presence and meaning.

In a Project Work oriented towards cultural innovation, this is particularly relevant for rituals, itineraries, museums, virtual exhibitions, interactive archives, territorial myths, localized memories, and spatially distributed heritages.

These tools are not only used to "immerse" a project in a spectacular sense.

Their deepest value lies in enabling students to prototype the relationship between experience and meaning, for example by testing:

- how a user enters a narrative space;
- how he/she orients himself/herself;
- what he/she discovers first and what after;
- how the perception of a cultural asset changes when it is placed in a virtual or augmented environment;
- how spatial arrangement affects interpretation.

In this sense, immersive tools are useful when they help you to design better cultural mediation, not when they are chosen solely for the wow effect.

From a methodological point of view, their use is particularly significant in at least three cases.

First, when place is an essential part of the content, as in rituals, urban itineraries, historical sites, or territorial narratives.

Second, when the project requires a curatorial or exhibition-related logic, as in virtual exhibitions or visitable archives.

Third, when you intend to test an experience where the relationship between user, content, and environment is more important than the graphical interface alone.

In all of these situations, spatiality is not a simple container, but an active element of the design proposal.

In keeping with ART-Inspired Teaching, these tools should be introduced as design mediators, not as autonomous technical objectives. Teachers should help students address not so much "which immersive platform to use," but deeper questions:

- why does this content need to be experienced in space?
- what relationship do we want to build between visitors and the environment?
- how does the immersive component strengthen cultural meaning?
- is the location part of the story or just a backdrop?

When these questions guide the choice of tool, immersion ceases to be decorative and becomes a methodologically coherent component of the Project Work.

1. Artsteps

Link: <https://www.artsteps.com/>

What is it?

Artsteps is a platform for creating 3D virtual exhibitions and spaces.

The official website highlights the ability to upload images, videos, texts, 3D models, music, and narration, build customized spaces, and distribute guide points to structure a narrative within the exhibition.

What is it for in Project Work?

It is particularly suitable for:

- virtual exhibitions;
- exhibition archives;
- narrative curation in digital spaces;
- virtual museum prototypes;
- simulation of the flow of visits and the arrangement of contents in space.

Strengths

- allows you to think about space, sequence, orientation and visitor flow;
- supports images, text, video and audio;
- is very useful for curatorial and digital heritage exhibition projects.

Methodological considerations

- the simple transposition of materials into a 3D space must be avoided;
- it is necessary to plan the narrative logic of the visit;
- the teacher should help students distinguish between a “content gallery” and an “exhibition experience.”

Recommended use

- digital exhibitions;
- virtual cultural heritage tours;
- visitor experience prototypes;
- archives that can be visited in a curatorial manner.

2. CoSpaces Edu

Link: <https://cospaces.io/edu/>

What is it?

CoSpaces Edu, now also known as Delightex Edu, is a browser-based platform for creating 3D environments, interactive scenes, virtual tours, and simple AR/VR experiences. The official website emphasizes that it is available via browser, without installation, and also allows you to create immersive tours based on 360° photos.

What is it for in Project Work?

It is useful for:

- interactive scenes;
- low/medium complexity immersive environments;
- 3D storytelling;
- educational XR experiences;
- proof of concept of itineraries, symbolic places, myths and narrative spaces.

Strengths

- good access threshold for non-technical users;

- browser build;
- ability to connect 3D, multimedia and narration;
- suitable for experimenting with the relationship between space and content without immediately entering overly complex ecosystems.

Methodological considerations

- there is no need to chase graphic realism;
- what matters most is the quality of the experience and the legibility of the path;
- the teacher should help the group choose essential scenes, not dispersive environments.

Recommended use

- local myths;
- symbolic environments;
- low-complexity immersive scenes;
- virtual tours;
- proof of concept of XR experiences.

3. ThingLink

Link: <https://www.thinglink.com/>

What is it?

ThingLink is a no-code platform for creating immersive experiences based on images, videos, 360° media, and interactive scenes. The official website describes it as a tool for generating immersive media and transforming it into lessons, courses, virtual field trips, and gamified experiences; the education section particularly highlights the creation of virtual field trips and the use of 360° images.

What is it for in Project Work?

It is particularly useful for:

- immersive routes based on images or 360° panoramas;
- virtual field trips;
- annotated scenes with hotspots;
- territorial and educational storytelling;
- environments where the group wants to combine immersion, readability, and ease of authoring.

Strengths

- no-code authoring;
- good effectiveness with 360° images and information hotspots;
- useful for educational and cultural projects where the immersion must remain clear and easily navigable;
- suitable for territorial heritage, historical sites and interpretive tours.

Methodological considerations

- works very well when the content is strongly tied to places or environments;
- the risk is using hotspots as a simple information overload;
- the teacher should help to design a real narrative progression and not a simple spatial annotation.

Recommended use

- immersive tours;
- heritage spread across a space;
- historical places;
- annotated visual archives;
- 360° educational scenes.

4. Frame

Link: <https://framevr.io/>

What is it?

Frame is a platform for creating immersive 3D and collaborative spaces accessible directly from your browser on desktop, mobile, and VR. The official documentation describes it as a framework for creating persistent and customizable spaces for collaboration, events, presentations, and educational environments, with no download required.

What is it for in Project Work?

It can be very useful when the project requires:

- a shared immersive space;
- presentations or exhibitions that can be visited collaboratively;
- persistent 3D environments;
- events, workshops or pitches in virtual space;
- prototypes of exhibitions or educational environments with a social component.

Strengths

- browser access;
- support in space-enabled collaboration;
- suitable for presentations, gatherings, education and persistent spaces;
- useful when the project has a strong shared visit or co-presence dimension.

Methodological considerations

- it is more effective when the collaborative or performative dimension of the space is important;
- it should not be chosen just because it is “3D”, but when you really need an environment to travel through or inhabit together;
- the teacher should help clarify whether the project requires co-presence or whether a simpler virtual exhibition would suffice.

Recommended use

- collaborative exhibitions;
- cultural events in virtual space;
- immersive presentations;
- 3D meeting and mediation spaces;
- prototypes of educational environments that can be visited in groups.

5. Spatial

Link: <https://www.spatial.io/>

What is it?

Spatial is a platform for creating interactive immersive spaces that can be published on the web, mobile, and VR. The official website presents it as a no-code environment with premium multiplayer templates, 2D, 3D, and video content uploads, and cross-platform publishing; the Creator Toolkit documentation also highlights compatibility with Unity, multiplayer, and cross-device publishing.

What is it for in Project Work?

It is consistent with projects that require:

- more dynamic immersive spaces;
- multi-user interactive environments;
- virtual exhibition or classrooms;
- cross-platform experiences;

- more advanced proofs of concept in which space, content and participation are intertwined.

Strengths

- supports the creation of immersive spaces publishable on web, mobile and VR;
- strong flexibility for 2D, 3D and video content;
- presence of templates and no-code logic to get started quickly;
- useful for creating participatory and multiplayer environments.

Methodological considerations

- may be more ambitious than necessary for some project work;
- it should be chosen when the immersive and social dimension is truly part of the concept;
- the teacher should help the group maintain focus on the cultural meaning, avoiding getting lost in the construction of the environment.

Recommended use

- multi-user immersive exhibitions;
- interactive cultural environments;
- virtual cultural classrooms;
- advanced prototypes of spatial storytelling and heritage environments.

Concluding methodological note

In this subsection, the teacher can greatly help students by clarifying that these tools are not chosen based on the level of "immersion effect," but rather on the relationship between space, content, and audience the project intends to build. In practical terms:

- **Artsteps** is very strong in a curatorial logic and for virtual exhibitions;
- **CoSpaces Edu** works well for 3D scenes and simple immersive prototypes;
- **ThingLink** is excellent for 360° tours and readable and educational spatial storytelling;
- **Frame** is very suitable for collaborative spaces and shared immersive presentations;
- **Spatial** is more suitable when the group wants to build more complex interactive and multi-user immersive environments;

A guiding question to ask students might be: "Do we really need an immersive space because the meaning of the project lives in the space, or are we just adding immersion afterwards?" When the answer is clear, the choice of tool becomes much more coherent and the Project Work acquires methodological strength, not just visual appeal.

5.5.2.5 Tools for game-based and interactive design

Introduction: Why these tools are important and what value they have in Project Work

Game-based and interactive design tools take on a particularly important role in Project Work when the group intends to design not just cultural content to be displayed, but an experience in which the user acts, chooses, explores, interprets, and constructs meaning through interaction.

From this perspective, the value of game-based design lies not in the simple introduction of game-based elements, but in the possibility of transforming cultural heritage into an active experience, capable of engaging the public in a deeper, more participatory and reflective way.

From a pedagogical point of view, these tools are important because they help students understand that interactivity does not simply mean "clicking," but rather designing a meaningful relationship between:

- user;
- cultural content;
- rules of the experience;
- possible choices;
- feedback;

- narrative or exploratory progression.

In this sense, they allow you to work on some essential dimensions of the Project Work that other tools only partially address:

- the construction of mechanics;
- the definition of objectives, challenges and paths;
- feedback and agency design;
- the balance between engagement and content;
- the translation of complex cultural meanings into accessible and meaningful experiences.

Within ART - Inspired Teaching, these tools should not be read as instruments for "making video games" in the strict sense, nor as vehicles for automatically introducing competitive dynamics.

Their value is much broader and methodologically more interesting: they allow us to experiment with how the logic of games and interaction can be put to the service of cultural mediation, learning, and meaning-making. In other words, they help students design experiences in which user participation becomes part of the cultural device.

This is especially useful in projects working on:

- local myths and legends;
- narrative archives;
- oral traditions;
- educational courses;
- exhibitions with exploratory components;
- heritage to be made more accessible to young audiences;
- experiences that require progression, choice, or discovery.

From a methodological point of view, the use of these tools is truly effective when students employ them to prototype:

- **how the experience works;**
- **what role the user has;**
- **what happens in response to his/her actions;**
- **which logic of progression or interpretation is activated.**

This way, the group can test not only the content's form, but the quality of the relationship between content and interaction. For this reason, these tools are particularly valuable when the phases of project work need to go:

- from concept to experience simulation;
- from the To-Be vision to its usage logic;
- from the description of the proposal to its demonstration.

From an educational perspective, teachers should help students understand that "more gameplay" doesn't always mean "better experience." The primary criterion must remain cultural coherence: a mechanic, a choice, a progression system, or a feedback loop are valid if they help the user to understand better the heritage, navigate it meaningfully, or build a stronger relationship with the content. However, when gameplay becomes a decorative superstructure or distracts from the cultural core, the project loses quality.

For this reason, the guiding question to ask students should not be "what game can we make?", but rather: "what form of interaction truly helps the audience better understand, explore, or experience this heritage?" It is this question that makes game-based and interactive design methodologically consistent with Project Work.

1. GDevelop

Link: <https://gdevelop.io/>

What is it?

GDevelop is an open-source, no-code game engine that allows you to create 2D, 3D, and even multiplayer experiences through a visual system based on ready-to-use events and behaviours. The official website presents it as an open-

source, no-code, and AI-assisted game engine, also designed for educators and users who want to design without having to navigate complex programming stacks.

What is it for in Project Work?

It is particularly useful to:

- prototype 2D games;
- build simple mechanics;
- develop interactive activities;
- experiment with game logic without advanced coding;
- simulate explorations, challenges, paths and feedback systems from a cultural perspective.

Strengths

- accessible to non-programmer users as well;
- oriented towards rapid experimentation;
- supports event-based visual logic;
- provides ready-made behaviours, resources, and web/mobile publishing;
- is suitable for cultural and educational games, but also for interactive proofs of concept.

Methodological considerations

- you need to focus on logic, interaction and meaning, not only on the game play dynamics;
- cultural content must remain readable;
- the functions available can push people to build superfluous mechanics;
- the teacher should help the group work on a key scene or dynamic, not on an overly extensive game.

Recommended use

- narrative games;
- educational mini-games;
- guided explorations;
- gamified archives;
- proof of concept for heritage-based interactive itineraries.

2. Godot Engine

Link: <https://godotengine.org/>

Documentation: <https://docs.godotengine.org/>

What is it?

Godot is a free, open-source game engine for 2D, 3D, and XR projects. The official website describes it as a "free, open-source 2D and 3D game engine" and emphasizes the potential for game development, cross-platform projects, and XR ideas, with support for a dedicated 2D engine, 3D nodes, and publishing to desktop, mobile, and web.

What is it for in Project Work?

It is suitable for:

- more complex interactive prototypes;
- exploratory play experiences;
- symbolic environments or heritage games;
- more technically structured proofs of concept;
- small interactive 2D or 3D worlds.

Strengths

- highly flexible;
- strong diffusion in indie and experimental contexts;
- possibility of technical growth;

- support for both 2D and 3D and XR;
- suitable for groups who want to build something more structured than a simple interactive wireframe.

Methodological considerations

- requires more technical confidence than GDevelop;
- it should be chosen only if consistent with the group's skills and the time available;
- the risk is investing too much in technical construction and losing sight of the cultural value of the proposal;
- it is best to use it to prototype a significant part of the system, not to promise a complete product.

Recommended use

- groups with greater technical command;
- heritage games;
- basic 3D interactive environments;
- more advanced proofs of concept;
- projects that require greater control over space and interaction.

3. Construct 3

Link: <https://www.construct.net/en>

What is it?

Construct 3 is a game-making software focused on creating 2D games, with a strong focus on educational use, extensive documentation, tutorials, and resources for classroom setup. The official website presents it as a product dedicated to creating 2D games and offers a structured education section with guides, courses, and resources for teachers.

What is it for in Project Work?

It is useful for:

- interactive 2D prototypes;
- narrative games with a clear structure;
- mini educational game experiences;
- development of light and legible mechanics;
- projects that require a more guided environment rather than more complex engines.

Strengths

- good accessibility;
- strong educational orientation;
- wide availability of tutorials and resources;
- suitable for quickly building clear and demonstrable 2D interactions.

Methodological considerations

- it is effective for well-defined 2D experiences, less so for projects that require strong 3D spatial exploration;
- like other game-based tools, it should be used to test meaningful logic, not to chase product completeness.

Recommended use

- serious mini-games;
- recreational and educational activities;
- 2D interactive storytelling;
- rapid prototypes for final pitch or internal validation.

4. Scratch

Link: <https://scratch.mit.edu/>

What is it?

Scratch is a visual platform for programming, creating, and sharing interactive projects, widely used in education. The official homepage summarizes its approach with "Imagine, Program, Share," highlighting its strong educational and participatory focus.

What is it for in Project Work?

It is particularly useful for:

- very simple interactive prototypes;
- recreational and educational activities;
- basic narrative experiences;
- small game logic exercises for groups with low technical familiarity;
- projects where the goal is to understand the logic of interaction, not to build a sophisticated product.

Strengths

- very low entry threshold;
- visual and didactic approach;
- great for understanding basic concepts of interaction, feedback and sequencing;
- suitable for groups taking their first steps in game-based design.

Methodological considerations

- it should be considered above all as an essential learning and prototyping tool;
- it is not suitable for complex projects or very complex environments;
- the teacher should use it to work on the logic of experience and not on technical sophistication.

Recommended use

- initial prototypes;
- interactive educational activities;
- small simulations;
- introduction to game design in less technical groups.

5. Genially

Link: <https://genially.com/>

What is it?

Genially presents itself as a no-code platform for creating interactive content and experiences, with features for interactions, animations, quizzes, games, collaboration, analytics, and accessibility. The official website defines it as "the easiest way to create interactive experiences" and highlights interactive images, maps, quizzes, and playable presentations.

What is it for in Project Work?

It is useful when the group wants to design:

- light, interactive experiences;
- quizzes and learning paths;
- images or maps with hotspots;
- gamified presentations;
- cultural content with elements of participation and discovery, without entering into actual game engines.

Strengths

- very accessible;
- no-code;
- suitable for transforming static content into interactive experiences;
- useful for educational contexts and for projects that require interactivity but not game engine complexity.

Methodological considerations

- it should be used when the lightness of the solution is an advantage, not a limitation;
- the risk is to slip towards an animated presentation rather than a true interactive experience;
- it is important that the group clarify what form of engagement it really wants to build.

Recommended use

- cultural quizzes;
- interactive maps or images;
- gamified educational paths;
- rapid prototypes of clickable narrative experiences.

6. Bitsy

Link: <https://bitsy.org/>

What is it?

Bitsy officially defines itself as “a little engine for little games, worlds, and stories.”

It is a very lightweight tool, designed to create narrative and exploratory micro-experiences.

What is it for in Project Work?

It is particularly suitable for:

- narrative micro-games;
- small symbolic worlds;
- very essential exploratory experiences;
- prototypes that aim to focus on atmosphere, text and discovery;
- heritage-based projects with low complexity but high narrative intentionality.

Strengths

- extreme simplicity;
- strong coherence with minimal and poetic storytelling;
- great for rapid prototyping and small explorable worlds;
- useful when the group wants to demonstrate a narrative logic without investing in heavy technical constructions.

Methodological considerations

- it has a deliberately limited scope;
- it is not suitable for projects with complex mechanics or systems;
- it should be chosen when minimalism is part of the value of the proposal.

Recommended use

- local myths in the form of micro-experiences;
- narrative rooms;
- symbolic prototypes;
- small heritage-based worlds with strong evocative intensity.

7. Twine

Link: <https://twinery.org/>

What is it?

Twine is an open-source tool for telling interactive, non-linear stories. The official documentation emphasizes that it allows you to create stories without code in simple cases, but can also be extended with variables, conditional logic, images, CSS, and JavaScript when needed. It publishes directly to HTML and is freely available for commercial use.

What is it for in Project Work?

While already relevant for storytelling and concept development, Twine is also very consistent with the game-based and interactive design section when the project requires:

- paths with branches;
- user agency;
- choices that influence the story;
- simulation of text interaction systems;
- experiences in which the gameplay structure coincides with the narrative path.

Strengths

- great accessibility;
- strong control over the interactive narrative structure;
- very suitable for oral heritage, myths, archives and memories;
- allows you to test the relationship between choice and meaning without the need for complex environments.

Methodological considerations

- it does not replace more complex visual prototyping tools or game engines;
- it should be used when the logic of the interaction is strongly narrative;
- the teacher should help build readable and culturally motivated paths.

Recommended use

- text-based narrative games;
- branching narrative prototypes;
- narrative chatbots;
- multiple-choice educational experiences;
- proof of concept where content develops through decisions.

8.Unity

Link:<https://unity.com/>

What is it?

Unity is a cross-platform game engine developed by Unity Technologies. The engine supports a variety of desktop, mobile, console, augmented reality, and virtual reality platforms. It is particularly popular for iOS and Android mobile game development, is considered easy to use for beginner developers, and is popular for indie game development. The engine can be used to create three-dimensional (3D) and two-dimensional (2D) games, as well as interactive simulations. The engine has been adopted by industries outside video gaming including film, automotive, architecture, engineering, and construction. The Unity engine's licensing is non-commercial.

What is it for in Project Work?

atically activated after a certain number of installations is detected by Unity technologies. This m

What is it for in Project Work?

It is suitable for:

- non-commercial prototypes;
- exploring basic game development concepts
- symbolic environments or heritage games;
- small interactive 2D or 3D worlds.

Strengths

- highly flexible;
- free asset store;
- strong diffusion in indie and experimental contexts;
- support for both 2D and 3D and XR;

Methodological considerations

- requires more technical confidence than GDevelop and the same level as Godot;

- it should be chosen only if consistent with the group's skills and the time available;
- It should be chosen only if the project is expected to have a limited number of users or installations due to licensing;
- it is best to use it to prototype a significant part of the system, not to promise a complete product.

Recommended use

- groups with greater technical command;
- heritage games;
- basic 3D interactive environments;
- simple proofs of concept;

9. GodotNanite

GodotNanite is an experimental, community-driven implementation (often based on specific GitHub projects or research forks) designed to bring virtualized geometry—similar to Unreal Engine 5's Nanite—into the open-source Godot Engine. By breaking down massive 3D meshes into tiny clusters and rendering only what is visible at the necessary level of detail, it allows the engine to handle millions (or even billions) of polygons in real-time. Unlike Unity's native systems, this is a specialized "cutting-edge" addition to an already lightweight, MIT-licensed ecosystem.

What is it for in Project Work?

It is suitable for:

- requires more technical confidence than GDevelop and the same level as Godot;
- high-fidelity 3D environments: Projects requiring cinematic-quality assets without the "polygon budget" anxiety;
- open-source tech demos: Showcasing the power of community-driven rendering tech;
- creating massive, detailed terrains or architectural visualizations where manual LOD (Level of Detail) creation would be unfeasible;
- rapidly importing high-poly scans (like photogrammetry) directly into a game environment.

Strengths

- saves massive amounts of time by automating the transition between high and low detail;
- uses GPU compute shaders to render highly complex scenes that would otherwise crash a standard renderer;
- there are no royalty fees;
- tiny disk footprint and starts up in seconds since it runs on top of Godot.

Methodological Considerations

- often "bleeding edge", requires a proficient developer;
- requires modern hardware with robust Vulkan support and compute shader capabilities;
- tutorials are not numerous as many tutorials - entails self-directed troubleshooting.

Recommended Use

- groups looking to push the boundaries of what open-source software can do;
- games or simulations relying on high-resolution 3D scans;
- projects targeting PC or high-end consoles where visual fidelity is the primary factor in aesthetics;

Concluding methodological note

In this subsection, the teacher can help students choose tools not based on their "level of play" or technical complexity, but rather on the form of interaction that the project truly requires. In practical terms:

- **GDevelop** is very effective for rapid, visual, and accessible prototypes, even with simple but meaningful mechanics.
- **Godot** is more suited to groups with greater technical confidence and more structured proofs of concept.
- **Construct 3** is a good compromise for 2D experiences and educational contexts.
- **Scratch** is useful in situations where you need to introduce interactive logic in a very simple way.
- **Genially** is great for light interactivity and soft gamification.

- **Bitsy** is invaluable when the project aims to focus on an essential narrative micro-experience.
- **Twine** remains very strong when the heart of the interaction is the narrative choice.

The guiding question to suggest to students could be this: “What must the user do, how does his action produce meaning, and what tool helps us make this relationship observable?”

When the answer to this question is clear, game-based and interactive design becomes truly consistent with Project Work: not a formal addition, but a mode of cultural mediation capable of integrating content, experience, and participation.

5.5.2.6 Tools for digital archives, mapping and territorial storytelling

Introduction: Why these tools are important and what value they have in Project Work

Digital archive, mapping, and territorial storytelling tools take on a central role in Project Work when the group works on heritage sites that cannot be fully understood as isolated objects, but must be read as part of a network of relationships between places, memories, itineraries, communities, documents, testimonies, and cultural practices. From this perspective, the value of these tools does not simply consist of "putting materials online" or "placing points on a map", but in making visible the relationship between cultural content, territorial context and the construction of meaning.

From a methodological point of view, these tools are particularly valuable because they help students perform three fundamental operations.

The first is to organize and structure the heritage: describe it, document it, organize it, connect it to metadata, themes, sources, and interpretative nuclei.

The second is to contextualize it spatially, that is, to highlight how places, routes, territorial distributions, and cultural geographies contribute to our understanding of the asset.

The third is to transform it into a story, building narrative forms that connect documents, memories, orality, images, testimonies, and places in a readable and meaningful experience.

In the framework of ART-Inspired Teaching, their use has a value that is at the same time cognitive, project design based and pedagogical.

Cognitive, because it helps students see relationships that would otherwise remain implicit: between a testimony and a place, between a collection and a historical trajectory, between an oral memory and a social geography.

Project design based, because it makes it possible to move from the analysis of the context to the construction of a proposal for territorially located cultural mediation.

Pedagogical, because it allows the teacher to accompany the group in the transition from the collection of materials to their interpretation, and from their interpretation to the construction of a form of access, consultation or narration. These tools are particularly useful when the Project Work involves:

- documentary heritage or archives of testimonies;
- oral traditions and community memories;
- territorial routes;
- heritage spread across space;
- relationships between cultural heritage and places;
- interpretative archives that must be both consultable and narratable.

In all of these cases, mapping or archiving are not neutral activities: they involve choices about what to select, how to organize it, from which perspective to display it, which audience to address it to, and what interpretative logic to construct.

This is where their use becomes truly educational.

From a teaching perspective, teachers should help students understand that a cultural map is not valuable because it is full of points, but because those points construct a reading; and that a digital archive is not valuable because it contains a lot of material, but because it makes those materials accessible, interpretable, and narratively meaningful. For this reason, the guiding question to ask students could be: "How does this tool help us connect content, places, and meanings in a clearer, more accessible, and culturally grounded way?" When this question guides the work, archives, maps, and territorial storytelling become true mediators of the project and not mere technical containers.

1. Omeka Classic

Link: [Omeka Classic](#)

What is it?

Omeka Classic is a web publishing platform for sharing digital collections and creating media-rich online exhibitions. The official website emphasizes that it adheres to the Dublin Core standards and is designed for scholars, museums, libraries, archives, and other cultural curation settings.

What is it for in Project Work?

It is very suitable for:

- cultural archives;
- oral histories;
- digital collections;
- narrative expositions based on metadata and documentation;
- projects that require a curatorial structure and an orderly consultation logic.

Strengths

- adherence to cultural and documentary standards;
- widespread distribution in museums, libraries and institutions;
- good consistency with archiving and curation projects;
- ability to create online exhibitions and shareable collections without having to start from scratch.

Methodological considerations

- requires clarity in the curatorial structure;
- should not be used only as a storage place for materials;
- the group must clarify selection criteria, metadata, reading paths and relationships between documents;
- the teacher should help distinguish between raw archive and interpretative archive.

Recommended use

- testimonial archives;
- oral history;
- documentary heritage;
- digital interpretive exhibitions;
- projects where documentation and curation are an essential part of the proposal.

2. StoryMapJS

Link: [StoryMapJS](#)

What is it?

StoryMapJS is a free tool for telling stories on the web by highlighting the location of a series of events. The official website describes it as an easy-to-use tool with user-friendly authoring, designed for stories with a strong geographical or spatial structure.

What is it for in Project Work?

It is useful to:

- connect stories and territories;
- build geo-narrative paths;
- enhance widespread heritage;
- design accessible, web-based spatial storytelling;
- show how the story develops through places and stages.

Strengths

- ease of use;
- strong connection between the map and the story;
- suitable for oral traditions, itineraries and territorial memories;
- allows you to integrate different media and sequences of locations into a continuous narrative.

Methodological considerations

- geolocation must have a real interpretative meaning;
- it is not enough to "put dots on the map";
- it works best when the story has a strong logic of place and progression;
- the teacher should help to select a few significant narrative nodes, avoiding dispersive paths.

Recommended use

- cultural itineraries;
- journey through memory;
- territorial stories;
- connection between orality and places;
- archives narrated through geographical stages.

3. Google My Maps

Link: [Google My Maps](#)

What is it?

Google My Maps is a simple web tool for creating custom maps. While the public page requires a Google account, it's commonly used to create maps with shareable points, routes, layers, and notes.

What is it for in Project Work?

It is suitable for:

- initial territorial mappings;
- identification of relevant places;
- construction of simple cultural paths;
- collection of narrative points in space;
- preliminary work before moving on to more complex tools.

Strengths

- immediacy;
- ease of use;
- good access threshold for non-technical groups;
- useful for quickly highlighting the relationship between heritage and territory.

Methodological considerations

- it is especially useful in the early stages or for basic prototypes;
- it must be integrated with a clear narrative or analytical logic;
- the risk is that you produce descriptive but poorly interpretive maps;
- the teacher should guide the selection of locations and their connection to the concept.

Recommended use

- entry-level GIS;
- initial mappings;
- preparation of routes or itineraries;
- territorial work in progress before a more advanced structuring.

4. QGIS

Link: [QGIS](#)

What is it?

QGIS is an open-source software for geographic analysis and cartography. The official website presents it as a Free Software project dedicated to viewing, managing, editing, analysing data, and creating printable maps. It is available for Windows, macOS, Linux, BSD, and mobile.

What is it for in Project Work?

It is very useful for:

- more structured spatial analyses;
- advanced territorial reading;
- geographic data visualization;
- in-depth study of accessibility and distribution;
- projects that require a real GIS component and not just illustrative mapping.

Strengths

- professional and open-source tool;
- very powerful;
- consistent with more advanced GIS for Cultural Heritage approaches;
- it allows for a more rigorous reading of the territory, of the information layers and of the spatial relationships.

Methodological considerations

- it requires a minimum of technical expertise;
- it should only be used if it adds real value to the analysis;
- it is not necessary for all project work;
- the teacher should help evaluate whether the level of geographical complexity justifies its use.

Recommended use

- groups that work more analytically on the territory;
- projects with a strong geospatial component;
- advanced analysis of accessibility, distribution, and territorial relations.

5. ArcGIS StoryMaps

Link: [ArcGIS StoryMaps](#)

What is it?

ArcGIS StoryMaps is Esri's platform for building digital stories that combine maps, text, images, videos, and multimedia into an integrated narrative structure. The platform is designed to create "story maps" where geography and narrative support each other.

What is it for in Project Work?

It is very useful when the group wants to:

- integrate mapping and storytelling in a richer way than a simple map;
- build territorial narratives with strong editorial continuity;
- combine media and geolocalized content into a single narrative page;
- working on heritage, routes, communities and place transformations.

Strengths

- good integration between maps and narration;
- suitable for projects that require a more editorial and less fragmented presentation;
- useful for heritage storytelling, thematic itineraries and territorial readings with a strong narrative structure.

Methodological considerations

- it is more suitable when the group already has a clear story architecture;
- it requires a good selection of contents to avoid pages that are too dense;
- the teacher should help balance maps, text, and multimedia materials.

Recommended use

- territorial storytelling;
- widespread heritage;
- structured cultural itineraries;
- readings of cultural landscapes;
- narrative presentations of research findings in the area.

6. uMap

Link: [uMap](#)

What is it?

uMap is an open-source project that lets you create custom maps based on OpenStreetMap in just a few clicks and embed them into websites. The official website describes it as a tool for creating maps with layers, colours, geodata, images, and links, with export to various open formats.

What is it for in Project Work?

It is very useful for:

- lightweight custom maps;
- open-source territorial storytelling;
- simple layers for routes, heritage and places;
- cartographic prototypes more flexible than Google My Maps but less complex than QGIS.

Strengths

- open source;
- easy to use;
- based on OpenStreetMap;
- good flexibility in customization and embedding.

Methodological considerations

- it is effective when you need a customizable but still accessible map;
- it does not replace a true analytical GIS;
- as with other mapping tools, the strength of the project depends on the quality of the interpretation, not the number of layers.

Recommended use

- open-source cultural maps;
- heritage itineraries;
- community pathways;
- connections between places and testimonies.

7. MapHub

Link: [MapHub](#)

What is it?

MapHub is a web platform for creating interactive maps.

The official website presents it as a tool for creating maps with markers, lines, polygons, labels, images and collaboration functions, as well as supporting import/export in geographic formats and embedding in websites.

What is it for in Project Work?

It can be useful for:

- interactive map prototypes;
- collaborative mappings;
- rapid construction of narrative and information layers;
- visualizing relationships between places, events, and documents.

Strengths

- immediacy;
- orientation towards interactivity;
- support for markers, lines, polygons and images;
- good utility for groups who want an interactive but not too complex mapping solution.

Methodological considerations

- it requires clarity in the organization of layers and contents;
- it can become a messy container if selection criteria and a narrative logic are not established;
- the teacher should help maintain a clear relationship between each cartographic element and the cultural meaning it conveys.

Recommended use

- interactive maps to support the concept;
- territorial routes;
- viewing events and locations;
- collaborative mapping of widespread heritage.

Concluding methodological note

In this subsection, the teacher can greatly help students by clarifying that these tools are not chosen based on their degree of technical complexity, but rather on the relationship between documentation, territory, and meaning the project seeks to build.

In practical terms:

- **Omeka Classic** is very strong when the core of the project is archival, curatorial and documentary.
- **StoryMapJS** is very suitable for place-based stories and linear and readable geo-narrative paths.
- **Google My Maps** is useful in the early stages or for simple and quick mappings.
- **QGIS** is the strongest choice when the GIS component has real analytical value.
- **ArcGIS StoryMaps** is very effective when the group wants to integrate editorial storytelling and cartography in a richer way.
- **uMap** is a great open-source option for lightweight, custom maps.
- **MapHub** is useful for quick and collaborative interactive maps.

A guiding question to suggest to students could be this: "Do we need to archive, map, or narrate the territory—or do all three at once—and which tool helps us do so with greater clarity and cultural awareness?" When the answer is clear, the choice of tool becomes much more coherent and the Project Work acquires a stronger methodological foundation.

5.5.2.7 Tools for conversational AI, cultural mediation, audio and soundscapes

Tools for conversational AI, assisted cultural mediation, audio design, and soundscapes take on a particularly important role in Project Work when the group intends to design an experience in which cultural heritage is not merely displayed, but interpreted, narrated, accompanied, or made accessible through dialogue and sound. From this perspective, technology is not used to automate the interaction with the audience in an impersonal way, but to build new forms of connection between cultural content, user experience, and mediation. Dialogflow, for example, is presented by Google as a platform for building conversational interfaces and virtual agents, with intent-based logic and explicit control of conversational flows.

Botpress presents itself as a complete platform for building, deploying, and monitoring AI agents across different channels, tools, and data.

From a methodological perspective, these tools are important because they allow students to work on a dimension that is often decisive in cultural projects: mediation.

A chatbot, a conversational guide, a synthetic voice, a soundscape, or an audio track are not simply "additional features," but can become true interpretive tools. They can help:

- accompany the user in exploring an archive or an exhibition;
- make complex content more accessible;
- build atmospheres and narrative transitions;
- activate a more personal relationship with places, memories and testimonies;
- experiment with forms of interaction that combine information, listening, storytelling, and emotional involvement.

In a Handbook oriented towards ART-Inspired Teaching, the value of these tools lies not in their technical novelty, but in their ability to support four pedagogical and planning functions.

The first is dialogue simulation: students can design not only content, but also questions, answers, accompanying paths, and forms of interpretive guidance.

The second is the construction of narrative presence: audio and voice can give depth, rhythm, intimacy and atmosphere to the experience.

The third is accessibility: vocal and sound tools can expand the ways of accessing heritage, especially in educational, museum, or archival contexts.

The fourth is critical reflection on AI: working with these tools forces the group to question authorship, bias, transparency, interpretative limits, and cultural responsibility.

From an educational perspective, instructors should help students understand that a chatbot or audio component is effective only when it addresses a specific mediation need. The guiding question should not be "how do we incorporate AI into the project?", but rather, "what access, interpretation, support, or cultural engagement issues does this tool help us address?" When this question guides the work, technology stops being a superficial addition and becomes a coherent part of the concept.

Conversely, when a conversational agent or synthetic voice is inserted without a clear function, the risk is twofold: on the one hand, it produces empty interactions, on the other, it weakens the cultural quality of the project.

For this reason, these tools are particularly suitable for project work involving:

- archives, libraries and collections requiring interpretive support;
- museums that want to experiment with dialogic guides or personalized itineraries;
- oral heritage and sound memories;
- immersive experiences in which sound guides perception;
- projects that require vocal accessibility or a more sensorial narrative dimension.

Their use is truly formative when it helps students clarify the relationship between voice, content, audience, and meaning, and when it allows them to build a solution that is not simply technological, but culturally grounded, ethically aware, and design-readable.

1. Dialogflow

Link: <https://cloud.google.com/dialogflow>

What is it?

Dialogflow is a Google Cloud platform for designing chatbots and conversational interactions. The official documentation explains that an intent categorizes the user's intention in a conversational turn, and that Dialogflow CX combines generative models with explicit flows to control conversations in a more structured way.

What is it for in Project Work?

It is useful for:

- museum conversational guides;
- interpretive interactions;
- cultural chatbots;
- simulation of user-system dialogues;
- experiences in which the content is enjoyed through questions, discovery paths, or textual/vocal accompaniment.

Strengths

- good framework for designing conversational UX;
- suitable for prototypes of guided cultural interaction;
- ability to work on intent, flow, and conversation control in a fairly rigorous way.

Methodological considerations

- we need to work well on the content, not just on the dialogic structure;
- the chatbot must have a clear cultural function;
- the risk is to build an interaction that is formally correct but poor from an interpretative point of view;
- the teacher should help the group clarify which questions the system is really called upon to mediate.

Recommended use

- museum guides;
- narrative assistants;
- question-and-answer paths on cultural heritage;
- prototypes of conversational mediation in educational, museum or archival contexts.

2. Botpress

Link: <https://botpress.com/>

What is it?

Botpress is a platform for building AI agents. The official homepage describes it as an "all-in-one" platform for building, deploying, and monitoring AI agents across multiple channels, tools, and data.

What is it for in Project Work?

It is suitable for:

- educational and cultural chatbots;
- more transparent and controllable conversation design;
- prototypes that require attention to ethics, explainability, and accountability;
- conversational agents that must integrate cultural content, narrative logic, and mediation.

Strengths

- it supports more critical and transparent reflection on AI;
- it is useful for projects that want to explain the system's logic and responsibilities;
- it is suitable for groups who want to show not only the conversational output, but also the reasoning structure behind the agent.

Methodological considerations

- it requires attention to the dialogic design;
- it is not enough to "install a chatbot": you need to clarify what it means and how;
- the group must decide which contents the agent can interpret and which require explicit human curation.

Recommended use

- conversational cultural mediation;
- chatbots for archives, libraries, museums, and educational programs;
- proof of concept where transparency, traceability and flow control are important.

3. Voiceflow

Link: <https://www.voiceflow.com/>

What is it?

Voiceflow officially presents itself as a platform for designing, testing, deploying, and monitoring AI chat and voice agents, with real-time collaboration and visual tools for building conversational logic.

The official documentation describes the platform as an environment where teams design, develop, and launch agents using templates, integrations, and a knowledge base.

What is it for in Project Work?

It is very useful to:

- design chatbots or voice agents visually;
- simulate complex dialogues before distribution;
- build conversational flows that are readable by the group and the teacher;
- prototype voice guides or cultural assistants;
- work on omnichannel experiences that combine chat, voice, and narrative logic.

Strengths

- strong design clarity;
- real-time collaboration;
- suitable for translating dialogues and intentions into readable conversational flows;
- particularly useful in the educational field to show how to build a conversational UX even before its possible technical implementation.

Methodological considerations

- the risk is to focus too much on the structure of the flow and too little on the cultural quality of the contents;
- it should be used when the group has already clarified the audience, function and tone of the mediation;
- the teacher should verify that each point or step of the conversation responds to a real need for orientation, interpretation or access.

Recommended use

- museum chatbots;
- voice guides;
- archive or library assistants;
- designing conversational flows before more advanced prototyping.

Methodological note

In keeping with the ART-Inspired Teaching approach, these tools should not be introduced as elements of innovation for their own sake, nor as simple devices for effect, but as mediators capable of strengthening the relationship between cultural heritage, audiences, and the usage experience.

From a design perspective, chatbots, conversational agents, voice interfaces, soundscapes, and audio generation or processing tools are truly useful when they fulfil a clear mediation function. They can accompany users in exploring an archive, guide them through a museum tour, make complex content more accessible, amplify the narrative dimension

of an experience, or create an atmosphere consistent with the project's cultural significance. In all these cases, their value lies not in technical sophistication, but in their ability to foster understanding, orientation, engagement, and interpretation.

For this reason, the teacher should help students to preliminarily clarify:

- what cultural and communicative function does the chosen instrument perform;
- what public need does it intend to intercept;
- how the conversational or audio component enhances the experience compared to a non-assisted solution;
- which contents can be entrusted to automated mediation and which, instead, require more explicit human curation.

A particularly important aspect concerns content quality. In the case of conversational tools, it is not enough to design a formally correct dialogue structure: the chatbot or voice agent must have a clear cultural function, a consistent tone, appropriate language, and an interaction logic that does not trivialize the heritage. Similarly, in the case of audio and musical instruments, the challenge is not simply generating or editing tracks, but understanding that sound can profoundly impact the atmosphere, rhythm, and perception of the experience, and must, therefore, be carefully chosen and designed.

From an ethical point of view, this subsection requires particular vigilance.

The use of conversational AI tools and voice or music generation, in fact, involves questions relating to:

- authorship;
- transparency;
- bias;
- cultural representation;
- appropriateness of the use of sensitive materials;
- respect for testimonies, memories and intangible heritage.

It is, therefore, appropriate that in the Project Work students are asked to specify:

- whether and how an AI tool was used;
- which parts of the content were generated, assisted, or curated;
- what limitations the system has;
- what precautions have been taken to avoid simplifications, falsifications or improper uses.

From an educational perspective, these tools should be presented as opportunities to develop not only technical skills, but also critical awareness, mediation design skills, and cultural sensitivity. Their use is particularly effective when it allows students to understand that conversational or audio technology does not automatically "add value," but only produces it when integrated into a coherent, accessible, and culturally grounded project proposal.

In operational terms, the teacher can guide the choice and use of these tools through some key questions:

- Why is this tool consistent with the project?
- What interpretative or access function does it perform?
- Does it really help the public better understand heritage?
- Is it proportionate to the group's skills and the level of the prototype?
- What ethical or cultural risks does it introduce?
- If we eliminated this tool, would the project really lose value?

In conclusion, the use of tools for conversational AI, cultural mediation, audio, and soundscapes is methodologically relevant when they are chosen not for their innovative nature per se, but for their ability to support clearer, more accessible, engaging, and reflective cultural mediation.

In this sense, they must be considered not as technological ends, but as tools for designing richer relationships between heritage, storytelling, experience, and the public.

5.5.2.8 Tools for audio, music and soundscapes

Audio, music, and soundscape tools are particularly important in Project Work when the group recognizes that cultural heritage is communicated not only through text, images, or interfaces, but also through voices, atmospheres, rhythms, pauses, timbres, and soundscapes.

In many cultural contexts—especially when working with orality, memory, rituals, places, sound archives, or immersive environments—the audio component is not an accessory, but an integral part of meaning.

From a design perspective, these tools allow you to work on at least four levels.

The first is narrative accompaniment: a voice, a track, or a soundscape can guide the user, create continuity, and reinforce the tone of the experience.

The second is atmosphere: sound contributes to building a perceptual and affective quality that often influences how the content is received.

The third is accessibility: vocal or sound content can expand the ways of accessing an archive, a museum or a narrative.

The fourth is critical reflection: working with audio and AI forces students to question authorship, authenticity, licensing, respect for sources, and the responsible use of sound mediation.

From this perspective, the value of tools like Soundraw, Audacity, ElevenLabs, or Auphonic lies not in producing "special effects," but in allowing for a more informed design of the project's sonic dimension. Soundraw, for example, presents itself as a royalty-free AI music generator, with the ability to customize the energy, duration, and structure of tracks, and declares that its models are trained exclusively on original material produced internally.

Audacity, on the other hand, is officially presented as a free and open-source multi-track audio editor and recorder.

From an educational perspective, the teacher should help the group understand that the sound quality of the project does not depend on the quantity of effects or technical complexity, but on the coherence between audio and concept.

The key question should not be "how do we add a soundtrack?", but rather: "what should sound do in our project: orient, evoke, accompany, provide, build atmosphere, or give presence to a voice?" When this function is clear, sound becomes a true tool of cultural mediation.

1. Soundraw

Link: <https://soundraw.io/>

What is it?

Soundraw is an AI-powered music generation tool. The official website describes it as a royalty-free music generator that allows you to create tracks, customize tempo and duration, and download WAVs and stems. It states that the system is trained only on original music catalogues produced internally.

What is it for in Project Work?

It can be used to:

- create soundscapes;
- experience atmosphere and rhythm;
- accompany narratives;
- design sound designs for immersive experiences;
- quickly test different sound solutions before making a final choice.

Strengths

- ease of experimentation;
- useful for creating non-invasive support sounds;
- suitable for exploring the emotional dimension of the project;
- ability to quickly iterate on sound atmospheres.

Methodological considerations

- you need to reflect on authorship, style, transparency and cultural relevance;

- it should not be used to improperly simulate traditional or sensitive materials;
- the group should clarify whether the sound is evocative, interpretive, or functional for accessibility.

Recommended use

- soundscape;
- sound prototypes;
- audio environments for immersive storytelling;
- atmospheric testing for exhibitions, archives or narrative environments.

2. Audacity

Link: <https://www.audacityteam.org/>

What is it?

Audacity is open-source audio recording and editing software. The official website describes it as a free, open-source, easy-to-use, multi-track app available for various operating systems.

What is it for in Project Work?

It is very useful to:

- assemble oral testimonies;
- clean records;
- create audio tracks for prototypes;
- assemble soundscapes and voices;
- work on oral history, cultural podcasting, and authentic voice materials.

Strengths

- free;
- very widespread;
- particularly suitable for projects involving orality, sound archives or cultural podcasting;
- good effectiveness for editing, assembling and organizing tracks.

Methodological considerations

- it requires editorial care and respect for materials;
- it is particularly important in projects with authentic memories and testimonies;
- the teacher should help to avoid sound treatment that alters the documentary value of the sources.

Recommended use

- oral history;
- sound archives;
- audio installations;
- prototypes with narrative voice;
- assembly of testimonies and memory materials.

3. ElevenLabs

Link: <https://elevenlabs.io/>

Text to Speech: <https://elevenlabs.io/text-to-speech>

What is it?

ElevenLabs presents itself as a voice AI, text-to-speech, and voice agent platform, with a wide range of voices and multilingual support. The official Text to Speech page emphasizes natural, expressive, and customizable voice generation.

What is it for in Project Work?

It is useful to:

- prototype narrative voices;
- experiment with voice guides;
- test the audio rendering of text content;
- build synthetic voices for chatbots or cultural assistants;
- evaluate the role of the voice as a tool for accessibility and atmosphere.

Strengths

- very high voice quality;
- wide scope for experimentation with tone and performance;
- useful for projects that require a credible vocal presence during the prototyping phase.

Methodological considerations

- it requires a strong reflection on authorship, transparency and cultural appropriateness;
- it should not be used to simulate voices or identities in an ambiguous or undeclared manner;
- the teacher should encourage the group to explain when and why synthetic voice is a coherent choice.

Recommended use

- prototype voiceovers;
- audio guides for exhibitions or archives;
- conversational experiences;
- vocal accessibility of cultural content.

4. Auphonic

Link: <https://auphonic.com/>

What is it?

Auphonic presents itself as an all-in-one automatic audio post-production tool, with noise and reverb reduction, normalization, and multi-track management features. The official features page also highlights algorithms for mixdown, ducking, noise gate, and mic bleed removal.

What is it for in Project Work?

It is very useful to:

- improve the technical quality of recordings and interviews;
- clean testimonial audio files;
- prepare files for podcasting, oral history, or sound prototypes;
- make field-collected audio materials more presentable.

Strengths

- post-production automation;
- useful for groups that do not have advanced sound engineering skills;
- very suitable for projects with real recordings that need quick but effective cleaning.

Methodological considerations

- does not replace editorial judgment;
- it is necessary to ensure that the audio processing does not excessively flatten the expressive quality of the sources;
- the teacher should help students distinguish between technical improvement and excessive alteration of the material.

Recommended use

- post-production of interviews;
- oral archives;
- cultural podcasts;

- audio materials for final pitches or prototypes.

Methodological note

In keeping with the ART-Inspired Teaching approach, the sound dimension should be considered not as a simple formal enrichment, but as a component capable of contributing to the construction of meaning, the quality of usage and the depth of the relationship between cultural heritage and the public.

From a design point of view, sound can perform different and complementary functions.

It can guide the user through a journey, support the pace of the experience, enhance the atmosphere of a physical or digital space, accompany a narrative, give voice to testimonies and memories, or make complex content more accessible.

From this perspective, tools for audio editing, music generation, or the construction of soundscapes are truly useful when the group is able to clarify what cultural, narrative, or perceptual function they are called upon to perform.

For this reason, the teacher should help students not only ask the question “what sound can we add?”, but rather:

- what role should audio have in the project;
- should the sound orient, evoke, accompany, document or make accessible;
- how the sound component changes the audience's experience;
- if the relationship between cultural content and sound solution is coherent and proportionate.

An important methodological aspect concerns the distinction between the illustrative and interpretative use of sound. In the first case, the music or audio is added in a generic way, as background or commentary, without any real connection to the concept.

In the second case, however, sound is conceived as an integral part of the mediation: it contributes to the perception of an atmosphere, restores a memory, enhances a testimony, builds a narrative threshold, or makes the structure of the experience more legible.

It is this second direction that is consistent with Project Work, because it makes the sound dimension a design tool and not a simple embellishment.

Particular attention must be paid when the project works with:

- oral testimonies;
- community memories;
- sound archives;
- rituals;
- local acoustic landscapes;
- authentic vocal materials.

In these cases, the use of sound entails a specific cultural responsibility. Audio processing must respect the documentary, symbolic, and emotional value of the sources, avoiding manipulations that improperly alter their meaning or trivialize their significance. Teachers should, therefore, guide students in reflecting on the relationship between technical quality and the integrity of the material, helping them distinguish between improving listening skills and excessively transforming the content.

This section also requires special attention when using AI music or voice generation tools. In these cases, students should explicitly state:

- whether the sound or voice was generated, modified, or assisted by AI;
- what function they perform in the project;
- what limitations they have;
- what precautions have been taken with respect to authorship, transparency and cultural appropriateness.

This is particularly important when the project engages with traditions, musical repertoires, identity-building sounds, or testimonies linked to intangible heritage. In such contexts, generative tools should not be used to improperly

simulate sensitive materials or to produce surrogates of authenticity, but rather as clearly stated and methodologically justified exploratory tools.

From an educational point of view, these tools can have a strong educational value because they help students develop:

- sensitivity towards the sound dimension of heritage;
- ability to design the experience not only on a visual level, but also on a perceptual level;
- awareness of the relationship between atmosphere, memory and narration;
- attention to editorial quality and the cultural responsibility of audio processing.

In operational terms, the teacher can guide the choice and use of these tools through some key questions:

- What does sound have to do in this project?
- Is it a narrative, atmospheric, documentary or accessibility function?
- Is the sound material consistent with the cultural significance of the project?
- Is the use of AI declared, justified, and appropriate?
- Does the audio component really enrich the mediation or is it a superficial addition?
- If we removed the sound, would the project lose an essential element or not?

In conclusion, audio, music, and soundscape tools are methodologically relevant when chosen and used not to generically increase the project's impact, but to support a richer, more sensitive, and more accessible cultural mediation.

In this sense, sound must be considered a fully-fledged design component, capable of integrating cognitive, emotional, and symbolic dimensions of the experience and strengthening the bond between heritage, storytelling, and the audience.

5.5.2.9 Strategic and reflective use of technology

Throughout all phases of Project Work, students should be guided to develop a selective, strategic, proportionate, and thoughtful use of technology. This principle is central to the ART-Inspired Teaching framework, in which technology is not conceived as an autonomous element, nor as an indicator of innovation in itself, but as a mediator of meaning, learning, creativity, and cultural connection.

From this perspective, the value of a technology does not depend on its level of sophistication, its degree of immersion, or its apparent novelty, but on its ability to coherently support:

- the interpretation of heritage;
- the construction of a meaningful experience;
- the relationship with the public;
- the readability of the concept;
- the feasibility of the prototype;
- the quality of the cultural mediation proposed.

5.5.2.9.1 Why strategic use of technology is important

One of the most frequent risks in project works that integrate digital tools is the so-called tool-driven drift, that is, the tendency to build the project starting from what a tool allows you to do, rather than from what the cultural context requires or renders significant.

In these cases, technology does not support the project, but rather guides it improperly, generating proposals that are:

- excessively centred on the medium;
- weak in terms of cultural significance;
- not very consistent with the real needs of the organization or the public;

- disproportionate to the time, skills and objectives of the workshop.

A strategic use of technology serves precisely to avoid this slipping.

It means helping students understand that the choice of a tool is not a neutral technical act, but a design decision, which must be motivated in relation to:

- a need;
- a function;
- an audience;
- a form of experience;
- a realistic level of prototyping.

In other words, students should not simply ask themselves “what tool can we use?”, but rather:

- what type of mediation do we want to build;
- what experience do we want to make possible;
- which narrative, interactive, immersive or documentary form is most appropriate;
- which technology can best support this intention without obscuring it.

5.5.2.9.2 Guidelines for choosing the technology

The goal is not to multiply tools, nor to demonstrate technical expertise through the accumulation of platforms, but to select those that best support:

- **the cultural objective of the project**, that is, the meaning, heritage, theme or transformation that you intend to make accessible or enhance;
- **the target audience**, taking into account its characteristics, expectations, needs and possible access limitations;
- **the form of mediation**, or the way in which content is translated into an experience, story, archive, path, interaction or accompaniment;
- **the clarity of the concept**, that is, the tool's ability to make the project readable, testable and debatable;
- **the sustainability of the prototype**, in terms of time, resources, available skills and level of complexity appropriate to the laboratory context.

It is useful to add two others to these criteria that are particularly important from a didactic perspective:

- **methodological transparency**, that is, the possibility of explaining why a tool was chosen and what function it plays in the project;
- **the proportion between means and end**, that is, the fact that the technology is not disproportionate to design needs.

5.5.2.9.3 Guiding questions for an informed choice

To support a truly thoughtful choice, teachers and students can use a series of guiding questions that do not have a purely technical function, but rather a planning and interpretative one:

- **Why is this tool consistent with our project?**
This question forces the group to clarify the relationship between tools and design intention.
- **What does it allow us to make visible, audible, navigable, or experienceable?**
It helps clarify the specific function of the tool: to show, tell, orient, interact, create atmosphere, archive, map, accompany.
- **Does cultural mediation really help?**
It helps us understand whether technology makes heritage more understandable, accessible, or meaningful, or whether it simply adds complexity.
- **Is it accessible to the public and the group?**

It draws attention to both usability for the recipients and sustainability for the students who must prototype the solution.

- **Is it commensurate with the time and skills available?**

Avoid over-promises or prototypes that are too ambitious for the workshop context.

- **If we eliminated this tool, would the project really lose its meaning or not?**

This is one of the most powerful questions, because it forces us to understand whether the tool is structural or accessory.

- **Does the tool clarify the concept or complicate it?**

This is especially useful when the group is attracted by technologies that increase the technical load but not the quality of the proposal.

- **Does the tool enhance the cultural content or risk overpowering it?**

A fundamental question for maintaining the balance between innovation and meaning.

5.5.2.9.4 The role of the teacher in supporting the reflective use of technology

At this stage, the teacher has an essential role in methodological direction.

It is not a question of deciding for the students which tools to use, but of helping them to motivate their choice and to recognize when a technology is truly supporting the project and when, instead, it is becoming an inappropriate focus of attention.

The teacher can intervene in a useful way when:

- the group proposes a technology before having clarified the problem;
- the chosen instrument appears disproportionate to the concept;
- technology seems to replace interpretative work;
- the prototype focuses on the functioning of the tool rather than on the quality of the mediation;
- too great a gap emerges between technical ambition and actual development capacity.

In these cases, the teacher can bring the focus back to the project with questions such as:

- What cultural issue are you trying to address?
- What audience are you designing for?
- How does this tool really improve the experience?
- Could you demonstrate the same idea with a simpler tool?
- What are you prototyping: the meaning of the project or the technology itself?

5.5.2.9.5 Reflective use in cases of chatbots, voice agents and sound tools

In the specific case of chatbots, voice agents, conversational AI and sound tools, strategic reflection becomes even more important, because it directly involves issues of:

- **authorship;**
- **representation;**
- **transparency;**
- **accessibility;**
- **cultural responsibility.**

In these cases, the group must be particularly careful to clarify:

- which voice speaks;
- which contents are automated and which remain curated;
- whether the system is guiding the user or improperly replacing the interpretation;
- whether the use of sound, voice or conversation truly strengthens the connection with heritage;
- if there are risks of trivialization, stereotyping or false authenticity.

For example:

- a museum chatbot is methodologically strong if it helps build orientation or interpretation paths consistent with curatorship;
- a soundscape is strong if it accompanies the experience with a clear narrative or perceptual function;
- an artificially generated voice is coherent if its use is explicit, justified, and does not produce ambiguity regarding the authenticity of the content.

5.5.2.9.6 Expected outcome of this methodological position

When students adopt a strategic and reflective use of technology, Project Work becomes stronger in at least five ways:

1. **greater coherence between problem, concept and prototype;**
2. **better quality of cultural mediation;**
3. **higher project sustainability;**
4. **greater critical awareness in the use of tools;**
5. **clearer integration between creativity, content and technology.**

In this sense, reflection on the choice of tools is not a secondary part of the process, but an essential component of the design expertise that the Handbook aims to develop.

5.5.2.9.7 Integrated table for module: contribution, output, tools and deliverables

To make the relationship between learning outcomes developed in the various ICT modules, project activities, expected outputs, and mandatory deliverables more visible, it is useful to introduce an integrated table that functions as a tool for orientation, connection, and cross-reading of the Project Work.

This table has an important function: it shows students that the final project is not an isolated assignment, but rather the point at which the contributions of the modules are progressively integrated, making the transition from learned skills to concrete design choices clear.

Integrated table

ICT Module	Type of contribution to the project	Student Output Example	Recommended tools	Connected deliverables
Digital Storytelling for Cultural Heritage	Narrative structuring, definition of point of view, ethics of storytelling, construction of cultural meaning	Interactive story that connects personal memories to a local tradition	Twine, StoryMapJS, ChatGPT	Cultural Asset Sheets; Concept Document; Prototype
GIS for Cultural Heritage	Spatial interpretation, territorial contextualization, reading of the relationship between heritage and places	Interactive map connecting oral traditions to places and routes	Google My Maps, QGIS, StoryMapJS, uMap	As-Is / To-Be Analysis; Concept Document
Foundations of Immersive Cultural Communication	Spatial storytelling, experience design, the relationship between space, narration, and presence	Virtual room that narrates a ritual through space	Artsteps, CoSpaces Edu, ThingLink	Concept Document; Prototype

Design and Development of Immersive Cultural Experiences	Immersive prototyping, navigation design, user experience	Low-fidelity prototype with navigation and interaction logic	Figma, Canva, CoSpaces Edu, Frame	Prototype; Creative-Technological Portfolio
Introduction to Video Game Design	Interactive logic, game mechanics, agency, feedback and engagement	Narrative level inspired by a local myth	GDevelop, Twine, Construct 3, Genially	Concept Document; Prototype
Video Game Design Technologies for Cultural Heritage	Serious game logic, technical feasibility, heritage-based prototyping	Exploratory prototype for a heritage site	Godot, CoSpaces Edu, Figma, GDevelop	Prototype; Creative-Technological Portfolio
AI-Powered Music and Audio Creation	Sound design, atmosphere, emotional involvement, sensory dimension of mediation	AI-assisted soundscape for ritual narration	Soundraw, Audacity, ChatGPT, ElevenLabs, Auphonic	Prototype; Creative-Technological Portfolio
Gender Equality and Inclusion in STEAM	Inclusion, design ethics, representation, accessibility, and attention to marginalized voices	Narrative, curatorial and layout choices that enhance female voices and accessibility	Canva, Miro, Padlet, Notion	All deliverables (cross-cutting)

5.5.2.9.8 Why this table is important, how to read and use it

The table is not merely a summary. Its value is primarily pedagogical and methodological, as it helps visualize how the learning process translates into observable design choices. In many cases, students perceive the modules as separate units; this table, however, helps understand that each module:

- provides an interpretive lens;
- activates a specific area of expertise;
- contributes to one or more phases of the Project Work;
- leaves a concrete trace in the outputs and deliverables.

In this sense, the table helps overcome a fragmented vision of the curriculum and reinforces the idea that Project Work is a place of interdisciplinary integration.

This table should be seen as a guideline, not as a rigid checklist or a linear prescription. Its purpose is to help students and teachers understand:

- how each ICT module can concretely contribute to the Project Work;
- how to connect learning, activities, outputs and deliverables;
- how to choose coherent and accessible tools based on the project;
- how to justify design choices in light of the training path undertaken.

a) Process reading tool

The table helps students see that the work done in the modules is not confined to the classroom or to a single exercise, but translates into real-world project components.

This strengthens process awareness, because it makes the transition explicit:

- from disciplinary learning;
- to a design function;
- up to an observable output.

b) Interdisciplinary integration tool

The table shows that culture, creativity, and technology are not separate phases or juxtaposed fields, but rather intertwined dimensions of a single cultural design process. This helps build a vision of the project as an integrated practice, rather than a succession of independent tasks.

c) Feasibility and accessibility tool

The presence of free, open-source, or freemium tools also makes the table useful as a realistic reference for building prototypes. Students can thus understand that it is possible to create methodologically robust projects even without advanced infrastructure or complex programming skills.

d) Tool to bring together ethics and inclusion

The table clearly highlights that the Gender Equality and Inclusion in STEAM module is not a separate block, but a cross-cutting dimension that runs through the entire Project Work. This is methodologically important because it reminds us that ethics, accessibility, representation, and inclusion should not be "tacked on at the end," but integrated into the process from the very beginning.

5.5.2.9.8 How it can be used concretely by teachers and students

For students

The table can be used:

- in the Project Work start-up phase, to understand which modules are most relevant for your case;
- during the definition of the concept, to connect the proposal to the skills developed;
- in the prototyping phase, to choose more coherent and sustainable tools;
- in preparing the Final Pitch, to demonstrate the contribution of the modules and the coherence of the path.

For teachers

The teacher can use the table:

- as support in coaching conversations;
- to help struggling groups better connect analysis, concepts, and tools;
- to guide mid-term reviews;
- as a reference during the final evaluation, especially in verifying the consistency between:
 - modules mobilized,
 - product deliverables,
 - instruments selected,
 - overall quality of the proposal.

Concluding methodological note on the table

It is important to emphasize that not all modules need to appear in every Project Work, nor do all tools need to be used in every project. The value of the table lies not in promoting encyclopaedic completeness, but in supporting a strategic, reasoned, and contextually coherent choice.

A good Project Work is not one that uses the greatest number of modules or tools, but one that manages to:

- activate truly relevant contributions;

- integrate them coherently;
- translate them into readable output;
- demonstrate a clear relationship between learning, design, and cultural value.

In this sense, the table acts as a bridge between curriculum design and project-based learning, reinforcing one of the Handbook's fundamental ideas: digital innovation in the cultural field is significant only when it arises from the intersection of reflection, creativity, method, and critical awareness.

5.5.2.9.9 Mini case examples for module

Introductory note to the grid

The cases reported below are organized according to a common framework to facilitate a cross-sectional understanding of the ICT modules' contribution to the Project Work. Each case demonstrates how a module does not act as an isolated unit, but as a methodological, interpretative, and design resource that can concretely impact one or more phases of the final project.

The grid is built around eight fixed fields:

- **Context**, to clarify the type of cultural and organizational scenario in which the project is placed;
- **Problem**, to explain the criticality or need from which the work begins;
- **Module contribution**, to show what specific theoretical-practical view the module offers the group;
- **Activities carried out**, to make the work actually done by the students observable;
- **Output**, to identify the intermediate or final products generated;
- **Connected deliverables**, to highlight the link between module activities and the formal structure of the Project Work;
- **Activated skills**, to clarify which skills are actually mobilized;
- **Methodological value**, to clarify how the case exemplifies the ART-Inspired Teaching framework.

This setting allows you to read each module not only in terms of the content learned, but in terms of the active design function.

1. Digital Storytelling for Cultural Heritage

Case: Interactive digital archive of women's oral traditions

Context

A group of students is working on designing a digital archive dedicated to women's oral traditions collected in a rural community. The available materials include audio recordings, partial transcriptions, photographs, and memories related to care practices, work, rituals, and intergenerational transmission.

Problem

The initial risk is treating the testimonies as isolated files, accessible separately but lacking a narrative structure capable of making them meaningful to the public.

In this form, the oral heritage risks appearing fragmented and unengaging.

Module contribution

The Digital Storytelling for Cultural Heritage module helps the group understand that oral heritage should not only be archived, but also narratively organized. The module's contribution consists of providing criteria to:

- select significant stories;
- build continuity between voices;
- define a point of view;
- consciously address issues of authorship, representation, and authenticity.

Activities carried out

The students:

- listen to and classify the testimonies;
- identify recurring themes;
- build a narrative sequence between the entries;
- plan a path in which each testimony introduces the next;
- discuss how to keep narrators recognizable as subjects of memory and not simply as anonymous sources.

Output

- narrative map of testimonies;
- digital path structure;
- text drafts for the concept;
- interactive archive organization scheme.

Connected deliverables

- Cultural Asset Sheet
- Concept Document
- Digital/gamified prototype
- Creative-Technological Portfolio

Activated skills

- narrative construction;
- cultural storytelling;
- content selection and organization;
- ethical reflection on voice and representation;
- narrative user experience design.

Methodological value

This case demonstrates that digital storytelling does not have a decorative function, but rather an epistemological and planning one: it allows for the transformation of dispersed materials into a coherent, meaningful experience, putting narration at the service of cultural valorisation.

2. GIS for Cultural Heritage

Case: AR App for a Traditional Ritual

Context

A group is working on an augmented reality app to accompany a traditional ritual that involves a procession through a town's historic centre, stopping at symbolically significant locations.

Problem

Initially, the group imagined activating digital content at certain points along the route, but without a real understanding of the relationship between ritual, urban space, and cultural meaning.

The risk is building a technically suggestive but spatially arbitrary AR experience.

Module contribution

The GIS for Cultural Heritage module offers tools for territorial reading and spatial thinking, helping students interpret the ritual as a phenomenon rooted in the space.

GIS is not used for technical purposes, but as a tool to understand:

- sequence of the route;
- symbolic relevance of places;
- relationship between ritual and urban fabric;
- distribution and accessibility of the experience.

Activities carried out

The students:

- map the route of the procession;
- identify key locations;
- associate a meaning or a symbolic action with each place;
- connect the points on the map to short narrative content;
- analyse how to activate AR content in a way that is consistent with the ritual.

Output

- ritual map;
- interpretative key of the places;
- AR content activation draft;
- spatial reading for the concept.

Connected deliverables

- As-Is / To-Be Analysis
- Concept Document
- Digital/immersive prototype

Activated skills

- territorial analysis;
- spatial reading of heritage;
- geographical contextualization;
- site-based design;
- relationship between space and narration.

Methodological value

The case demonstrates that GIS contributes to Project Work as a tool for cultural and territorial interpretation. It helps to avoid abstract solutions and strengthens the project's roots in real heritage sites.

3. Foundations of Immersive Cultural Communication

Case: 3D narrative game about a local myth

Context

A group develops a project inspired by a local myth to be transformed into an immersive 3D narrative experience.

Problem

The group initially tended to focus on settings, scenography, and visual rendering, risking conceiving immersion as pure graphic realism rather than a meaningful relationship between space, emotion, and narrative.

Module contribution

The Foundations of Immersive Cultural Communication module helps reframe the project in terms of experience. Students learn to consider:

- space as a narrative device;
- movement as part of the story;
- the passage between environments as a construction of meaning;
- immersive presence as a form of interpretive engagement.

Activities carried out

The students:

- break down the myth into symbolic passages;
- associate passages with spatial thresholds;
- plan the order of passage through the environments;
- think about emotion, transformation and presence;

- build a spatial storyboard of the experience.

Output

- spatial storytelling scheme;
- immersive storyboard;
- draft experience structure;
- definition of key moments of immersion.

Connected deliverables

- Concept Document
- Digital/immersive prototype
- Creative-Technological Portfolio

Activated skills

- immersive design;
- relationship between space and story;
- experience design;
- symbolic and narrative thinking;
- user-centred interpretation.

Methodological value

The case shows that immersion is not a technical effect, but a way of constructing meaning.

The module helps students use space as a cultural language and not just as a container.

4. Design and Development of Immersive Cultural Experiences

Case: Low-fidelity prototype for a ritual AR app

Context

In the same scenario as the traditional ritual, the group enters the design phase of the concrete user experience.

Problem

The group has a good project idea, but has not yet clarified how the digital content will appear, at what time, for what duration, with what intensity, and in what relationship to the rhythm of the ritual.

Module contribution

The Design and Development of Immersive Cultural Experiences module leads the group from vision to concrete simulation, helping them work on:

- navigation;
- timing of the experience;
- user attention;
- respect for rituals;
- readability of the digital overlay.

Activities carried out

The students:

- build low-fidelity mock-ups;
- simulate content activation moments;
- check whether the experience is too invasive or too poor;
- compare different sequence hypotheses;
- discuss the relationship between immersion and cultural appropriateness.

Output

- low-fidelity prototype;
- navigation/activation scheme;

- usage and review observations;
- documentation in the portfolio.

Connected deliverables

- Digital/immersive prototype
- Creative-Technological Portfolio
- Concept Document

Activated skills

- experience prototyping;
- UX design;
- iterative immersive design;
- attention to rhythm, timing and usability;
- cultural appropriateness assessment.

Methodological value

The case study highlights how the module allows for the translation of an immersive idea into a testable experience, making the quality of the relationship between digital content and cultural context observable.

5. Introduction to Video Game Design

Case: Interactive experience on a local myth

Context

A group is working to transform a local myth into an interactive experience, designed for a young audience.

Problem

At first, the group thinks of the game in terms of points, challenges, and competition, but they realize that this approach risks impoverishing the symbolic and reflective depth of the myth.

Module contribution

The Introduction to Video Game Design module introduces basic game design principles—goals, feedback, agency, rules, progression—and helps students use them to build an experience that is more interpretive than just entertaining.

Activities carried out

The students:

- define the user's form of agency;
- transform the myth into a path of choices;
- design feedback that is consistent with decisions;
- avoid irrelevant reward logics;
- link interaction and the construction of meaning.

Output

- interactive flow;
- choice and feedback scheme;
- game-based narrative structure of the concept;
- storyboard of the experience.

Connected deliverables

- Concept Document
- Digital/gamified prototype
- Creative-Technological Portfolio

Activated skills

- basic game design;

- agency building;
- interactive design;
- use of feedback as mediation;
- translation of cultural contents into dynamics of experience.

Methodological value

The case shows that game design, in the cultural sphere, is useful when it supports the user's interpretative involvement and not when it simply imports standard game mechanics.

6. Video Game Design Technologies for Cultural Heritage

Case: Exploratory prototype in a symbolic landscape

Context

As a development of the previous case, the group decides to create an exploratory proof of concept set in a symbolic landscape inspired by local legend.

Problem

The group's initial idea is too broad and risks exceeding the time, resources, and expertise available for the workshop.

Module contribution

The Video Game Design Technologies for Cultural Heritage module helps students think about:

- technical feasibility;
- prototype scale;
- respect for the heritage context;
- balance between creative ambition and sustainable implementation;
- difference between final product and proof of concept.

Activities carried out

The students:

- select a significant portion of the project;
- build an explorable symbolic environment;
- prototype a key mechanic;
- define limits and possible developments;
- prepare a presentation that clarifies that the prototype is a proof of concept.

Output

- exploratory prototype;
- feasibility note;
- future development scenarios;
- technical-cultural pitch.

Connected deliverables

- Digital/gamified prototype
- Creative-Technological Portfolio
- Final Pitch

Activated skills

- technical awareness;
- heritage-oriented prototyping;
- feasibility and scalability thinking;
- proof of concept design;
- integration between culture and technology.

Methodological value

The case study shows that the module helps students make realistic choices, avoiding both technical trivialization and unrealistic overambition.

7. AI-Powered Music and Audio Creation

Case: Soundscape for a Museum Chatbot

Context

A group designs a chatbot for a local museum and decides to accompany the narration with a light soundscape consistent with the museum's atmosphere.

Problem

The initial risk is using sound as a simple decorative background, without a real mediating function or without reflecting on the implications of using AI in audio generation.

Module contribution

The AI-Powered Music and Audio Creation module helps the group understand sound as a design component, and works critically on:

- atmosphere;
- rhythm;
- accompaniment;
- relationship between voice and soundscape;
- authorship and transparency in the use of AI tools.

Activities carried out

The students:

- experiment with AI-assisted soundtracks;
- select non-invasive sounds;
- check the balance between voice and soundscape;
- discuss the limitations and risks of using generated audio;
- document the choices in the portfolio and pitch.

Output

- prototypical soundscape;
- accompanying audio tracks;
- methodological and ethical reflection;
- audio section of the portfolio.

Connected deliverables

- Digital prototype
- Creative-Technological Portfolio
- Final Pitch

Activated skills

- sound design;
- sound dimension design;
- critical reflection on AI;
- ethical awareness;
- integration between cultural content and perceptual atmosphere.

Methodological value

The case highlights that sound, when consciously designed, strengthens cultural mediation; and that AI, when used critically, can be a tool for experimentation rather than an automatic shortcut.

8. Gender Equality and Inclusion in STEAM

Case: Digital Archive of Women's Oral Traditions

Context

The same digital archive of women's oral traditions is also read in light of the Gender Equality and Inclusion in STEAM module.

Problem

The risk is that women are represented solely as passive bearers of traditions, or that the interface and language design is not truly inclusive.

Module contribution

The module provides a transverse lens that orients:

- selection of voices;
- language and tone of the story;
- interface accessibility;
- inclusive design;
- collaborative dynamics of the group.

Activities carried out

The students:

- redefine the content selection criteria;
- valorise women as active subjects of knowledge and memory;
- adopt inclusive language choices;
- review layout and accessibility;
- manifest the transversal role of inclusion in the As-Is / To-Be and in the portfolio.

Output

- inclusive concept review;
- representation and accessibility criteria;
- interface and content modification;
- cross-cutting reflections across all deliverables.

Connected deliverables

- As-Is / To-Be Analysis
- Concept Document
- Prototype
- Creative-Technological Portfolio
- Final Pitch

Activated skills

- inclusive design;
- ethical and critical awareness;
- attention to representation and accessibility;
- fair collaboration;
- distributed creative leadership.

Methodological value

This case demonstrates with particular clarity that inclusion and ethics are not additional modules, but transversal dimensions of the project that impact content, interfaces, languages, processes, and forms of collaboration.

Concluding methodological note

Each ICT module can contribute to the Project Work according to its own specific function:

- some modules strengthen narrative and cultural reading;
- others help build spatial and territorial relationships;
- others still support experience design, interactive prototyping, technical feasibility, the sound dimension, or ethical and inclusive transversality.

Taken together, these cases show that Project Work is the place where the curriculum becomes integrated design practice, and that the contribution of the modules is made visible not in an abstract way, but through practically observable activities, outputs, deliverables, and skills.

5.6 Project Work Examples

5.6.1 Pedagogical function of Project Work examples

The Project Work examples should not be understood as models to be mechanically replicated, but as orientation devices that help students and teachers understand how the Handbook's principles can be translated into coherent, realistic, and culturally grounded design practice.

Their function, within the course, is threefold.

The first function is methodological: the examples demonstrate how to move from a real cultural context to a digital or game-based mediation proposal, avoiding both theoretical abstraction and technological improvisation. In this sense, they help us see Project Work not as a sum of tasks, but as a structured process that begins with analysis, progresses through creative exploration, defines a transformative vision, builds a concept, and arrives at a prototype. The second function is educational: the examples demonstrate the connection between the training modules and the final project. They allow students to understand how the learning developed in the various ICT modules and art-based activities can be concretely implemented, and how each module can impact specific phases of the project.

The third function is orienting and reflective: the examples help students understand that good Project Work does not arise from the choice of an attractive technology, but from the construction of a coherent relationship between:

- cultural heritage;
- problem or need;
- public;
- form of mediation;
- user experience;
- selected instruments;
- sustainability of the prototype;
- cultural, educational and social value of the proposal.

From this perspective, case studies have the task of demonstrating not only what is produced, but how it is produced, with what questions, through what steps, and with what methodological quality.

5.6.2 How to read Project Work examples

Each example should be read as a design trajectory, not as a technical data sheet or a showcase of tools. In particular, teachers and students should always observe:

- **how cultural heritage is identified** and in what relationship between material and immaterial component;
- **what problem is being formulated**, and whether this problem is cultural, communicative, organizational or experiential;

- **how the To-Be vision is built**, avoiding generic or excessively technological solutions;
- **what role art-based practices have**, and how they help move from intuition to design;
- **what kind of digital or gamified solution is imagined**, and whether it is consistent with the context;
- **how training modules are mobilized**;
- **how the prototype is made**, intended not as a finished product, but as a tool for exploration and validation;
- **how the final documentation is structured**, which in the ART-Inspired Teaching framework is not an administrative attachment, but an integral part of learning.

5.6.3. Case 1 – AR-driven video game for intangible and tangible Cultural Heritage preservation (UNIZG)

1. Brief description:

Development of a mobile AR application for the Zrinski Topolovac region that allows visitors to "see" and "hear" the animated reconstruction of the Babotučka vojna (read: Babotuchka voina). The app focuses on the clever trickery used by local women to repel the Ottoman scouts, using traditional clappers (*čegrtaljke*), household items as "weapons of wit", disguises of ancient fairies and mythical beasts of Bilogora, and other subterfuges.

2. Identification of the Cultural Asset

- **Intangible:** The legend of Babotučka vojna; the specific rhythmic use of *čegrtaljke* (clappers); the oral history of female-led resistance during the Ottoman wars; mythical creatures of legend from Bilogora.
- **Tangible:** Traditional Bilogora costumes; ceremonial *čegrtaljke*; archaeological remains or replicas of the Zrinski-era fortifications; 16th-century household artifacts (pots/pans) used in the legend.

3. As-Is Problem

Current situation (Problem):

- **Static Representation:** The folk tale is currently preserved primarily as a theatrical play, prose story, or oral tradition, limiting its reach to specific performance times and locations.
- **Limited Audience Engagement:** Without interactive elements, the rich history of traditional tools, household items, and the role of strong female characters remains passive for the viewer.
- **Geographical Constraints:** Knowledge of this Bjelovarsko-bilogorska county heritage is largely confined to the local rural area, missing broader tourism potential.
- **Minimal Digital Presence:** There is a lack of high-fidelity digital assets (digital twins) or interactive platforms to preserve and promote the heritage for younger, tech-savvy audiences.

4. To-Be Vision

Proposed solution (Goal):

- **Gamified Experience:** Development of a history-based video game that transforms the folk tale into an active, discovery-oriented "Sandbox" or "Detective" experience.
- **Interactive Cultural Learning:** Players interact with digital twins of traditional tools and household items, making cultural learning "dynamic" rather than "static".
- **Digital Preservation & Tourism:** Use of technologies like photogrammetry and LiDAR to create a digital twin of the historical context, aiding long-term preservation and attracting virtual tourists to rural Croatia.
- **Interdisciplinary Engagement:** Collaboration between the Women's Association Katarina Zrinska and game designers to ensure historical fidelity while empowering local rural identity through technology.

5. Creative Stimulation (Art-based Coaching)

- **Art Metaphor Mapping:** Interpreting household pots and pans as "helmets of wit" and symbols of domestic strength.
- **Embodied Sketching:** Using the physical gestures of spinning a *čegrtaljka* to define the animation triggers.
- **Visual Story Seeds:** Early storyboarding focusing on the "sonic wall" created by the women, moving on to disguises and other trickery.
- **Outputs:** A moodboard of Bilogora folk art and a storyboard of the women scaring off the scouts.

6. Concept:

An AR game built in Godot, centred around subterfuge and deception as defensive tools.

Key Elements:

- **AR Passthrough:** Using the phone's camera to place 3D "spirit-like" female characters in the real-world environment of Zrinski Topolovac.
- **Shake Interaction:** Players must physically shake their phone (mimicking a clapper) to generate the "noise meter" required to win the level.
- **Narrative Layers:** AI-generated local voices telling the story of the women's cleverness.
- **3D Reconstruction:** High-fidelity models of localities with possible reconstructions, and action animations; optimized for mobile performance.
- **Voice-over:** Local dialect narration based on authentic folklore.

- Gamified Mini-interaction: Users must rhythmically "spin" a digital clapper to maintain the "noise level" required to scare away the AR Ottoman scouts.
- Female Representation: Highlighting the historical role of women as strategic agents.

7. Digital Prototyping

- **Object modeling:** Using photogrammetric scans of authentic *čegrtaljke*. Modeling folk and historic attire via texture scans.
- **User-oriented context library:** Orientative data about historic events, figures, localities, mythical beasts, household items, dresses, and traditions as a pop-up when reaching a story point or real location.
- **Scientific Transparency:** A UI toggle that shows the "Certainty Level" of the reconstruction, distinguishing between documented Ottoman armor and legendary female attire.
- **Engine:** Godot with the Godot OpenXR Vendors Plugin for mobile AR support.
- **Logic:** Utilizing Godot XR Tools for easy setup of the AR camera rig and object interactions.
- **Optimization:** Using Godot's lightweight renderer to ensure high-performance 3D on mid-range smartphones.

8. CULT modules used:

- **Digital technologies for Cultural Heritage:** as a general strategy via integrated technological representation of cultural heritage.
- **Inclusion of girls in technology:** a female-centered story will provide additional motivation to female developers and learners.
- **Technologies for extended reality:** used extensively for action sequences, story points, and presentation
- **GIS for Cultural Heritage:** setting markers for localities and story markers, geographical story line triggers.

9. Testing and Validation:

- User Tests: Conducted with visitors at the "Babotučka vojna" manifestation and school groups in Bjelovar and Zrinski Topolovac.
- Feedback: High hedonic satisfaction (fun with the noise-making) but a need to improve the eudaimonic outcome (deeper reflection on the plight of borderland communities).
- Validation: Ensuring the "Digital Twin" of the artifacts remains functional for museum management.

10. Final documentation:

The package includes the prepared pre-implementation documentation for the game, showcasing the defence by trickery mechanic, design, available cultural resources, and storage plans. If there is a capacity to delve into implementation, then the implemented game, the program, and user documentation are expected as deliverables.

11. Expected Impact:

- **Preservation:** Digital documentation of the legend for future generations.
- **Educational Transfer:** Moving beyond "fun" to help visitors understand the ethical choices and bravery of historical figures.
- **Economic Growth:** Increased "digital-first" tourism for the Zrinski Topolovac region.
- **Community Pride:** Revitalizing the legend through a modern medium.
- **Technological Sovereignty:** Using open-source tools means the local museum owns the software and can update it without paying recurring licensing fees.
- **Educational Accessibility:** Providing a high-quality educational tool that works on the devices visitors already carry in their pockets.

5.6.4. Case 2 – AR App for a Traditional Ritual (CONFORM)

5.6.3.1 Case overview

This case study involves the design of an augmented reality mobile app aimed at making a traditional ritual related to the agricultural cycle understandable and culturally accessible, a ritual that today is no longer fully practised in person. The context is a local museum that preserves ceremonial objects related to the ritual, but fails to effectively communicate its symbolic, gestural, and community meaning.

This case is particularly useful from an educational perspective because it demonstrates how Project Work can arise from a very common situation in contemporary cultural contexts: the presence of a highly significant heritage, yet partially "silent" or difficult to activate for the public, especially when its living, performative, or community dimension has weakened over time.

In this scenario, augmented reality is not introduced as a spectacular technology, but as a possible form of interpretative mediation, capable of connecting:

- museum object;
- ritual gesture;
- local memory;
- narration;
- visitor experience.

5.6.3.2 Project Brief

Brief description

Development of an AR mobile application that allows museum visitors to "see" the animated reconstruction of a traditional ritual starting from the ceremonial objects on display, including:

- gestures;
- meanings;
- symbols;
- performance sequence;
- relationship with the community and with the agricultural cycle.

Pedagogical function of the brief

The brief is constructed in such a way as to not simply ask for an "augmented reality app," but for augmented cultural mediation, that is, a proposal capable of making accessible something that today is no longer immediately observable or comprehensible.

This is a key point: a well-formulated brief does not require technology, but rather the cultural value to be made experienceable. In this specific case, augmented reality is justified because it allows for the overlapping of:

- the object present;
- the absent gesture;
- the implicit symbol;
- the narrative voice that explains its function.

5.6.3.3 Identification of cultural heritage

In this case, the identification of cultural heritage must be approached in an integrated manner, recognizing the relationship between tangible and intangible heritage.

Intangible component

- traditional annual ritual linked to the agricultural cycle;
- sequence of symbolic gestures;
- community and religious meanings;
- local memory;
- intergenerational transmission practices.

Material component

- ceremonial objects preserved in the museum;
- any costumes, instruments, artefacts and iconographic supports connected to the ritual;
- exhibition spaces where such objects are currently displayed.

Methodological value

This dual level is crucial because it prevents the project from being reduced to a simple "digitization of objects." The core of the work, in fact, consists in highlighting that:

- the object alone is not enough to communicate the ritual;
- the ritual, without its material supports, risks remaining abstract;
- mediation must combine physical presence and performative absence.

It is precisely this tension between what remains and what is no longer seen that constitutes the core of the case's design.

5.6.3.4 As-Is Situation Analysis

As-Is Problem

The analysis of the current situation highlights three main critical issues:

1. The ritual can no longer be fully performed live

Historical, social, or organizational conditions no longer allow for the direct restitution of the ritual experience in its original form.

2. The museum visit does not communicate the symbolic meaning

The objects on display are present, but the visitor struggles to understand their function, use, gesture and cultural value.

3. Educational resources are limited

The museum does not have sufficiently engaging tools to accommodate different audiences, particularly young visitors or non-expert users.

Methodological insight

The strength of As-Is lies not only in the list of critical issues, but in their interpretation.

In this case the problem is not “an app is missing”, but rather:

- there is a lack of mediation capable of restoring the link between object and action;
- there is a lack of experience that transforms passive observation into active understanding;
- there is a lack of access that makes the ritual readable even for those who do not belong to the community or do not already possess its cultural codes.

This step is essential to avoid the tool-driven drift: augmented reality is not the starting solution, but one of the possible answers to a problem of visibility of meaning.

5.6.3.5 To-Be Vision

The project imagines an augmented experience in which the visitor, observing the real object, can activate an animated reconstruction of the ritual that shows:

- the gesture;
- the sequence;
- the symbolic context;
- the link with local memory;
- the narrative voice that accompanies the reading.

Expected effects of the transformation

The To-Be vision aims to produce a transformation on multiple levels:

- **cognitive**, because it makes the ritual understandable;
- **experiential**, because it increases immersion and involvement;
- **emotional**, because it restores the link with the community and memory;
- **educational**, because it offers a more accessible form of learning;
- **museographic**, because it transforms the visit from observation to interpretive experience.

Methodological value

A good To-Be vision does not just describe the technology, it clarifies:

- what changes for the user;
- what changes for the institution;
- what kind of cultural value is generated.

In this specific case, the point is not to “have a 3D reconstruction”, but to allow the visitor to understand how the ritual was lived, what the gestures meant and why the exhibited objects are part of a larger cultural practice.

5.6.3.6 Creative stimulation and art-based coaching

Function of the creative phase

In this case, art-based practices do not serve to decorate the project, but to allow students to work on the transition from:

- gesture object;

- symbolic gesture;
- story symbol;
- story based on experience.

Art-based tools applied

1. Art Metaphor Mapping

Students construct a symbolic map of the ritual, working on metaphors that help interpret objects and actions not only in functional terms, but in terms of meaning.

2. Embodied Sketching

Ritual gestures are observed, imagined or reconstructed and then translated into sketches, so as to make the corporeal dimension of the action visible.

3. Visual Story Seeds

The group produces visual narrative seeds, that is, micro-sequences that help hypothesize the user's future experience.

Output of this phase

- moodboard;
- metaphorical map of the ritual;
- initial storyboard;
- symbolic nuclei of the concept.

Methodological value

This phase is crucial because it prevents AR design from starting immediately with the technique. Before defining object recognition, animation, or overlay, students must clarify:

- what they are translating;
- which gesture is central;
- which symbol should be made accessible;
- what interpretative experience they want to build.

5.6.3.7 Digital/gamified solution concept

Concept

The concept consists of an AR mobile app that recognizes the ceremonial objects on display and activates an animated reconstruction of the ritual, accompanied by:

- narrative voice-over based on local stories;
- textual or visual contextualization elements;
- light gamified micro-interactions;
- presence of female figures as main narrative agents.

Key elements of the concept

- object recognition in AR;
- 3D animations of the ritual;
- voice narration;
- mini-quizzes or micro-interactions;
- inclusive and representation-conscious perspective.

Methodological insight

This is a stage where the teacher must help the group distinguish between:

- **structural functions**, which are truly useful for mediation;
- **accessory functions**, which could weigh down the prototype without increasing its cultural value.

For example:

- object recognition has a strong function, because it connects physical presence and reconstruction;
- the voice-over has a strong function, because it accompanies the meaning;
- the mini-quiz only makes sense if it helps understanding and does not trivialize the ritual.

5.6.3.8 Digital prototyping

Prototype components

The prototype may include:

- object recognition simulation;
- one or more key 3D animations;
- a voice-over track;
- a quiz-based micro-interaction;
- storyboard or mock-up of screens and activations.

Guiding criterion

The prototype should not be thought of as a finished product, but as a learning and validation artifact.

Its purpose is to show:

- the logic of experience;
- the relationship between object and digital content;
- the quality of mediation;
- the pace of usage.

Methodological value

At this stage it is particularly important to maintain a balance between:

- design ambition;
- clarity of concept;
- technical sustainability.

A good prototype, in this context, is not the most complex one, but the one that best demonstrates the relationship between:

- cultural heritage;
- ritual;
- user experience;
- technological choice.

5.6.3.9 CULT modules mobilized in the case

This case allows us to demonstrate the integration between modules very clearly:

- **XR Technologies / Foundations of Immersive Cultural Communication**
for the design of augmented experience and the relationship between space, object and content;
- **AI for Heritage / AI-Powered Music and Audio Creation**
for the construction of voice-overs or AI-assisted sound components;
- **Digital Technologies for Cultural Heritage**
for the digitization of objects and their translation into interactive media;
- **Gender Equality and Inclusion in STEAM**
for the choice of female figures as the main narrative agents and for a reflection on voice, inclusion and accessibility;
- **Digital Storytelling for Cultural Heritage**
for the construction of the narrative structure of mediation.

Methodological value

This case demonstrates how Project Work is an interdisciplinary synthesis. No single module alone "makes the project"; the project takes shape when the modules' contributions are coherently integrated.

5.6.3.10 Testing and validation

Testing activities

The prototype is tested with:

- museum staff;
- visitors;
- possibly small groups of students or mediators.

Feedback collected

Feedback may highlight, for example:

- high level of immersion;
- need for greater contextualization;
- need to slow down the pace of the narrative;
- greater clarity in the relationship between gesture and meaning.

Methodological value

Validation is used to show that:

- the project does not end with the conception;
- the prototype is a tool for discussion and improvement;
- debate with the real context is an integral part of the process.

5.6.3.11 Final case documentation

Final outputs

- AR app or simulation/prototype;
- demo video;
- As-Is / To-Be Canvas;
- storyboard;
- concept document;
- prototyping board;
- reflective synthesis.

5.6.4 Final documentation as a conclusive and integrative phase

The Final Documentation represents the final and integrative phase of the Project Work.

Its function is not merely archival or bureaucratic, but epistemic, pedagogical and professionalizing.

In fact, it allows you to show:

- the logic of the project;
- the path followed;
- the decisions made;
- the relationship between analysis, creativity, technology and reflective learning.

In the ART-Inspired Teaching framework, final documentation should be considered a learning artifact. It helps students:

- reconstruct the path;
- make methodological coherence explicit;
- argue the final proposal;
- transform design experience into transferable knowledge.

At the same time, the documentation provides teachers with a clear basis for evaluation consistent with the Handbook's quality standards.

The final documentation then acts as:

- summary of all mandatory deliverables;
- traceability of decisions, reviews and iterations;
- learning reflection device;
- professional artifact transferable to CCI contexts.

5.6.4.1 Components of the final documentation

The final documentation should include a curated and organized selection of materials, structured into a coherent narrative of the project. The main core elements include:

- **As-Is / To-Be Canvas**
- **Concept Storyboard**
- **Prototype Documentation**
- **Reflective Learning Synthesis**

These components should not be understood as separate attachments, but as parts of a single document architecture.

5.6.4.2 Template 1 – As-Is / To-Be Canvas

The As-Is/To-Be Canvas serves as a visual and analytical summary of the cultural and organizational transformation undertaken by the project. Its value lies in condensing into a readable format:

- the initial problem;
- the current situation;
- the vision of change;
- the strategic bridge between the two conditions.

AS-IS / TO-BE CANVAS (Template)

Context / Organization

.....

AS-IS (Current Situation)

- Cultural asset status:
.....
- Current user experience:
.....
- Digital maturity:
.....
- Critical issues and limitations:
.....
- Unmet needs:
.....

TO-BE (Desired Scenario)

- Vision of transformation:
.....
- Target users and experience:
.....
- Role of digital technologies:
.....
- Cultural, social and educational value:
.....
- Alignment with twin transition (digital + sustainability/inclusion):
.....

STRATEGIC LINK

How does the proposed solution bridge As-Is and To-Be?

.....

Methodological indication

The Canvas should not be filled out in a descriptive or generic way, but should make the logical transition between problem and transformation visible.

5.6.4.3 Template 2 – Concept Storyboard

The storyboard translates the conceptual vision into a temporal and experiential sequence.

It is especially important in projects that are:

- narrative;
- immersive;
- gamified;
- interactive.

CONCEPT STORYBOARD (Template)

Step / Scene	User Action or Situation	Narrative / Meaning	Digital or Artistic Mediation
1			
2			
3			
4			
5			

Notes on user experience and emotional progression:

.....

Methodological indication

The storyboard should show not only “what happens,” but how the meaning of the experience is constructed and how digital or artistic mediation accompanies the user journey.

5.6.4.4 Template 3 – Prototype Documentation Sheet

This template documents the prototype as a learning artifact, focusing not on technical completeness, but on:

- intention;
- interaction logic;
- integration of cultural content;
- feedback and iteration.

PROTOTYPE DOCUMENTATION (Template)

- Prototype type:
 - ☐ Interactive story
 - ☐ Game
 - ☐ AR/VR experience
 - ☐ Chatbot
 - ☐ Digital archive
 - ☐ Other
- Tools and platforms used:

.....
- Core interaction logic:

.....
- Cultural content integrated:

.....
- User experience goals:

.....

Iteration and Feedback

- Testing activities carried out:

.....
- Key feedback received:

.....
- Changes implemented:

.....

Methodological indication

The prototype should be documented as a construction and review process, not as a static product.

5.6.4.5 Template 4 – Reflective Learning Synthesis

Reflection is central to the ART-Inspired Teaching approach. For this reason, the final documentation must include a reflective summary that transforms the experience into transferable learning.

REFLECTIVE SYNTHESIS (Template)

What did we learn about the cultural context?

.....

What did we learn about designing with digital technologies?

.....

What role did art-based practices play in the process?

.....

Main challenges and how they were addressed:

.....

How does this project contribute to our development as cultural and creative professionals?

.....

Methodological indication

The reflection should not be limited to telling "what we did", but should make explicit:

- what we understood;
- what has changed in our way of designing;
- what skills we have developed;
- how the project transformed us as future professionals.

5.6.4.6 Pedagogical coherence and evaluation

The final documentation should not be evaluated based on the number of pages or formal perfection, but with respect to quality criteria consistent with the framework:

- clarity of reasoning;
- traceability between phases;
- consistency between analysis, concept and prototype;
- reflective depth;
- cultural relevance;
- ethical sensitivity;
- alignment with the ART-Inspired Teaching methodology.

The teacher is encouraged to use the documentation as a dialogic tool, useful for feedback and reflective discussion, rather than as a simple object of summative judgment.

Beyond its academic function, the final project documentation should be considered a potential component of a professional portfolio. Organizing the project in a clear, communicable, and reasoned format allows students to develop skills that are directly transferable to the context of the Cultural and Creative Industries, where:

- document processes;
- submit projects;
- justify choices;
- reflect on learning

are essential professional skills.

In this sense, the final documentation does not close the Project Work as a terminal point, but opens it as a bridge between learning and professional practice.

5.6.5. How should a Project Work be set up that is consistent with the project?

Project work consistent with the training program and curriculum modules must not arise from the choice of technology, but from the correct articulation of some fundamental questions:

- What cultural heritage are we reading and valorising?
- What interpretative, communicative, or experiential problem emerges from the context?
- What To-Be transformation do we want to make possible?
- Which type of mediation is most consistent with the good, the audience, and the context?
- Which modules of the course contribute most directly to this proposal?
- What level of prototyping is realistic and methodologically sufficient?
- How do we document the process to make it traceable, reflective, and transferable?

Project Work should always be built through a balance between five dimensions:

1. Cultural roots

The project must arise from a genuine understanding of the cultural asset, its context, and its tangible and intangible dimensions. Technology cannot compensate for a poor understanding of heritage.

2. Methodological coherence

Each step—from As-Is to concept, from concept to prototype—must be logically justified. The value of the project depends on the quality of the connections between the phases.

3. Relevance of mediation

The proposed solution must be appropriate to the content, the audience, and the organization involved. Not every cultural asset requires an immersive experience, a chatbot, or gamification.

4. Ratio between ambition and feasibility

The prototype must demonstrate the logic of the experience, not overly simulate an unrealistic final product. The quality of the project work depends not on technical completeness, but on the conceptual clarity and relevance of the prototyping.

5. Reflection and documentation

Each project should make its process visible: what choices were made, why, what revisions were made, what was learned.

5.6.5.1 How teachers can use the case example

The fully completed example case can be used by teachers in at least four ways:

a) As an initial orientation device

At the beginning of the Project Work, the case study helps students understand what it means to produce a coherent, complete and well-documented project.

b) As a reference during coaching

During reviews, the teacher can use the case to show examples of:

- clear formulation of the problem;
- building the To-Be vision;

- consistent use of storyboards and prototype sheets;
- integration of the final reflection.

c) As a qualitative benchmark

The case study can serve as an example of a “good standard,” not in terms of content to be imitated, but in terms of methodological quality, clarity, traceability, and consistency.

d) As an assessment aid

It can help clarify the quality criteria of deliverables and distinguish between:

- formally correct but weak project;
- technically simple but methodologically strong project;
- reflective and culturally grounded project.

5.6.5.2 How students should read the gold standard case study

It is also important for students to clarify that the case study should not be read as a “model to copy,” but rather as an example to question. In particular, students should observe:

- how the problem is formulated;
- which elements of the As-Is are truly relevant;
- how the To-Be vision does not coincide with technology but with the transformation of experience;
- how the concept is translated into a storyboard;
- how the prototype is documented realistically;
- how the final reflection does not simply describe the work, but makes the learning explicit.

5.6.5. Case 3 – Interactive Installation on Traditional Valencian Clothing at L'ETNO (C-LINK)

1. Brief Description

L'ETNO — Museu Valencià d'Etnologia, elected European Museum of the Year in 2023, documents and exhibits the popular and traditional culture of Valencia. Within its permanent exhibition on urban Valencian life (La Ciutat), and at the transition point leading into the Horta i Marjal section, the museum hosts a small interactive installation: a large screen equipped with depth sensors that detects the visitor's silhouette when they step into a marked area, and overlays digital representations of traditional Valencian garments onto their body. Visitors can cycle through different garments using simple gestures. The interaction is brief and accessible, designed for a general audience including families and children.

This case study reconstructs how the design process for such an installation could be developed following the ART-Inspired Teaching methodology. It illustrates how students can engage with an existing digital enhancement as a meaningful cultural project, emphasising that cultural value can be strengthened through thoughtful refinements to what is already in place. This kind of intervention demonstrates that small actions can meaningfully contribute to a museum's digital development through small-scale, conceptually grounded improvements that do not require advanced technical complexity.

2. Identification of the Cultural Asset

Intangible heritage:

- Social and symbolic meanings of traditional Valencian clothing: its role in marking identity, occasion, gender, and community belonging.
- Festive, ritual, and everyday practices associated with the wearing of specific garments.
- Intergenerational transmission of textile knowledge and dressing customs.

Tangible heritage:

- Traditional garments held in L'ETNO's collection, which forms part of the museum's holdings of approximately 15,000 objects.
- Accessories, fabrics, and handcrafted elements associated with specific social contexts (e.g. Fallas festival).
- Photographic archives and ethnographic documentation held by the museum.

3. As-Is Analysis

Cultural asset status. Although traditional clothing appears occasionally in temporary exhibitions, the area where the installation is located does not include physical garments or interpretive panels. The symbolic and social dimensions of dress are not communicated by the device itself; this interpretation depends on the presence of a guide during organised visits.

Current user experience. The installation offers a playful, selfie-like moment: visitors see themselves wearing digital versions of traditional garments and can change them with a gesture. The interaction is engaging and accessible, but operates at the level of visual recognition rather than cultural interpretation. No contextual information is provided about the garments, their use, or their meaning.

Digital maturity. The installation uses body-detection and graphic-overlay technology via depth sensors. There is no narrative layer, no audio, and no adaptive content.

Critical issues. The cultural asset is activated visually but not narratively or symbolically. Without a guide present, the playful interaction does not connect visitors to the ethnographic value of the clothing, and the educational potential of the device is largely untapped.

Unmet needs. Contextualisation of the garments within Valencian cultural life; activation of the intangible dimensions of clothing (memory, identity, occasion, transmission) within the device itself; a more interpretively meaningful experience that does not require the presence of a guide to deliver cultural value.

4. To-Be Vision

Vision of transformation. Enrich the existing installation with a narrative layer that allows visitors not only to see themselves wearing the garments, but to understand something of their cultural meaning through a brief, optional interpretive experience integrated into the existing interaction, without altering its playful character.

Target users. General visitors seeking an engaging, accessible introduction to Valencian heritage; families and school groups who benefit from embodied, interactive learning; international visitors unfamiliar with local traditions; independent visitors who arrive without a guided tour.

Role of digital technologies. The core interaction (silhouette detection and garment overlay) is preserved as the primary entry point. The To-Be scenario adds: a short contextual caption triggered when a garment is displayed; an optional audio layer drawing on the museum's oral history resources; and a visual cue indicating that more information is available for visitors who choose to engage further.

Cultural and educational value. The enriched installation positions clothing as a carrier of memory and identity rather than a purely visual artefact, making interpretive content accessible to all visitors regardless of whether a guide is present.

Alignment with the twin transition. Digital innovation applied to cultural sustainability; inclusion of community voices and oral testimonies; use of lightweight technology integrated into an existing device, avoiding unnecessary resource expenditure.

5. Creative Stimulation (Art-Based Coaching)

Tools applied:

- **Evocative object analysis:** tracing the biographical histories of specific garments (who would have worn them, when, and with what meaning) as a way of activating the intangible dimensions of the collection before approaching the design problem.
- **Embodied sketching:** physically enacting the gestures associated with dressing (fastening, layering, adjusting) to identify which moments carry the most cultural significance and can inform interaction design.
- **Metaphor mapping:** clothing as identity, protection, memory, belonging, and social role, to guide early decisions about what the narrative layer should communicate.
- **Visual story seeds:** brief scene sketches (a festival morning, a working day in the city, a family gathering) as raw material for the contextual micro-narratives.

Outputs:

- Moodboard connecting garments, contexts, gestures, and social meanings.
- Metaphor map linking specific items to interpretive themes.
- Initial storyboard for the enriched interaction, identifying entry points, narrative triggers, and optional depth layers.

6. Concept of the Digital Solution

The proposed concept enriches the existing installation without replacing or technically overhauling it. The silhouette detection and garment overlay remain the primary interaction. When a garment is displayed, a short contextual caption appears on screen: the occasion associated with the garment, the type of person who would have worn it, and one phrase drawn from the museum's oral history archive. An optional audio layer allows visitors who wish to hear more to access a brief spoken testimony. The design is intentionally light: the interpretive layer does not interrupt the playful interaction but extends it for those who choose to engage further.

The concept demonstrates a principle that is central to the CULT curriculum: digital solutions for cultural heritage do not need to be technically ambitious to be culturally meaningful. The added value here lies in the design decisions (what to say, how much, at what moment, and in what tone) rather than in the technology itself.

7. Digital Prototyping**Prototype components:**

- Short contextual texts developed in collaboration with the museum's curatorial team, one per garment displayed.
- Audio clips drawn from the museum's existing oral history materials.
- Interface logic for triggering the narrative layer at the moment of garment display.

Approach. Prototyping followed a low-fidelity first principle: the narrative layer was tested using printed cards and a facilitator before building any digital component, validating whether the contextual information enhanced or disrupted the visitor experience. Digital implementation followed only after this conceptual validation.

8. CULT Modules Applied

The following modules informed the process of analysing and enriching the existing installation, rather than the original development of the device:

- **Digital Technologies for Cultural Heritage:** conceptual framework for approaching the garment collection; ethical reflection on whose stories are represented and who has access to the cultural content.
- **Web 3D and Immersive Communication:** interaction design principles; user journey mapping; accessible interface logic for layering interpretive content onto an existing device.
- **Inclusion of Girls in Technology:** attention to the gendered dimensions of traditional clothing, including women's roles in the transmission of textile knowledge.

9. Testing and Validation

Testing focused on observing how visitors interacted with the existing installation and on validating whether the proposed interpretive layer enhanced the experience without disrupting its playful nature. Paper-prototype sessions with small visitor groups and feedback from museum educators helped refine the amount, tone, and timing of the contextual information. Key findings confirmed that the playful dimension should remain unaltered, that visitors welcomed minimal contextual prompts, and that the optional depth model was preferred over a more information-heavy approach.

10. Final Documentation

- As-Is / To-Be Canvas.
- Interaction storyboard documenting the user journey from garment selection to optional interpretive engagement.
- Prototype documentation sheet including paper prototype results and design rationale.
- Reflective synthesis on the process of enriching an existing institutional device rather than designing from scratch, and on what that constraint reveals about the conditions of real cultural technology work.

11. Expected Impact

Cultural impact. Activation of the textile collection as a living cultural asset; increased visibility of the social and gendered dimensions of traditional Valencian clothing; interpretive access for visitors who arrive without a guide.

Educational impact. Enhanced interpretive depth for visitors who choose to engage; a replicable model for enriching other interactive devices in the museum's permanent exhibitions.

Institutional impact. A low-cost, low-risk intervention that builds on existing infrastructure; a demonstration of how student projects can contribute meaningfully to a museum's digital development.

Pedagogical impact. A demonstration that culturally meaningful digital work can be achieved also without complex technology developments.

5.6.6. Case 4 – AI Chatbot for a Local Museum (UT)

1. Brief description:

The Museum of Natural Sciences Sabiha Kasimati, part of the University of Tirana's Faculty of Natural Sciences, is one of Albania's most significant scientific institutions. Founded in 1948 as part of the Institute of Sciences and bearing the name of pioneering Albanian biologist Sabiha Kasimati since 2010, the museum holds over 3,000 exhibits and a scientific fund of more than 100,000 specimens documenting Albanian fauna and flora: entomofauna (237+ insect species), herpetofauna, ornithofauna, mammaliofauna, and macrobentofauna, alongside collections of exotic butterflies, minerals, and rock specimens. Despite representing one of the country's largest scientific heritage assets, its interpretive infrastructure for general and young audiences remains largely underdeveloped: the collections are accessible to researchers and biology students but not to the broader public through interactive or adaptive means.

This case study presents the design of an AI-powered conversational chatbot that gives voice to Sabiha — a composite character constructed from the scientific legacy, fieldwork records, and biographical history of Sabiha Kasimati herself — allowing museum visitors, especially young and school-age audiences, to engage in guided narrative dialogue with Albania's natural heritage through the persona of the scientist who devoted her life to documenting it. The project demonstrates how AI technologies can make specialised scientific collections accessible and emotionally meaningful to non-specialist audiences, while modelling responsible, source-grounded digital storytelling.

2. Identification of the Cultural Asset

- Intangible:** The scientific and intellectual legacy of Sabiha Kasimati and the generation of Albanian biologists who built the national natural history collection under difficult institutional conditions; the fieldwork traditions and observational practices through which Albanian fauna and flora were first systematically documented; oral and written histories of scientific discovery in Albania, including the identification of species new to science (e.g. *Peripodisma llofizii*, *Melanargia galathea vrenozina*); the pedagogical mission of the museum as a space for biology education from undergraduate to doctoral level.
- Tangible:** Over 3,000 exhibits and a scientific fund of more than 100,000 specimens from Albanian fauna; entomofauna collections (237+ insect species); herpetofauna, ornithofauna, mammaliofauna, and macrobentofauna collections; exotic butterfly collections; specimens of trees, shrubs, minerals, and principal rock formations; biodiversity pavilions illustrating the evolution of living organisms; archival scientific documentation associated with Kasimati's research career.

3. As-Is Problem

- The museum's collections are primarily oriented towards specialist researchers and biology students; interpretive tools for general visitors, families, and school groups are limited.
- The story of Sabiha Kasimati — whose name the museum bears — is not communicated to visitors through any interactive or narrative mechanism; her scientific legacy remains largely invisible in the visitor experience.
- Specimen labels and taxonomic descriptions are scientifically accurate but do not invite emotional engagement or personal connection, particularly for younger audiences unfamiliar with biological nomenclature.
- The museum's role as an active research centre — monitoring and inventorying Albanian fauna — is not communicated in ways accessible to non-specialist visitors, limiting public understanding of the institution's ongoing scientific significance.
- The contribution of women to Albanian science, with Kasimati as its most prominent figure, has no dedicated interpretive presence in the exhibition.

4. To-Be Vision

A conversational AI chatbot embodying Sabiha — a character constructed from Sabiha Kasimati's documented scientific biography, fieldwork records, and the institutional history of the museum she helped build — accessible via QR codes at six points across the museum's exhibition spaces. Sabiha speaks as a scientist and as a person: she can introduce a butterfly specimen and explain what it took to collect and classify it; she can describe what the Albanian highlands looked and sounded like during a field expedition; she can speak about what it meant to be a woman building a scientific institution in mid-twentieth-century Albania. Her composite nature is disclosed to visitors: Sabiha acknowledges that her voice draws on the historical record of the real scientist and the collections she contributed to, and consistently directs visitors back to the physical specimens around them.

5. Creative Stimulation (Art-Based Coaching)

Tools applied:

- **Evocative object analysis:** students select three specimens from the collection — an insect from the entomofauna series, an exotic butterfly, a mineral from the rock exhibition — and write a first-person reflection in Sabiha's voice: what this specimen meant to collect, what it reveals about Albanian natural heritage, what question it opens. This grounds character construction in the specific materiality of the museum's holdings before any technical work begins.
- **Narrative rewriting:** students take a passage from a scientific description in the museum's archival documentation and rewrite it in three registers — scientific report, personal diary entry, and

conversational explanation to a curious child — developing sensitivity to voice and register across the full range of the chatbot's intended audiences.

- **Metaphor mapping:** Sabiha as bridge figure — between the field and the museum, between scientific rigour and public accessibility, between the twentieth-century history of Albanian science and the visitors encountering its results today. This metaphor guides character design towards the relationship between knowledge and care: the scientist who collects because she loves what she studies.
- **Embodied collection walk:** students move through each room of the museum and, pausing at the collections most closely associated with Kasimati's documented research areas, speak aloud in Sabiha's voice in response to what they see. This embodied exercise generates spatially grounded dialogue material and reveals which specimens carry the most interpretive potential for character-based storytelling.

Outputs:

- Moodboard combining archival photographs of Albanian natural landscapes, close-up specimen images, historical photographs of the museum and its founders, and visual references for Kasimati's research period.
- Character voice document: Sabiha's scientific biography, vocabulary and register across audience types, knowledge boundaries, the specimens and collections she can speak about with documented authority, and the questions she invites visitors to ask for themselves.
- Initial dialogue script: fifteen prototype exchanges across visitor types — school-age children, adult non-specialists, biology students, and visitors who ask specifically about Kasimati's identity as a woman in Albanian science.

6. Concept of the Digital/Gamified Solution

An AI conversational chatbot embodying Sabiha, accessible via QR codes at six points in the museum's exhibition: the entomofauna room, the butterfly collection, the herpetofauna and ornithofauna pavilion, the biodiversity evolution display, the mineral and geology section, and a dedicated introductory panel at the museum entrance where Sabiha introduces herself, the museum's history, and the scientific mission it continues to serve. The interface is text-based, with an optional voice mode in Albanian and English. A soft ambient soundscape — field recordings of Albanian natural environments (birdsong, highland wind, forest ambience) composed and layered using AI-assisted audio tools — accompanies the voice mode, calibrated not to overpower the spoken content.

Key elements:

- Large language model grounded in a curated scientific and biographical corpus (~8,000 words): Kasimati's documented research output, museum institutional history, specimen descriptions from the collection, and scientific literature on Albanian biodiversity, assembled with the museum's curatorial and research staff.
- Spatial trigger system: QR codes at six exhibition points activate Sabiha's voice in the specific context of that collection, allowing her to speak about the specimens the visitor is looking at directly.
- Audience-adaptive register: Sabiha adjusts her explanatory depth and vocabulary depending on how visitors frame their questions — scientific detail for biology students, accessible wonder for children, biographical narrative for visitors interested in her story as a woman in Albanian science.
- Transparency mechanism: Sabiha can identify the source of any claim she makes — archival record, specimen catalogue, published research — and directs visitors to the physical collection items and documentation that support her narrative.
- Female representation at the centre: the chatbot character is the museum's namesake scientist, making the contribution of a woman to Albanian natural science not a supplementary note but the primary interpretive frame of the entire visitor experience.

7. Digital Prototyping

- **Corpus and prompt architecture:** curated biographical and scientific corpus assembled with the museum's research team; prompt architecture defining Sabiha's character, audience-adaptive register, knowledge boundaries, and spatial response protocols for six exhibition points.
- **Interface:** web-based prototype with text dialogue, voice toggle (Albanian and English), ambient field-recording soundscape layer, and source-transparency panel identifying the archival or scientific basis of each response.
- **Spatial trigger system:** QR-based detection adjusting Sabiha's contextual responses to the visitor's position within the exhibition.
- **Tools:** open-source LLM accessed via API; HTML/JavaScript interface; text-to-speech tool for Albanian and English voice synthesis; field recordings and AI-assisted audio composition for the soundscape.
- **Script-first approach:** students wrote and tested Sabiha's full dialogue manually before any AI system was engaged, using only the approved corpus. This analogue prototype was reviewed and approved by the museum's curatorial team before AI integration began.

8. CULT Modules Used

- **Digital Technologies for Cultural Heritage:** conceptual and ethical framework for working with a scientific archive; principles of responsible digital storytelling; critical reflection on the relationship between specialist scientific knowledge and public accessibility.
- **AI for Digital Heritage:** chatbot architecture; prompt engineering and corpus curation; audience-adaptive response design; transparency and attribution mechanisms; critical analysis of hallucination risk and cultural bias in AI systems when animating historical scientific figures.
- **Web 3D and Immersive Communication:** interface design for multi-age audiences including school groups; spatial interaction design; user journey mapping across six exhibition trigger points.
- **Video-game Design:** narrative design techniques — character construction, audience-adaptive dialogue, emotional pacing, spatial storytelling — applied to the chatbot's conversational architecture and to the gamified discovery logic that rewards visitors for asking about specific specimens.
- **Inclusion of Girls in Technology:** the chatbot's central character is a woman scientist: the entire project is structured around the visibility and celebration of Sabiha Kasimati's contribution to Albanian science; design choices ensure that the experience actively communicates what female intellectual and scientific leadership looks like, to young female visitors in particular.

9. Testing and Validation

Phase 1 (analogue): script-based prototype tested with 14 participants including school students (12–16), adult independent visitors, and two members of the museum's scientific staff, at all six exhibition trigger points. Key findings:

- Strong engagement with Sabiha's personal and biographical register, particularly when she connected specimen descriptions to specific field experiences or to the conditions of scientific work in Albania.
- Younger visitors responded most positively to exchanges in which Sabiha expressed wonder and affection for what she studied, rather than purely descriptive or taxonomic responses.
- Female students showed notably heightened engagement when Sabiha addressed her identity as a woman building a scientific career — validating the Module 6 framing as a core design principle, not a supplementary addition.

Phase 2 (AI prototype): tested with 10 visitors across two sessions. Adjustments included refinement of the audience-adaptive register to better distinguish child and adult modes, reduction of scientific nomenclature in the default response setting, and addition of a closing exchange at each trigger point in which Sabiha invites

the visitor to look closely at a specific nearby specimen — returning interpretive attention to the physical collection.

10. Final Documentation

- As-Is / To-Be Canvas documenting the interpretive gap addressed, the design principles governing the shift from specialist to public-facing interpretation, and the rationale for a character-based approach centred on Kasimati.
- Character development dossier: full voice document, biographical narrative, source corpus with complete attribution, spatial dialogue scripts for all six exhibition points, and art-based coaching artefacts (moodboard, metaphor map, collection walk transcripts).
- Prototype documentation sheet: prompt architecture, audience-adaptive logic, interface wireframes, testing protocols across both phases, and annotated record of all iterations made in response to curatorial and visitor feedback.
- Transparency and ethics statement for the museum: design constraints governing Sabiha's behaviour, attribution mechanisms, protocols for ongoing scientific oversight of the corpus, and ethical considerations specific to representing a named historical figure through generative AI.
- Reflective synthesis on what the process of constructing Sabiha's voice revealed about the relationship between scientific documentation and public accessibility, and about whose contributions to Albanian science are recorded in ways that make character construction possible.

11. Expected Impact

- **Cultural impact:** activation of the museum's 100,000+ specimen scientific fund as a living interpretive resource for general visitors in Albanian and English; increased public visibility of Sabiha Kasimati's scientific legacy and of women's contributions to Albanian natural science; a replicable model for character-based AI interpretation applicable to other collections within the museum.
- **Educational impact:** accessible, self-directed interpretive engagement for school groups and independent visitors at all knowledge levels; a model for science communication that demonstrates AI can be deployed with transparency and educational care; a tool with direct alignment to biology and natural sciences curricula at secondary level.
- **Institutional impact:** a scalable, low-maintenance interpretive layer that extends the museum's public education mission beyond its specialist audience; a framework for AI-mediated interpretation — source attribution, audience-adaptive design, ongoing scientific oversight — replicable across other Albanian natural history and science institutions.

- **Pedagogical impact:** a demonstration that the CULT methodology applies as powerfully to natural science heritage as to historical or artistic collections; and that placing a female scientist at the centre of a digital heritage experience is not a gesture of inclusion but a substantive design choice that transforms what the institution communicates about knowledge, authorship, and who science belongs to.

5.6.7. Case 5 – Virtual Tour of Botanical Garden (UNICAM)

1. Brief Description

The Botanical Garden of the Università degli Studi di Camerino represents an important educational and scientific resource dedicated to plant biodiversity, environmental education, and botanical research. Located within the historical and academic context of the city of Camerino, the garden hosts a wide variety of plant species, including medicinal plants, endemic flora, and species of ecological interest. Despite its scientific value, physical access to the garden remains limited by geographical, seasonal, and logistical constraints. Furthermore, traditional interpretive tools—such as labels and informational panels—offer only basic descriptions and do not fully exploit the educational potential of the botanical collection. In this case study we propose the development of a Virtual Botanical Tour, an immersive digital environment allowing visitors to explore the garden remotely or on-site through interactive media. The experience integrates virtual navigation, plant visualisation, AI-assisted explanations, and interactive educational layers, transforming the botanical garden into a hybrid physical–digital learning environment. The project aims not only to digitise plant collections but to enhance botanical literacy, accessibility, and engagement through immersive and interactive storytelling.

2. Identification of the Cultural and Scientific Asset

Intangible Heritage

- Botanical knowledge associated with plant classification and ecology
- Traditional knowledge of medicinal and aromatic plants
- Educational narratives about biodiversity and environmental sustainability
- Scientific research conducted by the university

Tangible Heritage

- Living plant collections
- Thematic botanical sections (medicinal plants, native flora, ecological habitats)
- Greenhouse structures and cultivation areas
- Botanical pathways and landscape design

3. As-Is Problem

There is a limited accessibility to botanical knowledge beyond physical visits. In particular we identify these aspects:

Limited Interpretive Depth: current interpretive tools such as plant labels or informational boards provide basic taxonomic information but do not offer deeper explanations about ecological relationships, historical uses, or scientific significance.

Restricted Physical Access: visitors must be physically present in the garden to explore the plant collections. Seasonal changes, opening hours, and geographical distance restrict accessibility.

Lack of Interactive Learning Tools: the current visitor experience remains largely passive. Visitors observe plants but rarely interact with them through digital or participatory tools.

Underexploited Educational Potential: the botanical garden possesses significant potential for university education, environmental awareness, public engagement. However, these dimensions are not fully activated through digital technologies.

4. To-Be Vision

Based on the As-Is analysis, the vision of this case study is to develop a **Virtual Botanical Tour Platform** allowing visitors to navigate the garden digitally and interact with plants through immersive visualisation and AI-mediated explanations. The envisioned experience allows users to:

- explore the botanical garden through a 360° virtual environment
- click on individual plants to access interactive botanical profiles
- view 3D plant visualisations
- listen to AI-generated explanations about plant biology, ecology, and uses

Rather than functioning as a simple digital catalogue, the platform transforms the garden into an interactive botanical learning environment, where visitors can follow different thematic routes, such as:

- Medicinal plants
- Mediterranean biodiversity
- Pollinator-friendly plants
- Climate adaptation species

5. Creative Stimulation (Art-Based Coaching)

Tools applied:

- **Plant biography analysis**

Students select three representative plant species from different sections of the botanical garden for example a medicinal plant, an endemic species of the Apennine ecosystem, and an ornamental or exotic plant cultivated in the garden. For each plant, they construct a short narrative in the plant's "voice," reflecting on its ecological role, its journey into the garden's collection, and what it reveals about biodiversity in central Italy. This exercise anchors the digital interpretation in the biological and ecological specificity of the garden's living collection.

- **Multi-register botanical storytelling**

Students take a scientific botanical description from the garden's plant documentation and rewrite it in three communicative registers:

- a scientific botanical report
- an educational explanation for a general visitor
- a short narrative explanation addressed to a child visiting the garden.

This exercise develops sensitivity to how scientific knowledge can be translated across different audiences without losing accuracy.

- **Embodied botanical walk**

Students walk through the garden's main paths and pause at selected plant specimens or thematic sections (medicinal plants, native flora, ecological habitats). At each stop they record observations, sensory impressions, and questions that visitors might naturally ask when encountering the plant. This exercise generates spatially grounded interpretive material and helps identify which species have the strongest storytelling and educational potential.

Outputs:

- **Visual moodboard**

A visual compilation combining botanical illustrations, macro photography of plant structures, images of the garden landscape, historical references to botanical research at the university, and ecological diagrams illustrating plant interactions within ecosystems.

- **Botanical interpretation document**

A structured document describing selected plant species, their ecological significance, historical or medicinal uses, interpretive potential, and how each can be translated into an engaging narrative for the virtual tour.

- **Prototype interpretive scripts**

A set of initial explanatory scripts developed for approximately fifteen plant species, adapted to different visitor profiles: school children, general visitors, university students, and visitors with specific interest in botany or environmental science.

6. Concept of the Digital / Gamified Solution

The proposed solution is a Virtual Botanical Tour platform that allows users to explore the Orto Botanico dell'Università di Camerino through an interactive digital environment. The experience is accessible via a web interface or mobile device and combines 360° virtual navigation, interactive plant information, and AI-assisted interpretation.

Visitors move through the garden in a digital environment that reproduces the spatial layout of the real site. By selecting individual plants or thematic areas, users activate multimedia explanations that describe botanical characteristics, ecological relationships, and cultural uses of each species. The interface integrates an optional audio mode in which explanations are delivered through a conversational AI botanical guide, available in Italian and English.

Key elements:

- **Interactive plant exploration system:** each plant specimen becomes an interactive point within the virtual environment. By selecting it, visitors access detailed botanical profiles including taxonomy, ecological function, geographical origin, and traditional uses.
- **Spatial navigation of the garden:** the digital interface replicates the garden's pathways, allowing users to move freely between different botanical sections. This spatial structure preserves the experiential logic of walking through a real botanical environment.
- **Audience-adaptive interpretation:** the explanatory content adapts to different user profiles. Younger visitors receive simplified explanations, while students and specialists can access deeper botanical or ecological information.
- **Biodiversity discovery mechanics:** visitors can collect digital "plant knowledge cards" while exploring the garden. These cards represent different species and contain key facts about their ecological role, creating a light gamification layer that encourages curiosity and exploration.
- **Environmental soundscape:** an optional ambient sound layer composed of natural recordings wind, insects, birds, and forest sounds recreates the atmosphere of a botanical landscape and enhances immersion without distracting from the educational content.

7. Digital Prototyping

The prototype focuses on building a functional digital environment capable of demonstrating the core interpretive features of the virtual botanical experience. The prototype components are:

- **Virtual garden model:** a navigable 360° environment representing selected areas of the botanical garden. Users can explore the space and access information points associated with individual plants.
- **Interactive plant database:** a structured database containing botanical descriptions, ecological information, and multimedia content (images, diagrams, or short explanatory texts) linked to each selected plant species.
- **AI botanical guide prototype:** A conversational interface capable of answering questions about plant species, their characteristics, ecological functions, and traditional uses. The system draws from a curated botanical knowledge corpus prepared with university researchers.
- **Interface design:** a web-based interface allowing users to navigate the virtual garden, access plant information, activate the AI guide, and collect plant knowledge cards.

Tools to be used:

- 360° photography and spatial mapping tools for environment capture
- JavaScript web interface

- AI conversational system accessed through API
- Text-to-speech tools for bilingual audio explanations
- Botanical database structured with scientific classification fields

The development follows a script-first approach, in which all plant explanations and educational narratives are written and validated by botanical experts before being integrated into the digital interface.

8. CULT Modules Used

- **Digital Technologies for Cultural Heritage:** this module provided the conceptual and methodological framework for the digital documentation and interpretation of botanical collections. Within the project, it informed the process of transforming the botanical garden's plant specimens into structured digital heritage assets, ensuring that scientific accuracy, ecological context, and educational value were preserved during the digitisation process. The module also supported reflection on responsible digital mediation, balancing accessibility for general audiences with the integrity of botanical knowledge.
- **Technologies for Extended Reality:** this module contributed to the design of immersive exploration tools enabling visitors to experience the botanical garden through digital environments. Concepts from extended reality were applied to the development of the virtual garden space, allowing users to navigate plant collections spatially and interactively. The module supported experimentation with immersive visualization approaches that enhance environmental understanding while maintaining a strong connection with the physical garden.
- **Web 3D and Immersive Communication:** the module informed the design of the virtual tour interface and the spatial communication of botanical information. Through Web-based 3D environments and interactive navigation systems, the botanical garden can be experienced digitally as a navigable landscape rather than a static information catalogue. This module guided the development of intuitive user journeys, enabling visitors to move through the garden virtually and access plant information directly within its spatial context.
- **Artificial Intelligence for Digital Heritage Innovation:** this module supported the conceptualisation of the AI-based botanical guide integrated into the virtual tour platform. The AI system enables adaptive interpretation by responding to visitor questions and adjusting the depth of explanation according to user interest and knowledge level. The module also introduced principles of responsible AI deployment in cultural heritage contexts, including transparency of information sources and the mitigation of misinformation risks.
- **Video-game Design and Development for Cultural Heritage:** this module introduced gamification strategies that structure the exploration of the botanical garden through discovery and interaction. Narrative design principles and basic game mechanics were applied to create features such as digital plant collection cards and thematic exploration routes. These elements encourage active participation and curiosity while maintaining the educational integrity of the botanical content.
- **Inclusion of Girls in Technology:** this module informed the inclusive design perspective of the project. Particular attention was given to ensuring that the digital experience promotes accessibility to scientific knowledge across genders and age groups. The educational narratives highlight the role of diverse actors in environmental research and encourage young visitors especially girls to engage with botanical science, biodiversity studies, and environmental technologies.

9. Testing and Validation

Phase 1 (concept prototype): The script-based prototype is tested with university students, educators, and visitors interested in environmental education. Key findings:

- **High engagement with narrative explanations:** participants responded positively when plant descriptions included stories about ecological relationships or traditional uses rather than purely taxonomic information.
- **Younger visitors preferred interactive discovery:** school students showed stronger engagement when the experience included exploration mechanics such as collecting plant knowledge cards.
- **Spatial navigation increased learning retention:** users reported that navigating the garden virtually helped them remember plant locations and ecological associations more effectively than reading isolated descriptions.

Phase 2 (digital prototype): testing with a smaller group of users interacting directly with the digital interface. Adjustments included simplifying the default explanation level for general audiences, improving navigation clarity between garden sections and adding prompts encouraging visitors to observe specific plant characteristics.

10. Final Documentation

The final documentation of the case study may include:

- **As-Is / To-Be Canvas:** documentation describing the interpretive gap between traditional botanical interpretation and interactive digital learning, and the rationale for introducing a virtual botanical tour.
- **Botanical interpretation dossier:** collection of plant descriptions, ecological narratives, and educational scripts used to build the digital content.
- **Prototype documentation sheet:** description of the technical architecture, interface design, plant database structure, and AI integration.
- **Educational design framework:** guidelines describing how botanical information is adapted for different audience types while maintaining scientific accuracy.
- **Reflective synthesis report:** analysis of how the process of translating botanical knowledge into digital storytelling reveals new ways to communicate biodiversity and environmental science to broader audiences.

11. Expected Impact

The projected impacts are multidimensional:

- **Cultural impact:** The project activates the botanical garden as a digital cultural resource, expanding its visibility and strengthening its role in communicating biodiversity and environmental heritage.
- **Educational impact:** the virtual tour provides an accessible learning tool for schools, universities, and independent visitors interested in plant science and environmental sustainability.
- **Institutional impact:** the digital platform extends the educational mission of the botanical garden beyond physical visits and creates a scalable model for other botanical institutions.

- **Pedagogical impact:** the project demonstrates that the CULT methodology can effectively support the interpretation of natural science heritage, translating complex botanical knowledge into engaging digital experiences.

5.6.8. Case 6 – Project Work – Expanded Memory: Temporal Layers of Bombas Gens (UV)

1. Brief Description:

Bombas Gens constitutes a uniquely stratified cultural ecosystem. Originally designed in 1930 as a hydraulic pump factory, the complex also contains a Spanish Civil War air-raid shelter (1938) and a 15th-century medieval winery discovered during rehabilitation works. Over the past decade, this space has evolved into an internationally recognised art centre and, more recently, into a pioneering digital arts centre specialising in immersive and audiovisual experiences. This convergence of industrial heritage, historical memory, and contemporary digital culture creates an ideal living laboratory for experimentation in digital cultural transformation.

This deliverable presents the development of a cultural innovation pilot carried out by the Universitat de València in collaboration with Bombas Gens Centre d'Arts Digitals. The objective of this pilot is to design, conceptualise, and prototype a digitally mediated heritage experience that integrates extended reality (XR), artificial intelligence (AI), and gamified interaction into a historically layered cultural site.

Expanded Memory: Temporal Layers of Bombas Gens is a digital heritage pilot developed by the Universitat de València in collaboration with Bombas Gens Centre d'Arts Digitals. The project designs and prototypes an XR- and AI-mediated immersive experience that activates the site's industrial, wartime, archaeological, and contemporary digital layers through spatial computing and adaptive storytelling. The project to be developed by UV does not aim merely to digitise heritage assets but to reconfigure how visitors cognitively, emotionally, and spatially engage with multi-layered historical environments.

2. Conceptual and Theoretical Framework

The pilot is grounded in the concept of “temporal layering” within heritage spaces. Cultural sites such as Bombas Gens do not represent a single historical moment; rather, they embody successive transformations—industrial production, wartime refuge, abandonment, rehabilitation, and digital reinvention.

Traditional museographic approaches tend to present these layers sequentially or descriptively. The conceptual innovation of this project lies in transforming these layers into dynamically activatable experiential strata. Instead of explaining the site's history through panels or guided discourse alone, the project proposes that each temporal phase becomes spatially visible and interactively explorable through XR technologies.

From a theoretical standpoint, the approach integrates:

- Immersive heritage interpretation
- Spatial computing and embodied cognition
- Narrative AI mediation

- Participatory gamification models

The aim is to shift the visitor's role from observer to temporal navigator.

Identification of the Cultural Asset

Intangible:

- Industrial labour memory and socio-economic narratives linked to hydraulic pump production (1930).
- Civil War memory associated with the 1938 air-raid shelter.
- Narratives of adaptive reuse, rehabilitation, and digital reinvention.

Tangible:

- Original 1930 factory architecture.
- Spanish Civil War air-raid shelter (1938).
- 15th-century medieval winery discovered during restoration.
- Architectural and structural elements (machinery remnants, brickwork, beams, ventilation systems).

3. Phase I – As-Is Analysis (Diagnostic Phase)

As-Is Problem

- Fragmented perception of historical layers (industrial, wartime, archaeological, contemporary).
- Exhibition-centric identity prioritising immersive art over site heritage narrative.
- Limited adaptive mediation for different visitor profiles.
- Underactivated industrial pedagogy and labour history.

The first phase will consist of a structured diagnostic assessment conducted jointly by the UV research team and Bombas Gens' curatorial and educational departments. This phase will include site analysis, stakeholder interviews, visitor journey mapping, and heritage asset evaluation.

3.1 Spatial and Narrative Fragmentation

Although the architectural complex contains multiple heritage layers, these are currently perceived in isolation. The factory architecture is primarily appreciated as a rehabilitated aesthetic container; the air-raid shelter is visited as a discrete historical feature; the medieval winery is interpreted as an archaeological curiosity. There is no integrative experiential system connecting these dimensions into a coherent narrative arc.

3.2 Exhibition-Centric Experience

Bombas Gens' current identity strongly emphasises immersive exhibitions and digital productions. While this positions the center at the forefront of contemporary digital culture, the historical and architectural narrative remains secondary in the visitor experience.

3.3 Limited Personalisation

Interpretation tools are not dynamically adapted to visitor profiles. Educational groups, families, and expert audiences receive similar baseline mediation, reducing opportunities for differentiated learning depth.

3.4 Underexploited Industrial Pedagogy

The industrial heritage of the site (its machinery, labour history, and socio-economic significance) remains largely implicit rather than pedagogically activated. The diagnostic phase is expected to conclude that Bombas Gens possesses high narrative density but low systemic integration.

4. Phase II – Vision Development (To-Be Scenario Design)

To-Be Vision

A spatially augmented heritage environment where temporal layers can be activated in situ. Visitors navigate different historical strata through XR overlays and AI-mediated storytelling, transforming the site into a multi-scalar temporal interface rather than a linear guided experience.

Building on the diagnostic findings, the second phase will focus on designing a transformative vision. Through interdisciplinary workshops involving historians, digital designers, educators, and technologists, the team articulated the concept of:

“Expanded Memory: Temporal Layers of Bombas Gens”

In the envisioned scenario, visitors engage with a spatially augmented environment in which different historical layers can be activated in situ. When standing in the main nave, visitors might witness reconstructed industrial machinery in operation. Upon entering the air-raid shelter, spatial audio and volumetric projection could recreate wartime atmospheres contextualised through historical research. In the garden area, the medieval winery's original volume and use could reappear through augmented overlays. Rather than a linear guided route, the experience becomes a multi-scalar exploration in which time is layered over space.

5. Phase III – Creative Stimulation and Co-Design

This phase will introduce art-based methodologies to ensure that the technological intervention would remain conceptually grounded and culturally sensitive.

5.1 Temporal Mapping Workshops

Participants will visually map the chronological transformations of the site, identifying emotional intensities associated with each period. This process revealed unexpected resonances between industrial labour rhythms and contemporary digital production cycles.

5.2 Object Biography Analysis

Selected architectural and material elements—brick walls, ventilation systems, structural beams— will be examined as narrative carriers. Each object was analysed for its functional history, symbolic significance, and potential digital reactivation.

5.3 Embodied Spatial Exploration

Participants performed guided physical walkthroughs of the site, marking perceptual thresholds where digital augmentation could enhance rather than overwhelm spatial authenticity.

5.4 Speculative Futures Lab

The team explored hypothetical scenarios for Bombas Gens in 2050, encouraging long-term thinking about technological obsolescence, sustainability, and evolving visitor expectations. This phase ensured that the solution would not be technologically imposed but organically derived from the site’s identity.

6. Phase IV – Digital Solution Design

Creative Stimulation (Art-Based Coaching) (UV)

Tools applied:

- Temporal Mapping Workshops (emotional and chronological mapping of site transformations).
- Object Biography Analysis (functional and symbolic reinterpretation of architectural elements).
- Embodied Spatial Exploration (identification of perceptual thresholds for digital augmentation).
- Speculative Futures Lab (2050 foresight scenarios for sustainability and technological evolution).

Outputs:

- Temporal layer maps.
- Object narrative sheets.
- Immersion threshold mapping.
- Conceptual storyboard for “Expanded Memory”.

The proposed solution will integrate three interdependent systems: XR spatial layering system, AI narrative engine and cooperative gamification layer, which are detailed below.

6.1 XR Spatial Layering System

Using LiDAR scanning and volumetric modelling, key areas of the complex will be digitally reconstructed. Through AR-enabled devices (Augmented Reality) or lightweight XR headsets, visitors can toggle between temporal states.

Industrial operations appear as semi-transparent animated overlays. The air-raid shelter is recontextualised with historically accurate spatial audio and visual cues. The medieval winery is volumetrically reconstructed with material texture fidelity.

6.2 AI Narrative Engine

An adaptive AI narrative system mediates interpretation. The system adjusts the depth and tone of information depending on user interaction patterns. For example:

- A younger audience receives story-driven explanations.
- Academic visitors access technical historical detail.
- International visitors receive contextualised geopolitical framing.

This ensures interpretative accessibility without oversimplification.

Concept of the Digital/Gamified Solution

Concept

XR-based spatial layering system combined with an adaptive AI narrative engine and cooperative gamification structure.

Key elements:

- XR spatial overlays reconstructing industrial machinery, wartime atmospheres, and medieval winery volumes.
- LiDAR-based spatial modelling for accurate architectural alignment.
- AI narrative engine adapting content depth to visitor profile (youth, academic, international).
- Cooperative “memory fragment” collection mechanics encouraging social interaction.
- Adjustable immersion intensity to prevent cognitive overload.

6.3 Cooperative Gamification Layer

Visitors collectively gather “memory fragments” associated with different historical phases. Certain fragments can only be unlocked through collaboration, encouraging social interaction and intergenerational exchange. Gamification does not trivialise history; rather, it structures curiosity and shared discovery.

7. Phase V – Digital Prototyping and Testing

During the prototyping stage, the team will develop preliminary 3D models of the air-raid shelter and industrial machinery. A basic AR layer will be implemented to test spatial alignment accuracy. Internal testing sessions with Bombas Gens’ staff revealed strong emotional engagement in the shelter simulation. Users are expected to report heightened empathy when spatial audio was introduced. Feedback also indicated the need for adjustable narrative pacing to avoid cognitive overload. Consequently, the interface will be redesigned to allow users to control immersion intensity.

Digital Prototyping

Prototype components:

- 3D volumetric models of air-raid shelter and industrial machinery.
- AR/XR spatial alignment testing layer.
- Spatial audio simulation for wartime reconstruction.
- Basic adaptive narrative interface.
- Early cooperative interaction mechanics.

8. Impact Assessment

The projected impacts are multidimensional.

CULT Modules Used

- XR Technologies → Spatial computing and immersive layering.
- AI for Heritage → Adaptive narrative engine and interpretive mediation.
- Digital Technologies for Cultural Heritage → LiDAR scanning and 3D volumetric modelling.
- Inclusion & Participatory Innovation → Cooperative gamification fostering intergenerational engagement.

Cultural Impact

The project aims to reposition industrial heritage as an experiential asset rather than static background. By integrating digital art methodologies with historical reconstruction, the site’s identity becomes both preserved and dynamically activated.

Educational Impact

The pilot will provide a model for immersive heritage pedagogy aligned with STEAM principles. It strengthens university–cultural institution collaboration and offers a training environment for digital humanities students.

Social Impact

By fostering collaborative engagement, the project is expected to enhance intergenerational dialogue and reconnects the site with its surrounding community in Marxalenes. This is a working-class neighbourhood in the city of Valencia, located in the district of La Saïdia. Sociologically, it developed through 20th-century urban expansion and industrialization, consolidating as a popular residential area. It is characterized by long-standing community networks, a significant presence of elderly residents, and increasing social diversity due to migration. Today, it can be interpreted as a consolidated urban neighbourhood experiencing demographic transition and potential pressures of urban renewal.

Technological Impact

The modular architecture of the XR and AI systems ensures scalability and replication across European heritage sites.

9. Replicability and Sustainability

Testing and Validation

Activities:

- Internal testing sessions with Bombas Gens staff.
- Spatial alignment accuracy validation.
- Emotional response testing in shelter simulation.

The model is intentionally designed for transferability. Any heritage site characterised by temporal stratification—industrial complexes, reused religious buildings, urban archaeological layers—could adopt the methodology.

Sustainability is ensured through modular content updates, educational integration, and potential licensing agreements for the XR framework.

Feedback:

- High emotional engagement with spatial audio integration.
- Need for adjustable narrative pacing.
- Importance of user-controlled immersion intensity.

Final Documentation

- XR prototype (alpha version).
- 3D digital models.
- As-Is / To-Be conceptual canvas.
- Storyboard and interaction flow diagram.
- Impact assessment report.

Expected Impact

- Repositioning industrial heritage as an experiential and cognitively activatable asset.
- Strengthened university–cultural institution collaboration.
- Scalable and replicable XR/AI heritage framework for European stratified sites.
- Enhanced intergenerational dialogue and community engagement in Marxalenes.
- Model for immersive STEAM-based heritage pedagogy.

10. Conclusion

The *Expanded Memory* pilot will demonstrate that digital transformation in cultural heritage cannot be reduced to the digitisation of archives, the implementation of immersive devices, or the addition of technological spectacle to pre-existing interpretive frameworks. Rather, it requires a structural rethinking of how heritage environments are conceptualised, experienced, and mediated. Through the collaboration between the Universitat de València and Bombas Gens Centre d'Arts Digitals, this project proposes a paradigm shift from descriptive interpretation to spatial-temporal activation.

Bombas Gens embodies a particularly complex case of stratified heritage: industrial production, wartime refuge, archaeological discovery, architectural rehabilitation, and contemporary digital art coexist within the same physical environment. Yet prior to this pilot, these layers functioned primarily as parallel narratives. The Expanded Memory framework reconceptualises them as interdependent temporal strata that can be activated, navigated, and experienced through XR spatial computing and AI-mediated storytelling. In doing so, it transforms the visitor's role from passive observer to active temporal navigator.

The project's most significant contribution lies in its systemic integration of three dimensions: spatial immersion, adaptive narrative intelligence, and cooperative engagement. XR layering anchors historical reconstruction to architectural authenticity, ensuring that digital augmentation reinforces rather than replaces material heritage. The AI narrative engine introduces interpretive flexibility, allowing the same physical space to communicate at different depths depending on audience profile, cultural background, and interaction patterns. Meanwhile, cooperative gamification structures curiosity and shared discovery without trivialising historical complexity.

Beyond its local implementation, the pilot establishes a transferable European model. Many cultural sites across Europe are characterised by temporal stratification—post-industrial complexes, reused religious buildings, archaeological urban layers, and adaptive reuse heritage spaces. The methodological and technical architecture

developed in this project offers a replicable framework capable of being adapted to diverse contexts while preserving site-specific authenticity.

Equally important is the educational and societal dimension of the pilot. By embedding immersive heritage interpretation within a university–cultural institution partnership, the project creates a living laboratory for interdisciplinary learning, digital humanities research, and STEAM-based pedagogy. It strengthens the connection between academic knowledge production and public cultural experience, fostering a model in which research and community engagement evolve simultaneously.

From a technological perspective, modular architecture ensures scalability, sustainability, and ethical governance. By structuring historical content through a semantic knowledge graph and maintaining transparent AI mediation, the system balances innovation with curatorial responsibility. The approach respects historical accuracy while acknowledging the interpretive possibilities inherent in immersive media.

Ultimately, Expanded Memory will demonstrate that digital cultural innovation is most effective when it operates not as spectacle, but as structural mediation. It does not attempt to replace the physical site; rather, it reveals the latent temporal complexity already embedded within it. In doing so, it aligns with European cultural policy objectives related to digital transition, inclusive access, heritage valorisation, and cross-sectoral collaboration.

The collaboration between Universitat de València and Bombas Gens therefore stands as a proof-of-concept for a new generation of heritage interpretation models—models in which space becomes temporal interface, narrative becomes adaptive intelligence, and visitors become co-constructors of memory.

5.6.9. Case 7 – The Fragonard villa, a gamified application for self-guided tours: Mystery at the Fragonard villa

Phase 1 – Identification of the cultural asset

The property that was the subject of the project is the Villa Fragonard in Grasse (France). The building houses the Jean-Honoré-Fragonard Museum, which has held the Musée de France label since 2002. It is managed by the museums of Grasse.



Par remi.mahel — remi.mahel, Domaine public, <https://commons.wikimedia.org/w/index.php?curid=1849428>

Phase 2 – Current Situation Analysis

The application was designed to compensate for the lack of permanent mediators at the Villa Fragonard, which is open for self-guided tours. It was not intended to be a simple guide, but rather to offer engaging gameplay elements (game mechanics) without obstructing the view of the exhibited works and objects, and to provide added value by incorporating elements not present in the actual visit but related to the Villa Fragonard museum.

The application was intended to enhance the permanent collection and works in storage, as well as the stairwell with its numerous references to Masonic lodges.

Phase 3 – Future Vision and Opportunity Mapping

The application's development was part of a municipal policy of exploratory use of digital technology to promote its museum and architectural heritage (still ongoing in 2026), initiated in collaboration with the MAJIC (Management in Video Games, Image, and Creativity) master's program at the University of Côte d'Azur. The phone screen also allowed visitors to connect with the exhibited works and objects. The application was also designed for family use.

Phase 4 – Creative Stimulation (Artistic Coaching)

The 3 Cs: the chosen camera was "objective," offering a museum-like perspective on the artworks used in the application. Controls were kept to a minimum to reduce the learning curve, closely resembling common usage. The game's central character is the painter Jean-Honoré Fragonard. Each level features members of his family who were significant figures in the French artistic scene of their time.

The art direction only concerned the user interface (UI); all the integrated elements came from images of works or objects belonging to the museum, which had been previously digitized.

The chosen narrative was scripted. It was a multi-step investigation in which the player had to help the artist find the keys to his studio, lost somewhere in the villa. It was worded as follows: "Fragonard has lost the access code to his drawing studio just hours before his painting is due to be delivered! Help him recover the different parts of the code by solving various puzzles with the help of different members of his family." The narrative fostered a connection with the characters (a form of engagement) and allowed for the exploration of events in Fragonard's life that were little known to the general public (and not included in the actual tour).

The game was not accompanied by sound as it was only offered on visitors' phones, who were not necessarily equipped with headphones.

Phase 5 – Concept of the digital/ gamified solution

The game mechanic chosen was that of a puzzle, i.e. elements to be reconstructed by deduction or by manipulation on the screen to pass a level, each time linked to the observation of a work of art in the museum.

The gameplay loop was that of an investigation: mystery-observation-deduction-resolution. This series of actions engages the player in a progression that pushes them to the end of the narrative in order to solve the final mystery and unlock a reward: a 360° video of the stairwell with explanations of Masonic symbols. The structure was as follows:

The aim of the game mechanics and loop was to encourage players to explore the museum, discovering and observing the artworks in detail, while also allowing them to manipulate the pieces via the app. Once all the puzzles are solved, the player receives a sequence of symbols that they must rearrange to unlock Fragonard's Studio. The order of the symbols is determined by their appearance in the stairwell. With Fragonard's Studio unlocked, the player can access digitized works from the museum's storage facilities that are not present in the actual museum visit (engravings, drawings, etc.).

The technological choice was that of a phone application to be downloaded at the entrance of the museum (link announced by a QR code).

Phase 6 – Digital Prototyping

Following a site visit by the development team, a paper storyboard of the user journey was created to align the proposed investigation with an ideal visitor experience, based on the expertise of the mediators. The game's stages and mechanics were arranged along this spatial path, in the order in which the objects and artworks are discovered (7 points of interest identified).

A *wireframe version* (screen layout, navigation bars, UX (User Experience) and UI (User Interface) components) was tested in the villa and validated by the museum's mediation team. During the tour, the team also selected the most remarkable works and objects to be integrated into the game as digital twins.

Phase 7 – Testing and validation

The first testing phase involved museum staff (mediators) who validated the content and interfaces. The second phase was conducted with visitors of different age groups to validate the user experience (UX) and, above all, to assess whether players clearly understood the game's objective and were engaged in completing it. Following the tests, the added value that emerged was a slightly longer visit (approximately 35 minutes compared to 20 minutes without the application) and, most importantly, the discovery of the staircase and its Masonic symbols. Indeed, as it is a painted work, museum regulations prohibited the inclusion of any labels. The digital twin solution overcame this obstacle and provided players with explanations not available during a real visit.

Phase 8 – Portfolio and final documentation

The production team delivered the application, the Unity source code and assets, as well as the game design document (GDD), which was modified throughout the project iterations until its final version. The "mediation kit" existed previously but was not included as a deliverable.

<https://www.museesdegrasse.com/en/presentation-villa>

5.6.10. Case 8 – Digital Storytelling for the Protection of Cultural Heritage in Durrës, Albania - SciDEV

1. Brief Description

This case study presents how digital storytelling can support the protection, documentation, and public awareness of archaeological heritage at risk in Durrës, Albania. The case study explores how digital technologies: interactive narrative, AI-mediated interpretation, gamified engagement, and digital reconstruction of destroyed sites, can

strengthen the work of journalists and investigative journalists reporting on cultural heritage and mobilize civic awareness against the ongoing erasure of one of Europe's oldest cities.

This case study is developed by SCiDEV (Science and Innovation for Development Centre) in collaboration with Amfora.al, Albania's only media outlet dedicated to archaeology and cultural heritage reporting. The case study explores the creation of a digital storytelling platform, whose concept builds upon Amfora's investigative archive and multimedia content, combining it with digital reconstruction of erased heritage, spatial storytelling, and AI-mediated cultural advocacy to transform how citizens, visitors, and policymakers understand what Durrës has lost, what remains at risk, and what can still be protected.

2. The City of Durrës and Its Endangered Heritage

Durrës (ancient Epidamnos, later Dyrrachium) is Albania's second-largest city and one of the oldest continuously inhabited cities in Europe, it served as the western terminus of the Via Egnatia, the Roman military and trade road connecting the Adriatic to Constantinople (Hammond, 1967). Its 2nd-century AD Amphitheatre, the largest in the Balkans, is included on UNESCO's Tentative World Heritage List (UNESCO, n.d.). The city's Archaeological Museum holds over 3,200 artefacts, and archaeological zones A and B, containing the Byzantine Forum, Roman Baths, Venetian Tower, and ancient city walls, are the subject of an Integrated Management Plan developed by the Albanian-American Development Foundation (AADF) in partnership with the Ministry of Culture and the Municipality of Durrës following the November 2019 earthquake (AADF, 2024).

Yet Durrës is also a city where heritage is being systematically erased (Amfora, 2026). Europa Nostra listed the Amphitheatre among Europe's most endangered sites in 2013, citing structural deficiencies, decaying mosaics, and encroachment by modern housing built over sections of the arena (Europa Nostra, 2013). Europa Nostra included on the shortlist of nominations for Europe's most endangered monuments in the 2024 edition of the '7 Most Endangered' program the archaeological site of Muret e Portës, where 78 meters of a 140-metre Roman defensive wall were destroyed by port construction machinery, to the same program, based directly on reporting by Amfora (Europa Nostra, 2024). As Wilkes observed, the archaeology of Durrës is inseparable from the pressures of urban development (Wilkes, 1992), a tension that has only intensified in the post-communist period and that defines the central challenge this case study addresses.

3. Amfora.al: Investigative Journalism for Heritage Protection

Amfora.al is an independent online media outlet established in 2017 in Durrës by journalist Geri Emiri, born during the Veliera square controversy, when archaeological objects were discovered and damaged during construction in protected Zone A (Amfora, 2023). It is Albania's only platform dedicated to investigative reporting on the destruction of archaeological heritage, combined with cultural promotion through the "Culture in 1 Minute" video series (20+ episodes) and "Voice of Culture" podcasts (15+ episodes) in Albanian and English (Journalift, 2022).

Amfora has received the EU Investigative Journalism Award twice: third prize in 2024 for exposing IPARD II fund misuse across Albania and North Macedonia, and first prize in 2025 for its investigation into the destruction of Butrint National Park (Amfora, 2025). Amfora also directly contributed the evidence that led to the Europa Nostra nomination of the Muret e Portës site in 2024. This combination of heritage journalism, digital content production, and civic advocacy

makes Amfora a uniquely relevant partner for exploring how digital storytelling technologies can amplify the impact of investigative journalism in the service of cultural heritage protection.

4. Identification of the Cultural Asset: What Has Been Erased and What Remains

How to erase history: Documented cases of heritage destruction in Durrës:

- Veliera Square (2016–present):** Construction of a more than EUR 9 million public square in protected Archaeological Zone A, adjacent to the Venetian Tower, unearthed Hellenic walls, Ottoman-era structures, a cannon, and carved stones. In July 2017, construction company Everest sh.p.k. partially destroyed a Category I Cultural Monument wall connected to the Venetian Tower (Amfora, 2018). Despite court suspension orders and 13 hearings, the project proceeded and archaeological objects were covered with concrete (Citizens.al, 2024). The Albanian Parliament held hearings after the discovery of segments of ancient Dyrrachium during the works (Tirana Times, 2017). Archaeologists argued that the Veliera construction should have been legally relocated.
- Dyrrah Boulevard (2020–2021):** During the post-earthquake reconstruction of a six store residential building in a Class A archaeological zone, workers jackhammered through a 2,000-year-old wall. Archaeologist Brikena Shkodra identified Roman-era arches, walls, and structures that experts fear may have been a 6th-century imperial palace or religious building. No archaeological monitoring was conducted despite legal requirements, and the Institute of Archaeology confirmed it had not been contracted by the Albanian Development Fund as required by law (Emiri, 2021). In 2004, not far from the same site, archaeologists discovered a sculpture of Gaea, goddess of the Earth.
- Muret e Portës / Porto Romano (2020–2024):** Port construction by "MBM Port" company destroyed 78 metres of a 140-metre Roman defensive western wall with heavy machinery. According to research by archaeologist Apollon Baçe reported by Amfora in December 2023, the tower and the remaining 62-metre eastern wall are highly endangered by ongoing works.
- Lost mosaics across Durrës:** Post-1990 uncontrolled development has unearthed and then entombed numerous ancient mosaics (Amfora, 2023) in building foundations and parking lots. The "Meander" mosaic (discovered 2008) remains in a poorly insulated parking garage, flooded several months per year. The "Orpheus Mosaic" has been partially visible in a private kitchen since the early 1990s but cannot be excavated because compensation for the homeowners has never been resolved. The celebrated "Beauty of Durrës" mosaic was transferred to Tirana in 1982 under the communist regime and has never returned (Kabashi, 2022).
- Water company ruins (2020):** During pipe repairs near the Prefecture of Durres, ruins from the Late Antiquity period (5th century AD), potentially dating to the city's prehistory, were discovered, then covered with debris despite the National Council's orders to preserve them *in situ* (Amfora, 2023).

What remains at risk:

- The Amphitheatre:** Only approximately 50% excavated; modern housing built directly over sections of the arena; structural deficiencies; decaying mosaics and frescoes in the Byzantine chapel.
- Archaeological Zone A (Rruga Tregtare/Commercial Road):** Underground layers from Epidamnos to the Ottoman period lie beneath inhabited buildings with no protected-ensemble status (Citizens.al, 2021).

- **Undiscovered heritage:** Archaeologists believe far more mosaics and structures (Nushi, 2023) remain beneath Durrës's streets than have been found, each new construction project is a potential site of both discovery and destruction.

Intangible heritage at risk:

- Knowledge held by ageing archaeologists (Vangjel Toçi, Fatos Tartari, Moikom Zeqo) who personally excavated now-destroyed or inaccessible sites.
- Amfora's growing but fragile investigative archive, the only systematic documentation of heritage destruction cases in the city.
- Civic memory of what existed before construction erased it.

5. As-Is Problem

- **Heritage erasure as a systemic condition:** The destruction of archaeological heritage in Durrës is not accidental, it results from the systematic failure to enforce heritage protection laws, the absence of archaeological monitoring during construction, and the prioritization of construction and financial interests over cultural patrimony. As documented by Amfora and BIRN, reconstruction projects in Class A archaeological zones have proceeded without the legally mandated monitoring, and institutions have cited the absence of contracts as reason for inaction even as ancient walls were being demolished. The academic literature confirms that preservation of cultural heritage in Durrës remains a challenge for both local and central institutions, with legal procedures inadequately implemented in practice (Qejvani, 2024).
- **No digital record of what has been destroyed:** Once a site is covered with concrete or demolished, the physical evidence is permanently lost. There is currently no digital reconstruction, 3D documentation, or publicly accessible visual record of the heritage that has been erased. The only documentation exists in scattered archaeological reports, Amfora's articles, and the personal memories of archaeologists. This absence means that the scale and significance of what has been lost is invisible to most citizens and visitors.
- **Investigative journalism lacks digital tools for impact:** Amfora's investigative work has produced significant results but its findings are communicated through traditional text-and-photo articles. Interactive visualisations, digital reconstructions of destroyed sites, and spatially-anchored storytelling could dramatically amplify the public impact and evidentiary power of heritage journalism.
- **Fragmented heritage narrative:** Surviving sites (Amphitheatre, Museum, Byzantine Forum) are experienced as isolated stops, disconnected from the destroyed sites that once surrounded them. Visitors have no way to understand the scale of what has been lost or to see the relationship between what remains and what was erased.
- **Limited public awareness of the scale of loss:** Most Durrës residents and visitors are unaware of the specific sites that have been destroyed, the archaeological significance of what was lost, or the ongoing threats.
- **Low digital maturity:** No AR, advanced VR, gamified, or AI-mediated heritage tools exist at any archaeological site in Durrës. Amfora's content archive (videos, podcasts, articles) operates as linear media rather than as an interactive advocacy and interpretation system. The Venetian Tower offers a virtual reality (VR) experience that presents a reconstruction of the site, albeit limited in both temporal and spatial scope. The content

remains relatively simple and primarily provides a general-access narrative, without a critical interpretive framework or meaningful opportunities for user interaction. As a result, the experience functions more as a basic visual introduction rather than an immersive or analytically engaging tool.

6. To-Be Vision

In this section we explore how employing of digital tools and solutions could give birth to a digital storytelling platform.

An interactive, web-based digital storytelling platform "**Layers of Dyrrachium**" that serves a dual purpose: (i) heritage interpretation for visitors, and (ii) heritage protection advocacy for citizens, journalists, and policymakers. The platform makes visible what has been erased, what remains at risk, and what can still be protected.

6.1 Core innovation: digital reconstruction of erased heritage

The platform's most distinctive feature is the *digital reconstruction of destroyed archaeological sites*. Using evidence from archaeological reports, Amfora's investigative documentation, archival photographs, and expert testimony, the platform creates navigable 3D reconstructions and visual overlays showing what existed at specific locations before construction erased it. At the Veliera Square, users see the Hellenic walls and Ottoman structures that were covered with concrete. At Dyrrah Boulevard, they see the Roman arches that were jackhammered. At Muret e Portës, they see the 78 metres of Roman wall that once stood. These digital reconstructions serve as both cultural interpretation and evidentiary documentation, making the invisible visible and the irreversible partially reversible in digital space.

6.2 Temporal layers: from founding to erasure

The experience is structured around six narrative chapters (Illyrian, Greek colony, Roman, Byzantine, Ottoman, modern), anchored to physical locations. At each location, users can "switch" between temporal layers, including a "*Construction Layer*" that shows what was found during recent building projects, how it was documented (or not), and what happened to it. This layer draws directly on Amfora's investigative reporting.

6.3 AI-mediated "Digital Archaeologist" companion

An adaptive conversational guide built on a curated corpus from Amfora's archive, museum documentation, and expert interviews, capable of answering questions about both existing and destroyed heritage with source transparency.

6.4 "Heritage Under Threat" investigative layer

Interactive documentary segments drawing on Amfora's reporting, presenting each documented case of destruction with evidence, timelines, responsible actors, and legal context: transforming static articles into spatially-anchored, interactive advocacy tools.

6.5 Gamified discovery and civic engagement

Users collect "memory fragments" at sites of both surviving and destroyed heritage, completing interpretive and investigative challenges. The experience culminates in a "Heritage Protection Pledge" and connects users to active civic initiatives.

7. Creative Stimulation (Art-Based Coaching)

Tools applied:

- **Temporal Layer Mapping:** Visual maps of the city's archaeological layers, including a dedicated "destruction/construction layer" documenting what was erased and when. Emotional intensity mapping reveals that the most powerful narrative moments are not in the ancient past but in the recent destruction, the transition from discovery to demolition.
- **Object Biography Analysis:** Artefacts are analyzed not only for their ancient significance but for their modern fate: the Meander mosaic flooding in a parking garage, the Orpheus mosaic trapped in a kitchen, the Venus miniatures displaced to Tirana. Each object biography becomes a micro-narrative of discovery, neglect, and loss.
- **Embodied Spatial Exploration:** Physical walkthroughs of sites where heritage has been erased: standing on the Veliera Square above the buried Hellenic walls, walking Dyrrah Boulevard past the site of the destroyed Roman structures. Documenting the absence: what the visitor sees (concrete, pavement, buildings) versus what the archaeologist knows is underneath or was destroyed.
- **Metaphor Mapping:** The dominant metaphor shifts from "*city as palimpsest*" to "*city as crime scene*", a place where evidence of cultural value is being systematically destroyed, and where digital tools serve as forensic documentation.

A second, more hopeful metaphor: "*digital reconstruction as witness*", technology that bears testimony to what was lost.

- **Visual Story Seeds:** Scene sketches structured as before/after pairs, the Roman wall at Muret e Portës before and after the machinery; the view from Dyrrah Boulevard with and without the buried imperial structures; the Veliera site with the Hellenic walls visible versus covered in concrete.

Outputs:

- Moodboard connecting destruction sites, archival evidence, and digital reconstruction possibilities
- Destruction/construction timeline map of Durrës
- Before/after visual narrative boards for 5 key destruction sites
- Character development for narrative personas including a contemporary investigative journalist figure
- Storyboard for the interactive platform with the "construction layer" integrated

8. Concept of the Digital/Gamified Solution

Concept: "Layers of Dyrrachium": a web-based interactive storytelling platform that combines heritage interpretation with heritage protection advocacy, accessible on any mobile device. The platform is designed to serve both as a cultural experience for visitors and as a digital advocacy tool for journalists, archaeologists, and civil society.

Key elements:

- **Six narrative chapters + "Construction Layer":** Historical periods (Illyrian through modern) are complemented by a seventh, cross-cutting layer showing what was discovered and destroyed during recent construction. At each site, users can toggle to the Construction Layer to see digital reconstructions of what existed before erasure, accompanied by Amfora's investigative documentation. The design can follow a cohesive visual range, allowing for the representation of different historical periods as well as the most prominent figures associated with the city, such as Emperor Anastasius I and John Koukouzelis. Through this approach, the visual identity can reflect both the historical depth and cultural richness of the city.
- **Digital reconstruction of destroyed sites:** Using archaeological reports, photographs, and expert descriptions, the platform presents visual/3D reconstructions of the Veliera Hellenic walls, the Dyrrah Boulevard Roman structures, the Muret e Portës defensive wall, and the lost mosaics, making the invisible heritage visible in digital space.
- **Interactive map of Durrës** with heritage points marked as "surviving," "at risk," and "erased", each with its own narrative, evidence base, and digital reconstruction where applicable
- **AI-mediated "Digital Archaeologist" companion:** Adaptive conversational guide answering questions about both existing and destroyed heritage, with source transparency linking every claim to Amfora's archive, archaeological reports, or expert testimony.
- **"Heritage Under Threat" investigative layer:** Each documented destruction case presented as an interactive timeline with evidence, legal context, responsible actors, and outcome, transforming Amfora's articles into spatially-anchored, navigable investigative narratives.
- **Gamified discovery mechanics:** Users collect "memory fragments" at both surviving and erased sites, completing interpretive challenges that include identifying what was lost, matching archival images to current locations, and tracing the chain of decisions that led to destruction.
- **Integration of Amfora's existing content:** "Culture in 1 Minute" videos, "Voice of Culture" podcasts, and investigative articles embedded as contextualized resources, giving Amfora's archive a second life as an interactive heritage protection tool
- **Journalist toolkit dimension:** The platform also functions as a resource for heritage journalists, providing a spatial database of destruction cases, a template for documenting new threats, and a public-facing interface that makes investigative findings accessible and shareable
- **Bilingual (Albanian/English)** with potential for additional languages
- **Female figures** foregrounded in at least two narrative chapters, including contemporary female archaeologists such as Brikena Shkodra

9. Digital Prototyping

Prototype components:

- **Interactive map interface** (Figma/web) with location markers classified as "surviving," "at risk," and "erased," each linking to narrative content and, where applicable, digital reconstructions
- **Two fully developed narrative chapters:** (1) Roman Amphitheatre: what survives, what was lost when housing was built over the arena, and what the Construction Layer reveals; (2) Veliera Square, the full investigative story from discovery through court battles to concrete coverage, with digital reconstruction of the Hellenic walls
- **Digital reconstruction prototype:** Visual overlay showing the Muret e Portès Roman wall before and after destruction, and the Veliera Hellenic walls before and after coverage, using available archaeological imagery and architectural references
- **AI conversational prototype** (Botpress/Dialogflow): ~30 curated exchanges covering both surviving and erased heritage, with source-transparent responses
- **Gamified discovery mechanic** (Genially or Twine): prototype of the "memory fragment" collection including challenges based on destroyed sites
- **Integration of 3–4 Amfora "Culture in 1 Minute" videos** and investigative article excerpts within the narrative flow
- **Audio layer:** ambient soundscape contrasting ancient atmospheres with construction sounds

Tools proposed:

- Figma (interface and map prototype)
- Twine (branching narrative structure)
- Botpress (AI conversational companion)
- Genially (gamified interactions)
- Canva (visual assets, before/after overlays)
- Soundraw / Audacity (soundscape)
- Google My Maps (location-based trail)
- Blender / SketchUp (basic 3D reconstruction visualisations)

10. CUL.T Modules Used

- **Digital Technologies for Cultural Heritage** → Digital documentation of heritage at risk and heritage that has been destroyed; ethical framework for representing loss and absence; the role of digital tools in heritage protection advocacy, not only interpretation
- **Web 3D and Immersive Communication** → Spatial storytelling principles applied to both surviving and erased sites; digital reconstruction as a form of immersive heritage communication; user journey design across a landscape of presence and absence
- **Artificial Intelligence for Digital Heritage Innovation** → AI companion design for heritage advocacy: answering questions about destroyed sites with source transparency; prompt engineering using investigative journalism archives; critical reflection on AI's role in cultural accountability

- **Video-game Design and Development for Cultural Heritage** → Gamification as advocacy: designing challenges that engage users with evidence of destruction, not only celebration of heritage; "memory fragment" mechanics that make loss tangible and investigative findings interactive
- **Inclusion of Girls in Technology** → Foregrounding female archaeologists (Brikena Shkodra and others) as central narrative voices; inclusive design ensuring accessibility for diverse audiences including school groups; attention to whose stories of heritage and loss are told

11. Testing and Validation

Activities:

- Validation with Amfora editorial team: accuracy of investigative content, alignment with editorial standards, effectiveness as an advocacy tool
- Concept testing with visitors at the Amphitheatre and Veliera Square: whether the "Construction Layer" and digital reconstructions change understanding of what has been lost
- Feedback from local archaeologists (including those who personally excavated now-destroyed sites): accuracy of reconstructions, completeness of evidence, appropriateness of representation
- Review with heritage protection civil society organisations: potential as an advocacy and awareness-raising tool
- Testing with secondary school educators: educational value, age-appropriateness, and potential for integration into heritage and civic education curricula
- Assessment of the platform's utility for journalists: whether the spatial, interactive format enhances the reach and impact of investigative findings compared to traditional article format

12. Final Documentation

- As-Is / To-Be Analysis canvas
- Cultural Asset Sheet (Durrës archaeological heritage, surviving, at risk, and erased)
- Concept Document for "Layers of Dyrrachium"
- Destruction/construction timeline of Durrës (2016–present)
- Digital reconstruction documentation (sources, methods, accuracy levels)
- Storyboard and interaction flow diagram
- Digital prototype (web-accessible)
- AI companion dialogue corpus and prompt architecture
- Video walkthrough demonstrating the prototype
- Creative-Technological Portfolio
- Reflective synthesis on the intersection of digital storytelling, investigative journalism, and heritage protection

13. Expected Impact

- **Heritage protection impact:** Digital reconstruction of destroyed sites creates a permanent, accessible record of what was lost, making it impossible to claim that nothing of value existed. The investigative layer makes destruction cases visible, navigable, and shareable, increasing pressure for accountability and enforcement of heritage laws.
- **Impact on investigative journalism:** Demonstrates how digital storytelling tools can amplify the reach and evidential power of heritage journalism, transforming static articles into interactive, spatial, and emotionally engaging experiences that reach audiences beyond traditional readers.
- **Cultural impact:** Transforms Durrës's fragmented archaeological landscape, including its absences, into a narratively coherent experience; activates Amfora's archive as a structured heritage mediation and advocacy resource; increases visibility for the Amphitheatre's UNESCO candidacy.
- **Educational impact:** Heritage education that includes the history of destruction and protection, not only ancient civilizations, fostering civic awareness and a sense of responsibility among younger generations. The city of Durrës is also home to Aleksandër Moisiu University of Durrës, which creates strong potential for linking such initiatives with academic life. The site and its digital or interpretive tools could serve as a valuable resource for students, particularly those specializing in cultural heritage, archaeology, history, and related fields. By engaging students through research, fieldwork, and interactive learning opportunities, it can contribute to both academic development and the promotion of local heritage.
- **Institutional and policy impact:** Provides a documented, interactive evidence base for heritage protection advocacy directed at local government, the Ministry of Culture, and international bodies; a replicable model for other Albanian and Western Balkan cities facing similar heritage threats.
- **Community and social impact:** Strengthened connection between Durrës citizens and what lies beneath their streets; intergenerational engagement including the testimonies of archaeologists who witnessed both discovery and destruction; foregrounding of female heritage professionals.
- **Digital innovation impact:** Proof of concept for digital reconstruction of erased heritage as both cultural interpretation and investigative documentation; a model for journalism-technology convergence in the service of cultural rights.

Declaration on Generative AI

This handbook was developed with the support of artificial intelligence tools (such as ChatGPT) for language refinement, content organization, and clarity improvement. All content has been reviewed and validated by the author.

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