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DREAM Methodology Guide

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Scope of the document

This *Guide to the application of the DREAM methodology* serves several purposes:

1. Illustrate the theoretical foundations of the DREAM methodology and outline the Crowddreaming method from which it derives. "Chapter 1 - Methodological Framework" deals with this topic. Anyone interested in delving into the theory or making significant adjustments to the operating model should read it.
2. Clarify the objectives of the DREAM methodology. "Chapter 2 - The Dilemma" deals with this topic. Anyone wishing to evaluate whether they might be interested in activating a collaboration with a museum to realize museum performances should read it.
3. Provide the narrative tools to promote the reuse of the project results and the application of the DREAM methodology. "Chapter 3 - The Happy Ending" deals with this topic. Anyone interested in promoting the birth of collaborations between museums and primary schools to realize museum performances should read it.
4. To reflect on the challenges to activating collaborations between museums and primary schools to realize museum performances. "Chapter 4 - History" deals with this topic. Anyone involved in the production of a museum performance should read it.
5. Provide a practical guide and operational tools for staging a museum performance for primary school students at a museum. "Chapter 5 - The Production Plan" deals with this topic. Anyone involved in the production of a museum performance should read it.

Overall, the *Guide to the application of the DREAM methodology* provides useful information for the development in the platform (IO2) and in the training toolkit (IO3) of operational tools on:

- school and museum's internal administrative procedures and the memorandum of understanding between the two organizations;
- the professional training course of teachers on digital storytelling, augmented reality, and use of the digital platform DREAM Museater;





- the methods of production of multidisciplinary museum representations by teachers, in particular for co-creation activities with students;
- the rules for co-curating and reusing cultural OERs produced by the museum and teachers;
- the methods of collaboration between museums;
- the methods of collaboration between teachers and museum operators for the preparation of the representation at the museum;
- the arrangements for organizing student visits
- the staging of the museum performance, also considering students with special needs.





Chapter 1 - Methodological framework

The subsequent chapters of this guide describe the DREAM methodology (**D**igital **R**eality and **E**ducational **A**ctivities in **M**useums). DREAM is an adaptation of the Crowddreaming methodology to the specific context of educational activities in museums. Therefore, it is advisable to provide a general introduction to the latter and some hints on the steps necessary for the adaptation before proceeding further.

It is advisable to remember the expected final result of the project at the beginning, to facilitate the first reading of the Guide,

The DREAM methodology enables museum educators to activate stable collaboration paths with schools to organize museater performance seasons.

A museum performance is a visit to the museum characterized by the following elements:

- It is always led by one or more guides, skilled in using augmented reality technologies, who act as storytellers, actresses, and directors.
- The visit is structured in a way that is functional to the narration of a story. The path of the visit to the museum is studied as stage movements on a theatrical stage and aimed at maximizing the narrative flow.
- The stable objectual set-up of the exhibition is complemented by an augmented reality scenography. The tour guide activates it and makes it perceptible by the public in accordance with the dramatic timing of the narration. An example can be a narrative voice in Latin that can be activated by framing a mosaic portrait from the Roman era. Or, a thematic information sheet is activated by passing near a display case, where the user pre-selected the theme at the beginning of the visit. The advantages of a digital scenography compared to an object set-up are given by not having to respect space constraints (infinite ones can be connected to the same object on display), by the possibility of changing it instantly, and by the option of customizing it based on the profile of the visitor.
- The digital scenography management system allows the guide or the audience directly to integrate the main narrative with personal ideas that emerged during the visit. This function derives from the conception of the museater as a system for managing the story world linked to a museum. The cultural impact dimension of an exhibited object is imagined as a space of narrative waves, which



propagate from it, interfere with the inner narrative worlds of visitors, and are retransmitted, giving life to a complex and constantly evolving cultural space.

1.1 The premises

The Crowddreaming methodology is part of the numerous attempts to elaborate an alternative paradigm to the analytical one that has informed the culture of the last three centuries. Providing sustainable tools for young people to pass on their digital culture to subsequent generations is its specific goal. To understand its meaning, it is necessary first to outline its context.

1.1.1 The first crisis of the analytic paradigm

The analytic conceptual scheme dominated human thought from the 17th to the 20th century. From Newton onwards, we owe it great scientific discoveries, the Enlightenment culture, the industrial era, and the organizational models of all the great modern institutions, starting with the public school.

The scheme was born in theoretical physics with Newton and assumed that it is possible to describe any physical phenomenon completely, splitting it into its components and identifying their relationships. The scheme attributes errors to the accuracy limits of the available measuring tools, and it assumes that refining observations can remove them. It also takes that it is always theoretically possible to reach the ideal conditions of independence of the results from the observation modalities, as postulated by the Galilean method.

For nearly three centuries, humankind believed that it had found the key to deciphering the universe in every aspect. The unstoppable progress resulting from applying the analytical conceptual framework in every field seemed to confirm this belief.

Then came Einstein.

His correct interpretation of the photoelectric effect in 1905 opened the fruitful thirty years of the birth of quantum mechanics. Within a few years, theoretical physicists realized that the analytical conceptual scheme could only be considered correct under extremely particular conditions. The mental attitude begins to shift from searching for the perfect static balance between components of a system to a holistic approach to a world in constant change. These are the same years in which the Cubists



entered the world of art and Bergson, Wittgenstein, Godel in that of philosophy.

However, for about a century after its demonstration, the conceptual falsity of the analytic scheme did not make much of a breach in the common culture. Things changed when the diffusion of technologies for the digital representation of reality ignited the crisis of its operational framework.

1.1.2 The digital representation of reality

"Digital" is an adjective linked to such ubiquitous and profoundly transformative effects of our reality that it has now assumed the value of a noun in many languages. It is often perceived as an elusive intangible and non-material substance in the common feeling, which can be manipulated through computers to obtain results unthinkable until recently. This conceptual error greatly complicates the discussion, especially in cultural heritage. Therefore, it is advisable to clarify the terminology before discussing the challenges inherent in the digital transformation process and their disruptive impact on the operational framework of the analytical conceptual framework.

The digital revolution has its roots in the invention of the microprocessor in the 1970s.

The idea behind this tool is elementary and not new at all: to associate a symbolic value with a signal. It had been done manually for centuries with smoke signals or lanterns. More recently, with the electrical impulses on the telegraph lines. The microprocessor makes it possible to automate the on-off process and, above all, to perform it with a frequency unthinkable for a human being. In less than 50 years, we have gone from about 750,000 states per second that the first microprocessors can represent to several billion of today's ones. And the quantum microprocessors just released on the market demonstrate the possibility of increasing these numbers by several orders of magnitude.

If the value "1" or the value "0" is associated with each state of presence or absence of signal, one of their sequences can be interpreted as a natural number in binary representation. Mathematical theory ensures that all systems of representation of natural numbers on different bases are equivalent to each other. Therefore, it is possible to associate the sequences of states of a microprocessor to decimal or hexadecimal numbers, which humans have used to sort lists since the dawn of history. Letters of the alphabet or a color palette are just two of the endless examples. It





becomes possible to represent texts or images through standard codes and adequate interfaces between humans and microprocessors by exploiting this principle.

However, the power of this method doesn't stop there. Once again, 17th-century mathematics tells us that we can approximate any continuous geometric entity precisely as desired through lists of values. This system of approximation by tessellation can be applied practically everywhere and is the principle that allows us to describe the world through computers through its so-called "digital representation," or numerical, from the English "digit," which in turn comes from Latin "digitus," or "finger."

A typical example of application is in the field of images. A screen is nothing more than a finite matrix of points. A number can identify each pixel, and then the screen can be traced back to a list. In turn, a list of colors can be associated with each point. In modern monitors or tv sets, it is common to have arrays of 4 million dots, each of which can reproduce millions of colors. Combining these two lists makes it possible to produce approximations of images by tessellation, indistinguishable from the original for the human eye. This fidelity is obtainable only if you can generate a sequence of about 1 billion "1" or "0" per second. A task easily within reach of today's commercial microprocessors.

Another typical example comes from the world of music. Each sound can be obtained as a superposition of continuous sine waves. But a sine wave can be approximated by a discrete succession of numbers, which describe its height at a given moment. This process is called sampling. If you can perform and reproduce the sampling with a sufficiently high frequency, a sound indistinguishable from the original is obtained even for the most trained ear.

1.1.3 The vocabulary of "Full Reality"

The ability to manipulate energy to generate semantic value ubiquitously is the break with the past brought about by digital representation technologies.

If he lived in the present day, Michelangelo would probably say that he saw an angel not in the stone to be carved but in the energy and wrote code until he was released. Another great man in human history, Albert Einstein, mentioned above, with his famous equation $E = mc^2$ explained that mass and energy are two different states of matter. The consequence is that a David imagined by the genius of Michelangelo and modeled in marble in



the form of a statue or in energy in the form of a hologram would both be material constructs.

The previous statement brings with it a revealing linguistic problem. It is immediate to describe the hologram as a digital material construct and speak - in a misleading way - of Augmented Reality. But what adjective to use for its marble counterpart?

Before the release of digital representation techniques, there was no litmus test showing that "matter" and "mass" are not the same concept. In common practice, they were confused, and the language did not develop to differentiate the two situations adequately. The adjective often used to identify an object made up of matter present in the form of mass is "tangible," but this is an element that creates confusion in speeches when digital comes into play. The intangibility of the digital is what drives common sense to classify it as immaterial instinctively. Still, it is a categorization that loses its meaning when considering both dimensions of "Full Reality."

Pending the maturation of our culture, we can use the term "objectual" provisionally. It was invented at the beginning of the twentieth century in formal Cubist research and then taken up by Futurists and Dadaists. The term for Picasso and the Cubists emphasizes the semantic value that a material construct assumes in a given context by virtue of its having form as an object. While not a solution that is not entirely satisfactory conceptually, it has the advantage of offering a clear differentiation from a digital material construct that has form only as a process.

1.1.4 The three challenges of the Digital Age

Having shared a common vocabulary, it is possible to clarify how Digital Transformation determines the crisis of the operational framework of the analytical conceptual scheme.

The Digital Era has very few years behind it, and it is still difficult to analyze it from a complete historical perspective.

Three conceptual challenges currently appear crucial:

- The challenge of the Shape of Space;
- The challenge of the Volatility of Time;
- The Challenge of the Acceleration of Change.



The Form of Space

Digital material constructs are not subject to the spatial constraints of object constructs. The possible consequences have so far been only minimally explored. The digital dimension of reality can be imagined as an infinite planet ready to welcome human life but still to be terraformed. Invisible cities are formed, serving communities united not by the fortuitous birthplace on the earth but by sharing interests and cultural values. In many operational applications of the analytic conceptual scheme, an implicit axiom is that an individual or an element cannot be in more than one place simultaneously. This condition often loses its meaning both in the digital dimension of reality and the borderline represented by the so-called Mixed Reality.

The Challenge of Space is an exciting development opportunity in every field, starting from the need to invent a compelling, coherent narrative language with the different psychological rules that apply in these new spaces.

However, it is a challenge that must be faced with caution and awareness for several reasons.

First, if space is not an issue, so is the energy bill. Some estimates calculate that today's energy consumption for the blockchain operation alone is eight times that of France and twice that of the US.

Furthermore, the exponential growth of the human capacity to easily modify the surrounding environment requires developing a "digital consciousness" that is largely absent today. It is an urgent problem: the digital dimension of reality behaves like a black hole that continues to absorb processes at an ever-increasing speed as its mass increases, with no valid operational alternatives remaining in the event of system failure. Failure that is far from unlikely given the current lack of attention to the security and reliability of the systems on which our society depends largely.

The Volatility of Time

The second Challenge is that of the Volatility of Time.

Its extreme volatility over time offsets the advantages enjoyed by the digital dimension of reality over space. A necessary but not sufficient condition for a digital representation to last is to permanently guarantee energy either as a continuous flow or a long-lasting charge. In both cases, the threats to the material survival of a digital construct are numerous. A few examples: the corruption of the medium due to external causes of all kinds, which





also include human error, the interruption of the flow of energy due to breakdowns, policy changes or the extinction of the subject appointed to bear the costs.

Then there are all the problems related to the encoded nature of the digital construct, such as the obsolescence of the necessary hardware, software, or formats used.

Finally, as in the case of object constructs, those who intend to pass on digital cultural content must ensure that it still has meaning and value for future recipients. The giants of Easter Island, for example, have come down to us, but there is no longer anyone who can tell us what they represented that was important for the community that built them with such great effort.

To sum up: the digital transmission of culture is a very delicate and complex process that does not tolerate the slightest discontinuity.

Of the three challenges, it is the one that least undermines the operational framework of the analytical conceptual framework.

The Acceleration of Change

The third Challenge is that of the Acceleration of Change.

The spread of digital representation technologies has significantly accelerated the processes of change in human society at all levels. Discoveries, new products, new ideas, new stories are produced literally at an almost daily rate thanks to the extreme ease of instant communication available to all.

The rigorous analytical conceptual scheme requires quite a long time to elaborate the novelties. Observation, analysis, modeling, verification, categorization, translation of the results into educational packages, training of educators, and, finally, training of final beneficiaries are certainly a quality path, but which needs two prerequisites to function:

- highly qualified in control of the high phase of the process must be in sufficient numbers to handle the subjects from to analyze;
- the observed phenomenon must remain essentially unchanged for a much more extended period than that of the cycle of creation and transfer of knowledge.

Both conditions, but especially the second, fail in the digital age. The exponential growth of the complexity of the systems would require the presence of a huge number of highly qualified and continuously updated experts. Assuming that the ongoing efforts to



achieve this goal were successful, the problem remains that the obsolescence of a large amount of knowledge and skills is now measured in terms of months and not more than years or decades. To keep the operational framework of the analytical conceptual framework sustainable, it should be possible to complete the cycle of knowledge creation and transfer in a few hours or at most a few days. Clearly, it is an impossible goal, also because the very improvement of this process contributes to increasing the problem it has to solve.

Hence the need for a new paradigm.

1.1.5 The stigmergic paradigm and the digital monument

Several attempts have been to define different or partially different paradigms from the analytic one in recent years. The research is still in an exploratory phase, but enough valuable insights are available to begin building prototype systems.

One of the most exciting and promising paradigms is based on the stigmergic principle. Such principle is recognized in numerous self-organized systems in nature, such as ant colonies, which use traces of pheromones to guide movements; or the immune system, which uses cytokines to modify the behaviors of the cells; or the mycelium of the fungi that arranges the growth based on the availability of water and nutrients.

Wikipedia defines the term "stigmergy" as follows:

"a consensus mechanism for the indirect coordination of agents through environmental stimuli. It produces complex and seemingly intelligent structures without requiring planning, control or even direct communication between agents".

This natural system can serve as an inspiration for a conceptual model that postulates the possibility to fully describe a complex system in terms of the expected desired results and a balanced set of stimuli. These factors govern the system's behavior and there is no need to analyze its internal composition and the relationships between the components.

It is a very generic and abstract formulation that needs to be described through a conceptual scheme to be operationally applicable to creating and transmitting digital culture.

The "digital monument" conceptual scheme has proved to be of great use to stimulate questions and reflections, as appropriate for this phase of exploratory research and experimentation. It was born as an elaboration of the "museater" model, applied for the first time





at the "Treasure & Tales," held at the Wilmington (DE) Opera House in the United States in 2014.

We take the point of view not of those who study or admire a monument of the past, but of those who want to build one for the future.

In the pre-digital era, the following objectives were clear:

- to preserve and transmit over time values that are important to one's community in the belief that they are universal and must continue to guide the community for centuries to come;
- build to last;
- impress and promote memory through a story worth telling.

How does the concept of a monument change - if it changes - if you want to build it through a digital material construct?

Applied to this context, the three conceptual digital challenges generate a long series of questions, not all of which are easy to answer:

- What possibilities does the delocalizability of the construct open up?
- Does it still make sense to think of a monument in terms not only of uniqueness but even of originality?
- If the monument is not linked to a specific place, how does its relationship with the community for which it represents a value change?
- How can a digital monument be physically built? What forms can it take
- How do you digitally create a memorable experience like the vision of the Colosseum or the Pyramid of Cheops?
- Are the monument its visible instances or the algorithms that encode them?
- How can the continuous flow of energy required by the visible instances of a digital monument be ensured?





- How do you make sure that the monument is reproducible for centuries without problems with the hardware and software necessary for its existence?
- How are the financial resources calculated and secured to keep a centuries-old process continuously active and effective?
- How is the perpetuation of static social values guaranteed in a complex society in continuous rapid transformation? Does it still make sense to do so?

The above list is far from exhaustive. However, it is highly challenging as it is already.

1.1.6 The contest "Crowddreaming: young people co-create digital culture"

The conceptual scheme of the digital monument was tested since 2016 through the contest for schools "Crowddreaming: young people co-create digital culture." The competition was created to stimulate a double reflection on students and teachers on what it means to pass on digital cultural heritage and how it can be taught.

Teachers and students were invited to think of a monument not as an object but as an ever-changing narrative process. This approach is correct in general, but in the case of monuments made as digital material constructs, the practical consequences of this point of view become significant.

A digital monument does not serve to pass on immutable answers and values but fundamental questions and methods to answer honestly. Specifically, starting with the Crowddreaming contest's third edition, the participants were asked to reflect how many elements of their daily culture are actually indigenous and how many, instead, derive from exchanges with other European populations. Everyone was invited to contribute to creating the "Europa Square" digital monument with a digital construct used to ask to thank another nation for its specific contribution to the development of European transculturality. The fourth edition saw the enlargement of the good Italian practice at the European level, and its results are available on the website <https://crowddreaming.eu>.

Through this challenge, the participants were invited to think about the nature of a digital monument:

- A digital monument is a reflective process: it is a connecting mind that knows itself and evolves by





narrating itself over time and dreaming of its own future.

- A digital monument is an ecosystem: it no longer exists if you separate the construct from the builder.
- The birth and perpetuation of a digital monument are linked to a series of stimuli: identification and sense of belonging, personal relevance of the dilemma, the spirit of adventure, desire to build the future, love for young people, reproductive instinct, economic advantage, cultural improvement, personal growth.
- The economic sustainability of a digital monument over time is a problem that must necessarily be addressed in the design phase. The ingredients of a digital monument are its seminal d.rea.m. (digital reality meme), the c.a.t.s (community augmented tales, stray stories that return home periodically to add their contribution to the collective narrative, and the g.hosts, the generational hosts.

From these hypotheses arises the Art of Crowddreaming, a first attempt to answer the question: "How is a digital monument built?"

1.2 The Crowddreaming methodology

The founding intuition of the Art of Crowddreaming is that every successful project defines a success story. Conversely, being able to imagine a priori the success story of your project can help you plan it effectively, taking into consideration not only the technical-economic aspects but also the emotional and relational ones, which often make the difference between success and failure.

The Art of Crowddreaming aims to train the Connective Mind to the Lucid Dream of the Future and involves three distinct steps:

1. from the Dilemma to the Happy End;
2. from the happy ending to Story;
3. from Story to the Production Plan.

The first phase usually concerns a small group of people and clearly defines both the desired change process and which choices determine it.

The second phase has a dual purpose: to involve a community in the desired change process and to provide its agents with all the





elements necessary to provide their own personal response to the questions and challenges it entails.

1.2.1 From Dilemma to Happy End

A digital monument challenges those confronted with it to provide their own personal answer to a question that defines the community's cultural identity that they recognize in it. It poses a dilemma that stimulates the initiation of a process of personal change in the direction deemed proper and rewarding by the community. Often this question arises from an individual need or intuition and takes shape within a small circle of people.

The first phase of the Art of Crowddreaming facilitates the definition of this dilemma, using some tools of Theory U of the [MIT Presencing Institute](#).

Theory U was born to "design the future as it emerges," following a holistic and stigmergic approach to reality. However, despite being an extremely effective and exciting method, its language betrays the academic origins aimed at the business sector. It can be not easy when carried out in the world of school and especially of the very young. The Art of Crowddreaming proceeds to simplify and, at times, hide this language, placing it in the process of co-creating a story typical of methods such as Design Fiction, Science Fiction Prototyping, and World-building. Thus, abstract concepts such as "Intimate intuition" and "Intent" become the "Dilemma" at the base of a story and its "Happy Ending." The Happy End is the detailed description of the point of arrival of a change process, should everything happen according to the wishes of its author.

Among the many tools present in the Theory U toolbox, coaching circles are most immediately adaptable to the reality of schools and young people in general. Their highly structured context makes it easy to propose them to children and teachers as a peer-to-peer meeting of the creative team called to listen for the first time to the subject of a new story and help the author by providing their instinctive feedback. It is the first step in the crowddreaming process.

1.2.2 From the Happy End to History

According to the stigmergic model, every single agent can be oriented to act for the good of the system as a whole, if subjected to the correct stimuli. The social function of stories has always been to help the public recognize certain choices they might be called upon to make and to be able to assess the consequences and their impact in advance. In particular, if there is a history of change, it means that there is a dilemma, a choice between old and





new. Not only that: if there is a happy ending, there is a success story to tell.

Starting from these assumptions and the dilemma and intent defined in the previous phase, the second step of the Art of Crowddreaming consists of teaching to write success stories of changes to:

- stimulate the individual to seek his own personal answer to the dilemma;
- involve enough people for the effect of the change to be noticeable.

To do this, there is no need to invent anything new: it is enough to study how Hollywood has been building its blockbusters for decades. All Hollywood blockbusters are stories of personal change in the face of great dilemmas. The standard structure has four phases:

1. The Abandonment
2. Research
3. Fight
4. The Renunciation

The Abandonment phase describes the normal starting condition of the main character and introduces the element that forces him to abandon it. Here is where his process of change begins.

In the Quest phase, the main character searches with every iota of energy to solve his problem or for people who can help him solve it. At the end of this phase, he identifies a solution that appears reasonable based on his initial knowledge of him.

In the Fight phase, the main character tries to realize the solution that he has identified but is inevitably doomed to fail, as his evaluation derives from the old self that still he did not understand the nature of the Fight change that involved him. This dramatic phase always ends with the moment of crisis, in which failure appears inevitable.

The Crisis unequivocally demonstrates the inadequacy of one's previous approach and generates awareness of the need to adopt a new perspective. Generally, the main character has difficulty realizing this new truth, which ex-post will appear evident because it will force him to detach himself from a critical element of his life and identity. When the Change has happened successfully, the



main character sees the world with new eyes and understands the need for Renunciation to embrace the unknown and a solution to his dilemma very different from what seemed correct at the beginning.

The previous structure is ideally suited to stories that are to function as a stimulus for individual behavior. It is essential to help the agent of change honestly and thoroughly evaluate the choices from all possible rational and emotional points of view. To allow the agent's identification, all these points of view are assumed by the story's characters and determine their interaction. Any character can be built from eight archetypes: Protagonist, Antagonist, Reason, Emotion, Companion (Trust), Skeptic (Doubt), Mentor (Consciousness), and Contagonist (Temptation).

Having defined the development of the story from the status quo to the desired outcome and the characters representing the different elements of evaluation that come into play for the decisions to be made, the script of the story is built around the intersections of four narrative lines:

the evolution of the context in where the story unfolds; the point of view of the main character; the point of view of the character acting as a catalyst for his change; the point of view of their relationship.

The authors of the theory [Dramatica](#) finally suggest twelve questions to verify the completeness of the conceived story:

1. What is the resolution of the main character?
2. What is the growth of the main character?
3. What is the main character's approach?
4. What is the main character's problem-solving style?
5. What is the engine of the story?
6. What is the limit of the story?
7. What is the result of the story?
8. What is the judgment of history?
9. What is the overall story of the plot?
10. What is the general concern of the story?
11. What is the general controversy of the story?





12. What is the general problem of the story?

The elements introduced so far provide a not too complicated structure to create a well-structured and credible change history. Of course, narrative talent makes a difference in terms of engagement, but clear narratives can be achieved using the basic scheme described in this paragraph.

1.2.3 From History to Production Plan

History stimulates each individual to make informed decisions about a fundamental dilemma for the community to which they belong. For the individual to become an agent of change, it is necessary to facilitate the transition from thought to action in response to the stimulus.

Again, it helps to look at the production techniques of Hollywood blockbusters. Indeed, they provide a narrative context that intrigues children more than learning engineering techniques for project management. Also, they are more flexible as they are based on the independent management of significant events rather than on controlling the execution of tasks according to a precise chain of cause and effect. Giving up by definition in a stigmergic approach to a subject who plans and manages, a system that allows the single agent to operate without having an idea of the overall picture is more beneficial.

The Art of Crowddreaming requires analyzing the scenes of the written change story to identify all the events that must occur to reach a happy ending. For each event, the place, the essential scene resources, the characters who actively or passively participate, their motivations, and their interactions must be identified.

The key to gathering this information is to look for the answer to the question: "This event only occurs if ...". To structure this information, different software to support scriptwriting and production of films or games, such as Aeon Timeline, Scrivener, or Celtx, can be helpful. Their manuals provide many examples and valuable information. However, it is possible to achieve excellent results simply through an organized use of to-do lists, manageable through any writing software. A practical example of this approach is the chapter "The Production Plan" of this one guide.

1.3 From Crowddreaming to DREAM

The DREAM methodology is a verticalization of the Art of Crowddreaming, applied to the specific staging of museum performances for primary school students. The following chapters develop the following themes:



The Dilemma

Is there a meeting point between the new teaching of holistic and stigmergic inspiration and the consolidated one of analytical origin? Is there the possibility of finding an operational solution in the context of museum education, especially for children?

The Happy Ending

Digital technologies make possible the staging of museum performances, which combine the best of the two didactic approaches, responding to the real needs of museum educators and teachers.

The Story

An easy-to-remember story that helps to:

identify all the organizational steps essential for the activation of a museum performance program; evaluate the decisions to be made from all points of view; recognize and manage the different types of reactions to the project within schools and museums.

The Production Plan

All the essential organizational steps are translated into templates of to-do lists and a generic Gantt, which can be easily adapted to the specific realities of museums and schools intending to activate a museum performance program.





Chapter 2 - The Big Dilemma

The DREAM - Digital Reality and Educational Activities in Museums project stems from a big dilemma: is there a meeting point between the new teaching of holistic and stigmergic inspiration and the consolidated one of analytical origin? The project focuses on the specific context of museum education for children to experiment with a solution example that provides a positive answer.

The project proposal itself outlined the first hypothesis of a "happy ending," and then the production activities of this methodological guide refined it.

This chapter describes this path, mainly addressing those who want to evaluate whether they might be interested in activating a collaboration with a museum to create museum performances.

2.1 The Original Insight

The DREAM - Digital Reality and Educational Activities in Museums project stems from a big dilemma: is there a meeting point between the new teaching of holistic and stigmergic inspiration and the consolidated one of analytical origin? The project focuses on the specific context of museum education for children to experiment with a solution example that provides a positive answer.

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2.1.1 The need for a meeting point between formal, non-formal, and informal learning

The joint reading of the Council Recommendation on key competencies for lifelong learning (2018 / C 189/01) and of the *White Paper on the Future of Europe* (2017) outlines a reality in which most children starting primary school today will likely be in professions currently unknown. To keep up with this change, it will be necessary to invest decisively in teaching by skills and rethinking education and lifelong learning systems. The 2018 Recommendation recognizes the very positive impact of its 2006 forerunner. However, ten years later, it identifies the most significant limitation of its implementation by the Member States



in the failure to move from the static conception of curricular contents to the dynamic definition of knowledge, skills, and attitudes, which the learner has to develop during the learning process from an early age. The interrelation between formal, non-formal, and informal learning was seriously insufficient.

In the premises, the Recommendation reads: *"The importance and relevance of non-formal and informal learning are made evident by the experiences acquired through culture ... Non-formal and informal learning play an important role in the development of interpersonal skills, communicative and cognitive essentials ... Better cooperation between different learning contexts helps to promote multiple learning approaches and contexts."* To this end, Recommendation (3.1; 3.4) invites to promote *"multiple learning approaches and contexts, also with the appropriate use of digital technologies, in education, training, and learning ... by strengthening the collaboration between educational, training and learning contexts at all levels and in different fields, to improve the continuity of skills development for learners and the development of innovative learning approaches."*

2.1.2 The desired optimal result

The *DREAM Museater* platform offers an **innovative digital learning environment** to first cycle school students, based on a two-stage **practice**. In the first phase, teachers use the platform to write an immersive interactive story linked to the museum's collections and create digital scenography, also taking advantage of OERs offered by the museum. Part of these activities can engage students, enabling them to develop their digital competence and explore cultural themes in a creative and fun way. In the second phase, the teachers take the students to visit the museum and stage the story, interacting in augmented reality with invisible actors and digital sets, revealed by smartphones and tablets. The immersive narrative paths and the collection of cultural OER curated by the museum extend its exhibition space into the digital dimension of reality, creating a permanent educational story-world in continuous evolution thanks to the interaction with visitors. The DREAM project focuses on first-cycle students, but the method applies to any age. At the methodological level, the need for adequate **evaluation** tools is also considered, referring to the DigComp and DigComp Edu frameworks.

2.1.3 The social and educational value of the European cultural heritage

Suppose the museum context offers a rewarding environment for the development of digital skills. In that case, symmetrically,





digital storytelling techniques and AR technologies allow students to approach the cultural themes of partner museums in an engaging way. DREAM aims to create immersive edutainment experiences and quality cultural OER collections, thanks to the curating action guaranteed by the museums involved, stimulating the beneficiaries of the project to develop **European intercultural** thematic paths, in a sort of invisible transnational meta-museum, materialized in the digital dimension of our reality.

2.2 The Happy Ending - First Draft

The DREAM project will be successful if it ends with the setting up of a museater at each of the participating museums and its regular use by the teachers of the first cycle schools. The DREAM methodology fully describes the practice of collaboration between the host schools and museums, providing guidelines and models for:

- the internal administrative procedures of the school and the museum and their memorandum of understanding;
- the professional training course of teachers on digital storytelling, augmented reality, and use of - the digital platform DREAM Museater;
- the methods of production of multidisciplinary museum representations by teachers, in particular for co-creation activities with students;
- the rules for co-curating and reusing cultural OERs produced by the museum and teachers;
- the methods of collaboration between museums;
- the methods of collaboration between teachers and museum operators for the setting up of the representation at the museum;
- the methods of organizing student visits and the staging of the museum performance, also taking into account the needs of students with special needs.

A museater performance is a visit to the museum based on a predefined script. The guide uses immersive technologies to interact with the digital dimension invisible to the naked eye, revealing contents that are not bound by the limits of the objectual space or interacting with "digital ghosts," which tell stories related to the objects in the collection. Suppose the museum collects,



preserves, and exhibits objects of particular historical, artistic, or scientific interest. Then, the museater collects, preserves, and displays the "story-world," the world of stories related to those objects. In reality, a story-world is a dynamic reality that changes and expands every time a visitor introduces an original narrative element or sets up a new narrative path. Therefore, a museater is also meant to curate and update the story-world. Furthermore, in augmented reality, it is possible to connect virtually infinite levels of information to a place or an object. These last two properties make a museater a fascinating tool for teachers, allowing them to set up interactive exhibits, where the digital content available in AR is created precisely according to the needs of their students. Museums can facilitate this process by collecting cultural OERs at the teachers' disposal to use them to produce their museum representations. This model was successfully applied for the first time by an SGI partner in 2014 in the United States on the occasion of the "Treasures & Tales" exhibition at the Grand Opera House in Wilmington (DE), proposing investigative paths in AR connected to the works on display: Greek and Etruscan artifacts stolen and recovered by the Guardia di Finanza.

2.3 Refining the Happy Ending

The first months of the project were dedicated to in-depth analysis of the needs and verification of the available resources to arrive at a more precise definition of the project's success, or somewhat its desired happy ending. The project envisaged a research path on the needs and expectations for the co-planning systems of educational activities in museums. The approach was articulated by requiring the partners to create:

- a coaching circle with two museum operators outside the project and three primary school teachers of local schools to identify the motivations and expectations regarding the co-design of digital educational activities in the museum area.
- documentary research to map skills and tools useful for co-planning and implementing digital educational activities based on the permanent collections of museums.
- a collection of national and international best practices for the education of first cycle school students' cultural heritage that meet the needs of primary school teachers and cultural operators. These activities helped to adapt the first draft of a "happy ending." The following paragraphs of this section of the guide illustrate them.



2.3.1 The method of coaching circles as a tool of investigation

Coaching circles are a method of listening used widely in the context of Theory U, but which, independently of this, are highly suitable for promoting listening "without prejudice."

This strategy is helpful to bring out and share ideas, sensations, spontaneous bodily reactions generated by listening to the exposure of a problem presented by a case giver to a small group of people (4-5).

The method of coaching circles aims to generate new perspectives towards the question and develop new approaches to respond to it.

The case giver illustrates a current problem and imagines a desirable solution. A session requires about 90 minutes of presence without distractions.

The research process begins with the case giver's illustration of the problem. The group in the first phase must listen without judging. A comparison takes place through sharing images, thoughts, and ideas. A generative dialogue develops, aiming to bring out new elements and points of reference along the path that leads to the desired result.

During the coaching circles held between the various partners of the project, fundamental aspects emerged regarding the needs and expectations of potential beneficiaries and the skills required.

The needs that emerged from the meetings fall mainly in educational, pedagogical, and museum fields. The participants also provided a lot of information about the interests, fears, intentions, and past experiences of the people involved in the project's first phase.

Finally, the setting up of a museater and its regular use by the teachers of the first cycle schools requires the definition of an articulated practice of collaboration between the school and the host museum.

The food for thought that emerged during coaching circles can be grouped into various categories.

The needs in the technological field

The technological aspect is one of the most important to consider for the purposes of the project. In this regard, the following emerged:



- the need to create a different relationship with technology, both on the part of educators and that of pupils;
- the use of digital tools is necessary to support the activities of laboratories and museums.
- The use of digital media in museums and schools must be increased (teachers and museum operators could relate to pupils as influencers or Youtubers do to attract more children's attention).
- as digital content is primarily individual work, there is a great need for feedback.

Museums' needs

The place where the happy ending of history will occur is the museum, which becomes of fundamental importance. From the meetings, it emerged:

- Museums must necessarily reinvent themselves. It is imperative to review how to tell the stories and showcase the exhibited objects within them.
- The presence of anthropologists, historians, sociologists, or art historians with databases and programming knowledge to interpret the final product could be extremely necessary.
- The role of cultural heritage within the education sector must be reviewed;
- The "human touch" is required to create memories.
- The arrangements for organizing student visits and the staging of the museum performance must be organized, taking into account the needs of students with special needs.
- The final digital product, once created, must be kept.
- The scenography of a museum performance is largely digital in nature. It offers environmental content through interactive screens or augmented reality installations. Museum guides, be they museum teachers or educators, need to have an adequate level of general digital skills to be able to move at ease in this context.





Teachers' needs

The project involves the teachers themselves who have expressed the following thoughts:

- Teachers must arrive already prepared on the topics that will be addressed and reflect on the visit with the children once they return to school.
- The visit to the museum can be used as a starting point and then deepen the conversation in class. The teacher and the museum operator must be the first to use digital tools correctly and show students the way. It is, therefore, preferable to start from the knowledge that the child already has about a specific topic.

Students' needs

Finally, the students involved must be enabled to work on the project:

- Students must learn to choose which tool to use according to the situation in which they find themselves and how to take advantage of it.
- It is essential to understand that digital and objectual can enhance each other. When doing activities in museums, for example, the two moments must not be separated. Creativity must always be encouraged and stimulated. The visitor in this way should never be passive.
- Children are more natural to use some programs, mainly in the form of games, but they have to learn how to use educational programs to process photos and texts.
- Students must be made aware that they are creating something that will last, something that other people will give meaning to, and that it is not yet another Facebook or Instagram story or TikTok video from a few hours online.
- Make the students responsible for the content they are creating is crucial. At the same time, they must realize that the digital environment is part of their reality and not a separate world.





- For children with special needs or learning disabilities, a specially trained teacher is required to support their learning activity, customizing the training content.

2.3.2 Required professional profiles

During the analysis of the needs of museum educators and teachers, they confirmed the need for a multidisciplinary effort for the staging of a season of museum performances.

The project partners took charge of identifying the necessary skills and professionalism, describing them through the ESCO framework.

ESCO is the multilingual classification of skills, competencies, qualifications, and occupations for the EU labor market, education, and training. The framework systematically shows the relationships between the different concepts, facilitates comparison with other documents, and allows unambiguous and recognizable language.

The partners reached a consensus on the need to involve at least the following professional figures in museum, school, and digital fields in museum representation projects.

Museum area

Curators of the museum

They play a fundamental role since they know the collection in the museum, the databases, and the software for managing the collections. The curator can monitor the museum environment, prepare programs for exhibitions, document, study, and lecture about the collection.

Educational cultural mediator

The professional who within the museum is responsible for all study and research programs and activities, creates awareness-raising policies related to the cultural site and learning strategies. The role of the cultural mediator is also to plan educational artistic activities and to assess the visitor's needs within the cultural site.

Exhibition Curators

They have the task of organizing and exhibiting the objects and works within the museum. The professional who works in this field has computer and language skills and has a good knowledge of the English language, essential for the project. In addition to interacting with the public, the curator coordinates





operational activities, trains employees, and provides coaching activities.

School area

Kindergarten teachers

They play a fundamental role in the first phase of student learning, promoting children's social, physical, and intellectual development through educational and play activities. The preschool teachers promote language development and guide children through creative expression activities, role-playing, storytelling, and music workshops.

Primary School Teachers

Primary school teachers educate children individually and in groups using various teaching methods and materials such as tablets, computers, and games to adapt multiple teaching methods to the different needs of students.

Support teacher

Has the task of assisting students who have general learning difficulties. After identifying these difficulties, they plan teaching strategies and monitor the progress of individual pupils.

Support teacher for pupils with SEN

Teachers with special educational needs can provide pupils with a series of specific tools, concepts, and strategies to optimize learners' mobility, autonomy, and social integration.

Drama Teacher

Drama teachers provide education to students, commonly children and young adults, in a specialized school setting. They prepare lesson plans and materials, monitor student progress, assist individually when needed, and assess students' theater knowledge and performance through assignments, tests, and verifications. They are able to take a cue from the actions on stage and interact with them, decide the exact timing and procedure in a live environment to produce a smooth and consistent performance.

Digital area

E-learning plan developers

E-learning content developers design and develop simpler forms of digital learning content, including reference materials, slides, assessments, screen-casts, interview videos, and podcasts. They write and provide content for a computer-based learning application.





Web Developers

Web developers develop, implement and document accessible online software based on provided designs, eliminate software glitches and malfunctions, and look for ways to improve the system and platform.

2.3.3 Required skills

From the signing of the memorandum of understanding between school and museum to its staging, the complete life cycle of a museum show involves various distinct phases, each of which requires the possession of specific skills.

Administration

For the purpose of the project, it is necessary to negotiate and manage contracts and agreements regarding terms of service, working conditions, access to land and facilities.

Digital Technologies

Following the content development processes implies knowledge of the techniques used to design, write, compile, edit and organize digital content, such as text, graphics, and video for editorial purposes. To create content, it is necessary to know how to create and modify new materials from text processing to images and videos; integrate and rework previous knowledge and contents; produce creative expression, media output, and programming; treat and enforce intellectual property rights and licenses.

Education

In the context of teaching, it is helpful to know how to create SCORM packages: development of educational packages for e-learning platforms using the SCORM standard (Sharable Content Object Reference Model), planning the learning curriculum by organizing content, form, methods, and technologies for delivering study experiences that occur during the learning path. The professional in this field must be able to teach content to students attending first cycle school: instruct them in the theory and practice of multiple subjects, such as mathematics, languages, and nature studies. The teacher must build the course content based on the students' existing knowledge and encourage them to deepen their studying subjects.

Public relations

All professionals involved in the project must be able to collaborate on an interprofessional level and cooperate with people from other sectors in relation to social work. Knowing





how to interact with others in a wide range of situations using strategies appropriate to the context and purpose is an element of fundamental importance.

Theater

Professionals in this industry must be able to perform at a level accessible to children and young adults while censoring non-recommended content. They must be able to assemble the scenery on stage and inside the museum, interact with the scenes, and decide the exact timing and procedure needed during a live performance to produce a smooth and coherent staging.

2.3.4 Levels of digital competence

The production of a museum show involves significant use of digital skills, as digital is a large part of its scenography. The environmental contents are proposed through interactive screens or augmented reality installations. Through a consensus mechanism between the partners, the minimum levels of skills in digital competencies were identified for each area of expertise through the [DigCompEdu](#) framework’s support, which guarantees homogeneity of language at the European level. The following table summarizes the results:

Professional engagement	Using digital technologies for communication, collaboration and professional development.	museum operators, the minimum level required corresponds to “expert” (B2) teachers an intermediate level of competence is required, “integrator” (B1) it’s enough.
Digital resources	Sourcing, creating and sharing digital resources.	museum operators, the minimum level required corresponds to “expert” B2 teachers the level “integrator” (B1) level is required.
Assessment	Using digital technologies and strategies to enhance assessment	museum operators are required to enter the intermediate level, “integrator” (B2) teachers are required to have a basic level corresponding to



		“explorer” (A2)
Empowering learners	Using digital technologies to enhance inclusion and learners’ active engagement.	museum operators and teachers are required to have an expert level of competence (B2).
Teaching and Learning	Managing and orchestrating the use of digital technologies in teaching and learning	museum operators and teachers are required to have an “integrator” level of competence (B1) (higher levels of competence corresponding to “leader” (C1) and “pioneer” (C2) could be required in particular concerning guidance and teaching.)
Facilitating Learner’s Digital Competence	Communication, content creation, wellbeing and problem-solving.	teachers and museum operators need a high degree of competence ranging from “expert” (B2) to “pioneer” (C2).

At the comment level from the general discussion, it emerged that teachers must be able to experiment with digital technologies in various contexts and for multiple purposes. They must be able to integrate them into their practices. They must be able to use technology creatively to enhance the different aspects of their professional commitment. They must also have already worked with digital tools to understand which can be functional to pedagogical strategies and methods.

Please note that, while *Explorer* or *Integrator* level skills are generally sufficient for the ordinary administration of a fully-functioning museum performance, the working group should include at least one subject with "Leader" or "Pioneer" level skills. He or she can act as a point of reference in the phase of fine-tuning the museum performance and its experimentation.

For ease of reference, the definitions of the skill levels mentioned in the table are shown below.

Explorers

The "explorers" are aware of the potential of digital technologies and are interested in exploring them to improve pedagogy and professional practice. They have started using



digital technologies in some areas of digital competence without following a global or coherent approach. Explorers need encouragement, insight, and inspiration through the example and guidance of peers and a collaborative exchange of practices.

Integrators

Integrators experiment with digital technologies in various contexts and for multiple purposes, integrating them into many of their practices and using them creatively to enhance different aspects of their professional engagement. They are still working to understand which tools work best and adapt digital technologies to pedagogical strategies and methods. The "integrator" needs a little more time for experimentation and reflection, supplemented by collaboration and knowledge exchange to get to the "expert" level.

Leaders

Leaders have a coherent and comprehensive approach to using digital technologies to improve pedagogical and professional practices. They rely on a vast repertoire of digital strategies from which they know how to choose the most appropriate for each situation. They continually reflect and further develop their practices. They keep abreast of new developments and ideas. They are a source of inspiration for others, to whom they pass on their experience.

Pioneers

Pioneers question the appropriateness of contemporary digital and pedagogical practices, of which they are leaders and are driven by the impulse to innovate education further. Pioneers experiment with highly innovative and complex digital technologies and develop new pedagogical approaches. They drive innovation and are a role model for younger teachers.

2.3.5 School-museum conventions

The organization of a season of museum performances requires a non-negligible organizational effort that underlies a continuous and lasting collaboration between museum and school to be sustainable and convenient.

A model of memorandum of understanding to be stipulated between the two institutions is of fundamental importance. The analysis of the contexts already only in the different countries to which the consortium partners belong has revealed significantly different administrative approaches and policies. Therefore, the



most effective solution to facilitate the administrative work is to provide the following three products:

- A basic protocol of understanding, which is limited to sanctioning the common will to collaborate;
- A collection of protocols and regulations from partner countries, which can serve as an example and guide for organizations from the same countries. The collection will be extended to other nations simultaneously as the desirable diffusion at the European level of the project results. The material can be easily adapted for inclusion in the OER archive.
- this guide, which, in its chapters 4 and 5, provides tools and operational indications.

2.3.6 Communication plan

Similar to what has just been written for the administrative aspects, the diversity in communication approaches prevents us from providing a single solution suitable for everyone. Each museum has different ways of communicating projects. Among the most used strategies, there are newsletters and open days at the beginning of the school year, moments in which the various projects are presented to teachers of all grades. During the initial phase, contacts do not take place directly with schools. Museum operators usually contact those who have already taken part in previous initiatives.

Also, in this case, the solution to provide adequate support is creating a section of the OER archive dedicated to concrete examples of communication plans and initiatives, starting with those that the project partners will implement to promote the initiative. Of particular importance will be producing the performances' descriptive materials to provide concrete examples to the new teachers to be involved. The novelty and complexity of the museum proposal suggest this approach to facilitate immediate understanding.

The project is undoubtedly quite complex and involves a predisposition to digital and technology on the part of teachers who do not always possess these skills and often have various difficulties understanding concepts such as virtual reality, augmented reality, museater, etc. Teachers need to touch on projects already carried out or have concrete examples to choose whether or not to join the initiative.





2.3.7 Examples of good practices

Research at the European level did not reveal good practices directly comparable to the museum performance, confirming the originality of the chosen approach. However, the use of immersive technologies is spreading more and more at the museum level. Some examples can be of inspiration for individual aspects of the preparation and execution of a museum show. Some of the most interesting follow below.

Museums tell many stories - Emilia Romagna, Italy

<https://patrimonioculturale.regione.emilia-romagna.it/aree-tematiche/patrimoni/musei/retrospettiva/museums-tell-many-stories>

The "Museums tell many stories" project, funded by the Community Program Socrates Grundtvig for the two years 2006-2007, intended to promote access to places of culture and cultural activities to a growing number of audiences belonging to different ethnic groups or with different cultural backgrounds. The project aimed to develop the skills of the staff of cultural institutions which deals with heritage education and cultural mediation to support intercultural learning through the elaboration and development of methodologies with which collections and objects belonging to other cultures can be interpreted and made accessible to the public through creative narration, storytelling. A working group was set up of representatives of partner institutions and operators of educational services present at the museums to initiate learning, exchange, and professional growth. The main objectives of the project were:

- to develop a critical approach to the interpretation and preparation of collections in museums to identify the existence of barriers that prevent their full accessibility and use by people belonging to different cultures or traditions;
- the search for ways in which the museum exhibits and interprets objects belonging to other cultures, to make them meaningful (also through the active involvement of the public through the use of theatrical techniques, storytelling);
- researching ways in which the museum exhibits and interprets objects belonging to its cultural heritage and culture to make them meaningful to all and to seek examples of good practices to support intercultural and



multicultural learning and education through the use of museum objects.

The Center Pompidou - Paris, France.

<https://www.centrepompidou.fr/en/programme/for-kids-and-teens>

The Parisian museum implements a series of projects aimed at involving the youngest pupils, from kindergarten to primary school. The goal is to explore the leading figures of modern and contemporary art through workshops related to exhibitions or to put school programs into practice with visits to the museum. All the activities of the Pompidou Center are designed to allow pupils to play an active role in their discovery of art. The educational activities of the Center Pompidou favor the encounter between pupils, art, and its creation. He invites all pupils to build a rich and consistent personal culture during their school years. The museum visits were designed for the first discovery of art through the words, actions, stories of storytellers, actors or musicians, etc. These visits take the form of playful and contemplative journeys through the main works of the Center Pompidou collection. This is not an actual project, rather a chance to visit. Teachers can book the visit to the museum they consider most suitable for their class. The museum offers various itineraries for the little ones, from guided tours by “guide-animators” to drawing or DIY workshops.

The Histopad at the Palace of the Popes in Avignon - Avignon, France.

<https://www.bienvenueenprovence.fr/it/visita/il-palazzo-dei-papi/>

An immersive digital visit to go back in time and see the invisible!

Avignon Tourisme invites all visitors to the monument to this unique diving experience virtual in the past, in the heart of the largest Gothic palace in Europe, with the Histopad. The museum offers 1,000 interactive tablets, included in the admission price. Visitors will be the actors of their visit: with the Histopad interactive tablet they will be equipped with, thanks to 3D technologies, augmented reality, and a powerful geolocation system, they will be able to see at 360 ° how the building was 800 years ago and how you lived there, as well as know its history. The Histopad shows spectacular historical reconstitutions, entirely elaborated by a scientific committee.

"Histopad," an i-pad instead of an audio guide. Excellent and fun too. Everything works with wi-fi: every time you enter an environment, the description is automatically activated. In almost all the rooms, there is the so-called "time gate," if the tablet





approaches it, the virtual reconstruction of the environment of the time starts. Then there are other options, from the representation of the itinerary to the reconstruction of the building in 3D.

Fortress baron museum and Diocletian's palace - Sibenik, Croatia.

<https://www.tvrdjava-kulture.hr/en/barone-fortress/augmented-reality/>

The Fortress Baron museum in Sibenik includes virtual reality tours, augmented reality, interactive rooms, and 3D animations. Also, in Sibenik, Diocletian's Palace is called a livable museum as it is one of the best-preserved palaces among the Roman ruins. A virtual tour was created inside the palace, narrated in the first person by Diocletian himself. In augmented reality, clothes of the time and pieces of furniture of the building were recreated to make the experience more immersive.

Mobiilimetkaa museum - Finland

<https://tekniikanmuseo.fi/wp-content/uploads/2016/10/mobiilimetka.pdf>

In Finland, the Mobililimetka Museum offers media education courses to the youngest ones. The workshop is provided to an audience of children ranging from 9 to 12 years. The project consists of a workshop that accompanies children on an adventure in an invisible world. The media are involved in the lives of children and young people even before their birth. This is the reason why a workshop of this type is exciting as well as important. A child has a wide range of media experiences, from watching movies and TV shows to reading books. Media education is not just about teaching and guiding but also about collaboration. Learning to use the media properly from an early age means learning to make observations and choices and act in a meaningful and safe way.

MOOC digital education with cultural heritage - Europeana

<https://pro.europeana.eu/post/introducing-the-europeana-mooc-digital-education-with-cultural-heritage>

To increase digital cultural data as a reliable primary source - essential in this era of disinformation - and to implement innovative pedagogies, the Europeana "Digital Education with Cultural Heritage" MOOC enables teachers and educators to use digital technologies, essential for developing students' skills of the 21st century. This online course will explore the educational potential of digital cultural heritage, improving the understanding





of teachers and educators to integrate it into their lessons and practices effectively, regardless of the subject they teach. The ultimate goal is to design engaging, deep learning content for students, museum-goers, or lifelong students to prepare them as active and responsible citizens with key competencies to thrive in life. This course will promote innovative pedagogical approaches and facilitate open schooling and spaces hybrids for education, linking museums, libraries, and other cultural institutions with schools through educational activities based on cultural heritage assets.

EdMuse

<http://edmuse.eu/>

EdMuse is an open platform for collaborative work in the learning environment through the use of API technology that aims to make the digital cultural heritage of museums and others available to teachers, students, and cultural institutions. The data obtained from the system can help teachers in preparing educational courses and allow students to create their own reports. Students will experience this educational content directly in the classroom and by visiting the places where various objects used during the lessons are kept. The platform was developed by the partners of the EdMuse project funded by the Erasmus plus Agency.

App Hidden Florence - Florence, Italy.

<https://hiddenflorence.org/>

The Hidden Florence app is free and invites you to six unique tours of the Renaissance city through the eyes of a "contemporary" guide, including wool workers, policemen, bankers, and matriarchs. Following in the footsteps of the guides allows the visitor to imaginatively engage with Renaissance Florence as a lived experience while going to places that most tour guides tend to overlook. With the app, users can navigate the streets of Florence in a new way, using both a modern and superbly detailed map to hunt for statues, shrines, squares, and palaces. As you go along the tour, the set guide tells you vivid stories about its neighborhood and the city center. In addition, the guide exposes its views on everything from city politics to dice games in taverns, and everything from Lorenzo de 'Medici to the apothecary on the street corner. In essence, the Hidden Florence app connects people to the city, entertaining them without neglecting the historical research behind the project.

Edigma for the House of Volcanoes - Pico Island, Portugal.



https://edigma.com/project/f9f8138b8054cd2f1959e6308415eeb2/Volcanoes_House

At the center of the island of Pico, in the Azores, we find the House of the Volcanoes, which represents the starting point for the knowledge of the islands' volcanoes and is an important tool for disseminating heritage with particular attention to geodiversity. Edigma was part of this odyssey. It conceived and implemented cutting-edge technological solutions, which allow you to experience sensations such as the journey to the center of the Earth or the simulation of an earthquake through a simulator. The modules that introduce knowledge into space are distinct, allowing the exploration of themes such as the formation of the Universe or the micro-reliefs that we can find in the Azores. Through a dome permanently installed in this place, it is possible to make a journey to the earth's center in an immersive environment created by the sensory capsule. The 360° projection gives the space a set of emotions that allow the visitor to feel at the planet's center. It is clearly a tribute to Júlio Verne's far-sighted imagination. A second piece that makes the House of Volcanoes a unique place in the panorama of the pedagogical dissemination of knowledge of the deep life of the planet Earth is the educational seismic simulator integrated with virtual reality glasses. This simulator, capable of moving in three directions and thus inducing physical and psychological sensations of incredible realism, is equipped with a library of earthquakes that have already occurred.

M9 a Minecraft adventure for sustainability - Mestre, Italy

<https://www.m9museum.it/m9-edu-festeggia-1600-anni-venezia/>

Museo del '900, with its educational department M9 Edu, launched Climate Hero, a new game on the Minecraft platform set in Venice and designed to promote sustainable and responsible living among the youngest. The game features a modern hero, a champion of sustainability who accepts the challenge to raise awareness of adults and children on the issues of the Green Semester of M9 - just presented as part of the temporary exhibition Foresta M9 - and the sustainability objectives of the 2030 Agenda, launched by the UN in 2015. Through gaming, you can reach a broader community that goes beyond the topics addressed in the classrooms. The goal is to bring as many young people as possible to the sustainable development goals of the 2030 agenda.

Zaffiria center for media education - Borgo Marina (Rimini), Italy.

https://www.zaffiria.it/category/media_education/





The Rimini education center has devised an augmented reality treasure hunt through the streets of Borgo Marina. Children must find and collect the augmented reality cats designed by Wald Taher using tablets or other devices during the treasure hunt.

Bricks Lab and the Divine Comedy - Italy

<https://lacom3dia.brickslab.it/>

Com3dia is an innovative educational project that offers multimedia and interactive tools to immerse yourself in Dante's masterpiece. A 3D reconstruction of the journey of Dante to study the Divine Comedy in an unprecedented way and discover its surprising relevance. It is a cross-media experience in which audio, text, video, and graphic novels are used in digital education. All the settings have been reconstructed starting from Dante's descriptions of places and noises. Nine virtual environments have been created for nine chants of the Divine Comedy, and each is linked to a great theme of citizenship. For example, the fifth chant of Hell, "the Lustfuls," is connected to the theme of gender-based violence.





Chapter 3 - The Happy Ending

This short chapter describes in the form of a narrative synopsis all the desirable elements in case of the initiative's success. It is the starting point for developing a story that will describe all the operational and relational steps necessary to achieve the objective.

Jack and Jill are married. He is a museum educator while she is a primary school teacher. Their family and professional life flow smoothly when a tragedy strikes their life and their little girl Victoria withdraws entirely in herself.

For a fortuitous event, Victoria resumes talking and interacting with others in the Egyptian room of the museum where Jack works. She manages to communicate when she tells stories inspired by the comments of the visitors of the hall.

Jack and Jill embark on a mission to give structure to these narrative moments hoping that over time they will contribute to Victoria's return to normal. Thanks to the enthusiasm of some colleagues who support them and after overcoming numerous obstacles, Jack and Jill successfully organize a pilot museum performance. To get there, they design and create an augmented reality path with a friend of theirs who is an expert in immersive digital technologies. Thanks to it, children can interact with the digital ghosts that inhabit the museum. To get to this point, they work hard. They must first convince the leaders of their organizations and involve their colleagues. Then they study themselves to develop the many necessary skills and pass them on to colleagues. They create a library of digital content that teachers can use to create paths. They activate a joint multidisciplinary working group between museum and school. They have to make even difficult decisions about what to overlook in their traditional businesses. There is no time to do everything. The children prepare the visit to the classroom and carry it out on the day later, recognizing the museum a lot of material prepared by themselves and their teachers.

The initiative's success leads to the signing of a simple memorandum of understanding that establishes the roles of the two parties, supplemented by an operational manual that explains what to do to organize the performances.





Chapter 4 - The Story

Vic Heart of Snow and the Cat with the Big Yellow Eyes

Jack and Jill are husband and wife.

He is a museum educator. She teaches in primary schools. Both are young, but with a few years of difference between them. They have a wonderful child, Victoria. Vic for everyone.

Often in the afternoon, Jack is forced to take Vic to work because they don't know who to leave her with. Usually, he entrusts her to a blind guardian of the museum.

The Blind Woman has never seen the "originals". For her, the artworks are the stories and the comments she hears in the hall that she guards since her first day at the museum.

Vic loves spending time with her. She loves hearing her stories and drawing them.

But Vic and the Blind Woman are never alone in that hall.

The Cat with Big Yellow Eyes, like all cats, sees ghosts.

She is attracted to the emotions they transmit. As a puppy, she stubbornly sneaked into the museum, and there was no way to keep her out of there. The employees never understood why she was so determined. Eventually, they gave up and adopted her.

She often sleeps on the lap of the Blind Woman, who told Vic the story that cats see ghosts. The child believes it and follows the Cat with the Big Yellow Eyes in search of them. Vic hears their voices because, like all children, she still doesn't know that this is impossible. And she learns. She builds a fantastic view of the world and recounts her conversations with ghosts to her mom and dad in incredible detail.

Jack and Jill are a little bewildered.

Okay, Vic is still a little girl. Still, they are not sure that fantasizing that much is good, even though she occasionally surprises them with truly unusual insights. However, the truth is that they are very proud of Vic. She is a precocious, brilliant child who does exceptionally well in school.

It's true, she is very introverted and shy, but this is sure to change as she grows up. There is nothing to worry about despite the concerns of the new fledgling colleague who sees behavioral disturbances all over the place.



One day Jill receives a call from the Principal of the school where she teaches. Vic also studies there. Vic had a fight with another little girl and is acting weird.

The little girl teased Vic because she talks funny, then she spat her and later pushed her to the ground. Vic was silent and passive the whole time. When she fell to the ground, she tore off her school uniform. Vic stared at the uniform for a few seconds in silence. Then she panicked, and she calmed down only when the teacher had the intuition to take off her broken school uniform. Vic sat down at the desk, picked up her notebook, and started drawing, ignoring the outside world. She hasn't stopped since then.

Vic hasn't spoken for months. She is good, calm. She listens. She obeys. But she doesn't speak. At school, she always understands brilliantly everything the teacher teaches and draws it. She does it more to oblige to the irrepressible need to express herself than to communicate. However, she does not prevent others from looking at her drawings if they want.

The world collapses on Jack and Jill. They don't want to accept that their beautiful child is not "normal". They try them all, but the experts' opinions agree: Vic has an autism spectrum disorder, and they will have to learn to live with it. No therapy seems to be able to get her to talk again. One day Jack, despite himself and with a thousand concerns, is forced to take Vic back to the museum in his office. At one point, Vic disappears. Jack's heart stops. He looks for her like a madman. He finds her sitting next to the Big Yellow Eyed Cat and the Blind Woman. And she is talking.

Between the hope of a return to normal and the terror of possible disillusionment, Jack and Jill begin to take Vic to the museum every day after school. The miracle is repeated regularly. Vic listens to the Blind Woman, who tells her about the visitors' comments to the hall, follows the Cat with the Big Yellow Eyes, and sits where she stops. There she begins to maintain a dialogue apparently with no one and build a story based on the comments reported by the Blind Woman. In fact, just as adults cannot see them, ghosts too cannot perceive adults. But they hear children loud and clear.

The Cat with Big Yellow Eyes often stops by an alabaster vase depicting the goddess Bastet. She loves to do this, especially when a ray of sunshine stubbornly reaches the white base of the case despite the keepers' efforts to fix the curtains and prevent it. But that's not why she keeps going there.

Bastet loves the human puppy. After centuries of absolute silence, too rarely interrupted by very brief, almost unintelligible murmurs,





the articulate and detailed tales of Puppy with the Heart of Snow are intoxicating. Bastet wants her to keep telling stories, purrs, and projects an intense feeling of pleasure and gratification. Vic feels it. The sensation confuses her, but it is pleasant, and therefore she is happy to talk to Mama Cat. A daily routine is established in the pleasing illusion that it will always be like this from now on. But one day, a simple flu forces Vic home for a few days. The Cat with the Big Yellow Eyes wanders nervously through the museum's halls and hisses at Jack when he approaches her. Bastet is desperate: after so much joy, new centuries of oblivion are a thought as intolerable as her feeling of helplessness. Finally, Vic returns to the museum. The Cat with Big Yellow Eyes snuggles happily into her lap. Bastet is determined: she will never again become a prisoner in the silent darkness of an inanimate object. And she talks to Puppy with the Heart of Snow as she has never talked to her until that moment. Suddenly, snuggled with the Cat with Big Yellow Eyes in her favorite spot at the end of that ray of sunshine that shouldn't be there, Vic turns to the incredulous parents: "Mama Cat wants me to teach other children to tell the stories about her. But I don't know how to do it."

Jack and Jill can't believe this little miracle. Maybe their wonderful baby will return to normal eventually. They are ready to do whatever it takes for it to happen. They arrange a short visit with Jill's students. It works wonders. Vic is calm because "Mama Cat won't let anything bad happen to me." She interacts with other children and with her parents. The children create drawings that Vic keeps and that she continues to fantasize about the next day. Here the problems arise. Vic wants to repeat the experience every day because "Mama Cat is so happy." After saying this, she withdraws into herself again and categorically refuses to create her stories somewhere else.

Jack and Jill realize they have to make regular visits, but this can't be improvised. There are so many difficulties starting with the fact that one thing is a removable set-up created once on the fly to accommodate children, and one thing is a permanent one in a place open to visitors of all ages. It is the first objection that the Director of the Museum raises when Jack talks to him about the idea. He is not against it, but he poses a whole series of practical problems that must be solved to give the green light to the initiative in the museum's interest. But there are other points of view to consider as well. Vic needs daily stimulation to hope that she will return to communicate with others. It is undoubtedly unthinkable to bring visiting classes to the museum every day. How to do it? They need an idea that solves these problems and benefits everyone.





Perhaps digital technology could be the silver bullet that solves all these problems in a second. Still, Jack & Jill don't know enough. But they know who they might ask. They contact Andrea, a creator of immersive digital installations, with whom Jack had worked long ago. They had become quite friends, and Andrea had also met Jill and, above all, Vic.

Once he learns what happened to Vic, Andrea throws herself headlong into the enterprise. Together they study, design, talk to Jill and Jack's colleagues and friends. Tony, a colleague of Jill, gets excited about the idea and joins the group. He is Vic's support teacher and is always looking for new ways to engage the students in his care. In the end, the right inspiration comes from Shakespeare. If "The world's a stage," why not create a digital one in augmented reality where you can stage personalized interactive visit experiences for children inside the museum? A "museater" which is not limited by space constraints, hosts infinite digital scenographies simultaneously, each of which is visible only by its recipients without disturbing those who want to relate only to the objectual dimension of the works on display. A portal to the Story-World inspired by the elements of the museum's collection. Because a work of art is not an object but a process that takes place over time like a wave that spreads through the people who come into contact with its message. It is a matter of intercepting these narrative waves, favoring creative interference between them, and collecting the results so that their cultural energy does not dissipate into the void of oblivion but moves into the Story-World and helps shape it. Culture is a renewable energy that multiplies by sharing it among people. It is the energy that fuels dreams, which are the place where world-changing revelations unfold when they become stories shared by enough people.

After a few days, Andrea calls. She is excited. She developed a prototype that she thinks will work great. She invites Jack, Jill, and Tony to explain everything. At the end of the demo, everyone is convinced that it will work, but now comes the trick. They have to persuade others. And there's another problem: The New Great Exhibition project, written by Jack and his colleague Murray, has been approved. It is a vital project for the careers of both, but also for the museum's definitive scientific rehabilitation, after a rather difficult period due to some questionable choices of the previous director. This makes everything more complicated. The Director will be less inclined to give distractions or take risks, Murray won't want to help, and Jack himself should be working full time on the New Great Exhibition. He bet his career on this event.

Jill went berserk just hearing him saying that, but it's not that simple. Vic requires a lot of special attention, and money is



needed. Jack is thinking of just that as he watches Vic sitting quietly, drawing in her favorite spot by the Egyptian ointment pot showcase. For the umpteenth time, that curtain that does not want to stay in its place moves, and a ray of sunshine illuminates Vic's face. She laughs happily and begins to tell one of her fantastic stories. The Cat with the Big Yellow Eyes purrs and rubs the baby, almost as if she were happy to hear her stories. The decision is made. But the New Great Exhibition will still be a distraction that will make Jack waste a lot of time, no matter how hard he tries to work at it as little as possible.

The Director of the Museum is a good man. He is pragmatic and competent. As soon as he took office, he had quickly resigned himself to the presence of the Cat with the Big Yellow Eyes. He immediately felt that the employees would choose her without hesitation if it came to a "She or me." Anyway, the Museum's scientific reputation was already bad in itself, certainly not because of that old cat. Moreover, he thought that Mother Nature would solve the problem by itself by the time he was finally ready to restore the institution's credibility. To be honest, according to the Blind Woman, that cat had started "working" at the museum more than twenty-five years ago with her, and she seemed perfectly able to live another twenty-five.

The Director has always turned a blind eye to Vic's presence and, indeed, has grown fond of the child. When Jack introduces him to the museater idea and the school collaboration project, he listens very carefully. Even without taking into account the benefits to Vic, the proposal is intriguing. And it might work. But he also clearly sees many reasons that could cause it to fail. And Murray reacted violently. He was very graphic about not wanting to compromise his career because the Museum got distracted playing with a side experiment while curating the New Great Exhibition. His Instinct would advise him to say yes, but his Reason votes "no." This is not the right time. They will try but only after the conclusion of the New Great Exhibition.

Feeling guilty towards poor Vic and uncomfortable because a little voice inside him tells him he is missing an opportunity, the Director begins to explain his decision to Jack. He hopes that he will understand that it is best that way for everyone. However, he can't finish the speech.

It is said that a Cat can stare at a King. Let alone a museum director. The Cat with the Big Yellow Eyes sneaked into the room unnoticed, and she jumped on the desk. Now she is staring at the Director. She's sitting in one of those Egyptian statuette poses. She





looks like a cat willing to wait all the time in the world to get what she wants.

After a few seconds, the Director breaks the silence: "Okay, we will start immediately with the museater too, but before my final green light, you will have to solve a long list of problems that I will tell you, Jack." To Murray's spirited remonstrances, the Director cut it short harshly: "It's my decision. Settled issue." Murray is breathing heavily in anger. He storms out of the room, slamming the door.

The voice assistant of the Director's laptop breaks the embarrassed silence, offering his unsolicited help. The Cat with the Big Yellow Eyes activated it by walking on the keyboard.

"It was clear that you were telling me no. May I ask what made you change your mind?" ventures Jack.

The Director stares at his left hand. His face is crossed for a moment by a grimace of pain.

"I owe my life to a cat. When I was four, I was riding a tricycle in the driveway. It was never known what was wrong with the neighbor's dog, which had always been quiet. He attacked me and started biting me. Missy, our cat, ran out of the house and made that big dog run away. I don't know how it would have ended without her. I have a debt to cats. Take me for crazy, but I feel like I've just been asked to pay it off. Today is your lucky day. Don't make me regret giving you this opportunity."

Jill has an easier time with her Principal. She explains her project from a school perspective and does not take long to convince her of the potential benefits for the students. The Headmaster looks favorably on these experiments and will give Jill her unconditional support, as long as she convinces other professors to participate. In her opinion, an indispensable condition for success is the multidisciplinary nature of the initiative. To help Jill, she will convene a presentation meeting herself. To the bureaucratic concerns of the Administrative Director, she replies that the only allowed question with projects like these is only "How can I make it happen?"

At the meeting with her colleagues, Jill shows up prepared. With the help of Andrea and Jack, she prepares a short explanatory video and a simple demo that demonstrates the ease of use of the tools. This covers the "how." To explain the "why," she doesn't use a presentation. Everyone's attention must be focused on her. If she does not convey her belief, she cannot hope to obtain that of others. Above all, she talks with the potentially interested



colleagues one by one and convinces them before the meeting. Which is indeed a success. With the dragging effect of the immediate adhesion of already convinced colleagues, a critical mass of teachers willing to invest some of their time is quickly reached.

Once the green light has been obtained, the implementation phase begins.

Tony volunteers to solve administrative problems, as he already has some previous experience. He meets with the Administrative Director to collect the list of all bureaucratic doubts. Then he talks together with Jack with the administrative manager of the Museum, who is very collaborative and already has examples of strategic collaboration agreements with schools. A few calls to his contacts at those institutes, and he is able to provide answers to Tony and Jill's Director's anxieties. The result is a simple memorandum of understanding that describes above all the reason for the collaboration. The operational details will be described in the attached guidelines, which will facilitate the work of museum teachers and educators in subsequent years. It will be updated as the experience develops.

A joint workgroup is set up to facilitate cooperation. The school is represented by Jill, Tony, and Rose, the digital animator. She has become an enthusiastic supporter of the project. It is not a problem for them to coordinate with the various colleagues who are genuinely intrigued. Most of the others, as always, will follow them later, when the novelty of the experiment has become a routine activity. At that point, it will not cost any effort to organize a museum performance as part of the curricular or extra-curricular activities. For Jack, it's different. Murray has seen the proposal of this project as a betrayal. He never misses an opportunity to try to thwart him, convinced that he is taking away resources from the New Great Exhibition and endangering their reputation. The museum is small, and there are not all these human resources available. The Director has given the green light, but he will not divert any of them from the New Great Exhibition. Jack is alone. This involves a double risk: too much work and too little sharing with colleagues. Murray's open hostility doesn't help either. Some take sides with him, and others just don't want to meddle. That way, it won't turn out well. But how to solve this problem?

Jack, Jill, Tony, and Rose begin to work together to organize the pilot museum performance. A class of Rose will be involved. Tony and a couple of other teachers will help out. Jack arranges a visit to the Museum to identify the theme and focus on the possible path. Andrea also participates, showing how the teacher-guide-actor can



exploit digital technologies to actively involve children. Finally, Jack shows the museum's digital content already available to teachers to build their performance. After brainstorming, it is decided that the Museum will produce a couple of additional digital content of general interest. Jack will help the professors create specific ones for their performance. Some will be made by the children themselves so that they can find their "works" at the museum. Drawings, above all.

Once the contents have been produced, it's time for the first rehearsal. Under the guidance of Andrea, Jack, Jill, and the other professors use the web platform to place content along the visit path. Jack verifies that all hardware resources are working correctly. Still, under the guidance of Andrea, Tony and Rose rehearse the visit, using Jack and Jill as an audience. The test highlights the lack of some meaningful content, which fortunately are already available in the OER archive created by the Museum. And even some stage movements are not too convincing. A new brainstorming session allows them to formulate an improved script. New rehearsal. This time the result is convincing. Ready to go on stage!

Tony and Rose involve their little students in a workshop activity. To help Vic, they decided to use the visit to talk about Ancient Egypt. The performance will end in front of the pot of ointments with the effigy of the goddess Bastet that she seems to love so much. They explain something about the Nile, Ancient Egypt, and its religion. They tell the story of the goddess Bastet. Children will have to imagine that they are cats and use their sense of smell to recognize a place or an object. In class, they are stimulated to identify four distinct smells and to associate them with some elementary reactions such as "I like it!", "It disgusts me," "I feel safe," and "I better run away!". For each smell, they create a drawing. During the visit, they will be asked to associate a scent with a particular object at crucial moments and explain why. The guide will use the touch-screen near the thing to create a mosaic with images related to the scent chosen by each little student. Eventually, the smells produced by all the kittens will be enclosed in the cat goddess's ointment jar and stored there in the Museum.

The day before the performance, Andrea and Jack upload the children's drawings and check that everything is ready for the next day.

They say that Fortune is blind. That might be true or not. However, it is undeniable that Misfortune sees very well, and it owns a perfect sense for timing too. Due to a last-minute setback, the decisive meeting with the curators of the museums who should





lend the artworks for the New Great Exhibition is anticipated by a few hours, and it will overlap with the first museum performance. Jack has no real choice. He will not be able to participate in the performance.

Tony and Rose arrive at the Museum with their class. The children are excited by the trip itself for sure, but even more so because their teachers explained that the museum is full of ghosts. If they are lucky, the kids will see some of them and maybe even talk to a ghost! Not only. If the ghosts like what the children tell, they might decide to keep their drawings with them. Their works could remain in the museum forever. Their moms and dads could come and see and would be so proud of them! The other teachers involved in the project came to attend and understand how it works. The Blind Woman is with them too. She holds the Cat with the Big Yellow Eyes in her arms and asks Andrea the courtesy to guide her. She doesn't want to miss a word of this event. Jill, of course, is with them, holding Vic by the hand. She doesn't like that her husband can't be with them right now. She can only imagine how anxious he is. And at the worst possible time for him.

Tony and Rose take turns in performer and tutor roles, the latter making sure that the students don't scatter. All the children compete to give a caress to the Cat with the Big Yellow Eyes. In honor of her, some imitate a cat when they participate in the game of smells. They are intrigued, have fun. And at one point, Tony uses augmented reality to summon the first digital ghost. Kids react naturally to the technology they were born into, and their innocent fantasy does the rest. They want to take a selfie with him. Rose explains that the ghost can hear them, but she says he can't talk to them because they are still too young. However, if they ask questions, the ghost will respond, and she will act as an intermediary. Two elderly visitors smile under their austere beards, exchange a glance of assent, and interrupt their visit to follow the school from a distance with amused discretion.

The second digital ghost is a girl of the same age as the students. "Why does she look so sad?" Asks a small voice from the group. Tony, who had chosen the photo for didactic reasons without giving too much weight to the expression, has to improvise: "It's because she feels alone. She can never talk to anyone, and that's why she's sad." "I'll talk to her!" The little girl screams as she runs to hug the air where she saw her new ghost friend through Tony's tablet. Not without a questioning look at the teacher to be reassured that she is in the right place. Ten seconds later, an inextricable tangle of small arms and shrill voices suffocates the sad ghost with affection.





After a few minutes, the visit resumes not without effort, and it reaches its last stop in the room of the jar of ointments. The Cat with Big Yellow Eyes leaves the Blind Woman's arms with surprising agility for a cat of that age. She rubs Vic's legs, and together they go to sit in their usual ray of sunshine. Before Tony or Rose can begin to give the final indications, Vic takes control of the situation: "Now I'll explain how to tell your stories to Mama Cat." And so she does. She asks, talks, corrects, and silences. In a flash, all the children tell an invisible listener about their drawings, what they discovered in that exciting morning, and everything connected in their head. It's a tangle of stories that feed each other. Noticing Rose's puzzled look, a little girl approaches her and reassures her: "Don't worry, Mrs. Rose. This ghost can talk to us children. We can do it alone."

Meanwhile, Jack's meeting isn't going well. Their project has been appreciated from a scientific point of view but offers no particular reasons for a collaboration with a museum that is certainly not a star of the first magnitude. At other times, it could have been taken into consideration. Still, now with the economic difficulties, decreasing donations, increasing difficulty in attracting the public... No, nobody can deprive oneself of works of great appeal for a nice exhibition that has no chance to stand out in the crowd of the hundreds already available. There would be neither economic nor visibility return. This is the opinion of the two curators of the two most important museums seated at the table. Without their works, the Great New Exhibition will occur, but it will be condemned to failure.

Jack is disappointed but not as disappointed as he would have expected. He knows they are right. After working at the museater performance, in his heart, he understood what a group of young art lovers had answered a couple of years earlier when he asked them what they were looking for in an exhibition. The answer was: "We want more. Obviously, it's great to see the original works. Still, the rest ... it's all perfect, accurate, and rigorous, but it's too little. It's nothing compared to what I can learn about the same artwork off the museum. Once, the works contained in a museum were unique. One could not discover them except by looking at them directly in the museum. Now, they are the original source of an artistic message and its derivations that one can connect with in a thousand different ways and places. A museum used to give someone the real thrill of discovering a work he had only heard about. Now getting excited in front of an original seems more like an unavoidable social convention. Everything else happens elsewhere. We would like an exhibition that would bring all of it back into the museum."





The mood is heavy. The Director is desperately trying to find a way out that isn't there. Murray is ashen in the face. Jack only thinks of Vic. If everything is working, he at least could try to promote the experience in another museum when he is inevitably fired at the end of the New Great Exhibition.

The door opens. Two long-bearded elderly gentlemen apologize to everyone for the intrusion. Then, looking directly at the two curators of the leading museums: "Before we are harshly scolded for interrupting an important business meeting, there is something that our kind spouses can't miss to see before the show ends. This museum is doing what we have never been able to do even with our grandchildren."

Epilogue 1: The warrior's rest.

She can't stop her tears. In the silence of the room, now empty after the children have happily left, she cannot see that she is curled up calmly at the end of the sunbeam under Bastet's vase. But she heard her exhale her last breath. It breaks her heart to think that day after she will have to go back to work in that room and the Cat with Big Yellow Eyes will no longer be there with her.

Epilogue 2: Everyone is happy.

The children on the bus ride back to school tell the stories they invented for the Mama Cat and which they will remember for a long time, along with what they needed to learn. They will do it again the next day in class in the presence of a very interested Principal. The pilot was a success beyond all expectations, and everyone wants it to become a regular appointment. Not only that, but it will also enter the program of the New Great Exhibition. Even Murray understood that they are two complementary ways of pursuing the same goal.

Epilogue 3: Looking ahead.

Jack and Jill watch Vic sleeping with a big smile on her face after a field day. By creating the museater, they selfishly tried to get her back to their old normal, but that world no longer exists. However, they can help her to be happy by living this different normality of her. It is time to look forward. And, who knows, maybe even think about having another child.

Epilogue 4: Full Moon.

Midnight. A moonbeam caresses Bastet's ointment jar, projecting the black silhouette of a tiny intruder onto the white base of its showcase. The puppy nimbly jumps to the top of the window and





sits down. She gazes at the sky. The Full Moon reflected in her Big Emerald Eyes.



Chapter 5 - The Production Plan

This chapter is divided into three sections.

The first contains some general indications on developing a production plan in the context of the DREAM methodology.

The second contains all the models necessary to compile the production sheets, which make up the plan. Instructions for its filling accompany each card.

The third contains all the production plan sheets of the story "Vic Heart of Snow and the Cat with the Big Yellow Eyes," narrated in Chapter 4. The story and production plan form an exemplary package, which anyone can easily adapt to the context and the needs of their museater performance.

5.1 Tips for creating a production plan

Any project can be described through a series of cards as in the production plan of a film. A correct application of the DREAM method involves creating a card for each scene, character, place, and resource present in the story. It is essential to respect this indication, even if it may seem excessively expensive in terms of commitment and time. In this way, it becomes easy examining the project from every angle and not risk neglecting essential aspects both in the planning and execution phase. This is precisely the advantage of using a methodology like Crowddreaming/DREAM, making the difference between an amateur and a professional job.

However, creating a card does not necessarily mean filling it out. The level of detail to use for each card depends on the importance of that element in the economy of the story and is left to the designer's common sense and experience. The cards for critical resources or activities should be filled out with great care and in great detail. At the other extreme, the cards for accessory or easily available elements could also be filled simply with a descriptive title. The meaning of this recommendation is immediately apparent to any professional who is involved in the organization of any type of live event.

Lists are a lifesaver.

Especially when you find yourself acting in real-time and under pressure, not having to remember what needs to get done, but being able to check it on a well-tryed list reduces errors and helps you to proceed faster. For events that require absolute precision, at least three lists are used only for the preparation of the environment (stage, set, exhibition, .etc.): a general one for the set up of the environment, one for the checks of the day before, and



one for the checks for the last few minutes before the event starts live. The last two also always contain indications on what to do and where to find the necessary resources if one of the checks highlights a problem. If a lamp broke within 15 minutes of starting a live broadcast, you certainly don't want to have to think about where you could go to find a replacement.

Of course, a museum performance for the benefit of a class of children generally does not involve events that require the level of accuracy described in the previous example. Typically, only two or three very detailed tabs will be needed. This method must be seen as a support and not as a constraint.

It is very important that after each performance the people involved in the activities proceed to a review of the cards to integrate and correct them where necessary. In this way, over time, the production plan will be consolidated into an absolutely reliable tool available to anyone.

5.2 Card templates

This section contains a template with compilation tips for scenes, locations, characters, and assets.

5.2.1 Scene Template

This is by far the most important model and will be used most frequently.

Scene nn <i>(Replace nn with a scene identification code.)</i>	
General information	
Title	<i>Replace with a short mnemonic title of the scene.</i>
Type	<i>Replace with the type of activity (Event, Meeting, Task, Deadline)</i>
Goal	<i>Replace with the reason why the activity is being performed. What do you want to achieve? What is his desired result? It could be an immaterial result (for example, the consent of a person) or material (the production plan of a performance).</i>
Relevance	<i>Replace with the relevance of the scene in the economics of the success story of the project (Critical, Important, To be done if possible, Accessory).</i>
Place	<i>Replace with the indication of the place where the scene will take place. Add every useful detail. Eg "Computer room. It is necessary to book it at the Secretariat at least one week in advance."</i>



Date	<i>Replace with the date or period in which the scene should take place.</i>
Duration	<i>Replace with the expected duration of the scene.</i>
Protagonist(s)	Replace with the character(s) protagonists of the scene. Remember that the protagonist is he or she who advances the action. For example, if the scene represents a meeting, the contacts of those who must convene and conduct it should be indicated in this field. If you have already identified the actors who will play the characters, it may be useful to add the names in brackets.
Participants	Replace with the names of the other characters participating in the scene. If you have already identified the actors who will interpret them, it may be useful to add the names in parentheses.
What should I remember to do before the scene?	
<p><i>Do I have to involve some particular person?</i> <i>Is it necessary to invite her to be sure she is attending?</i> <i>Do I need to talk to her first to get her support?</i> <i>Is there a need for some particular resource? A video projector? A computer? A meeting room?</i> <i>Do I have to do something to ensure its availability?+ Do I have to carry out some preparatory activities such as preparing a presentation?</i></p>	
What should I remember to do during the scene?	
<p><i>What are the essential passages of the scene?</i> <i>Replace with the lineup of essential activities in the order in which they should occur and any notes may come in handy.</i></p>	
What do I need to remember to do after the scene?	
<p>Should leased or borrowed resources be returned? Do reports need to be completed? Do you need to produce and distribute material? Do you have to thank someone specifically? Is a follow-up meeting required?</p>	

5.2.2 Location Template

This template is used to list useful information about the locations where one or more scenes of the story take place.

Location nn <i>(Replace nn with a location identification code.)</i>	
Description	<i>Replace with the name or the description of the location</i>
Position	<i>Replace with the address or position of the location. If necessary, also enter directions to reach it. For example, in the case of a school's</i>



	<i>computer lab, the content of this field could be: "M. Rossi Primary School, first floor. Enter through the back door of the building."</i>
Accessibility	<i>Replace with information on how to access the location. Is it difficult to reach? Does it have to be booked? Is it only available at certain times? Does a specific person have the keys? Does it present problems with access by students with special needs?</i>
Responsible	<i>Replace with the name and contact details of the person responsible for the location. It is a field to be considered mandatory in case there is a need for reservations or other similar accessibility constraints.</i>
Scenes	<i>Replace with the list of scenes hosted at this location.</i>
Note	<i>Replace with any remarkable information.</i>

5.2.3 Character template

The cards of the characters involved must be managed carefully. They are the most typical example of a card that can only be filled with the name and a little more in most cases. However, when they need to be developed, they can trigger privacy problems. They might also make the management of personal relationships challenging.

It must be understood that a card describes a character and her role in the story, not a specific person. For example, in the next section, Tony and Rose’s character sheets describe the part of the museater guide and explain what he or she should do. It is not important who will play the role at the performance design level.

To limit unnecessary complications of managing personal data related to the GDPR legislation, it is advisable to record only the actor’s name who plays the character, possibly even only with initials or other forms of identification. Any data such as contacts, schedules availability, or similar information is more practical for it to be registered separately.

More delicate is the management of the cards relating to problematic characters within the story. They are the most valuable cards, but it is recommended to share a blank card in public and place all the useful information pinned on personal devices. The presence of the card will act as a reminder of a potential problem, but the absence of data will avoid embarrassing situations.



Character nn <i>(Replace nn with a character identification code.)</i>	
Name	<i>Replace with the character's name.</i>
Description	<i>Replace with a short description of the character. Does it have to have particular physical, psychological or social characteristics? For example, does he have to be a teacher?</i>
Role	<i>Delete from the following list all the archetypal roles not represented in the character. Protagonist - Antagonist - Mentor - Distraction Reason - Emotion - Faith - Skepticism</i>
Actor	<i>Replace with the name or any identifier of the actor playing the character.</i>
Scenes	<i>Replace with the list of scenes where the character appears.</i>
Note	<i>Replace with any remarkable information.</i>

5.2.4 Resource template

It is strongly advised to create a card as a reminder for each material resource or service required for the realization of a scene of the story. However their complete compilation is only necessary when difficulties are expected for their availability.

Resource nn <i>(Replace nn with a character identification code.)</i>	
Name	<i>Replace with the resources's name. For example: 65" TV-Set</i>
Description	<i>Replace with a short description of the resource. Does it require a special cable or plug? Are there problems of availability? Does it have to be booked? If so, how? Does it have to be purchased? If so, where, how and by whom? Is it an online service? What is your url?</i>
Note	<i>Replace with any remarkable information.</i>

5.3 Example of a production plan

This section contains an example of a production plan of the story in Chapter 4.

The reader can use the plan both as a didactic tool to better understand the practical application of the methodology in general, and as a starting point to be adapted for their own museum representations. In this second case, the correct approach is to start tailoring the story in Chapter 4, and only then adjust its production plan accordingly.





5.3.1 Scenes

Scene 01	
General informations	
Title	Jack and Jill make a decision
Type	Informal meeting
Objective	<p>In order for a museum performance or even a season of museum performances to take place, it is necessary for both the museum and the school to have two animators who are convinced that they want to achieve this goal. There are three main objectives of this kind of meeting</p> <ul style="list-style-type: none"> • To share what a museum performance is, usually starting with an example; • to make explicit the motivations of both parties; • Decide whether each party feels comfortable promoting a single performance or a season at their organisation. Or evaluate that it is not the case. An immediate 'no' is the second best answer after a firm 'yes'. <p>In the case of Jack and Jill the inspiring example is seeing Vic invent stories with the Blind. A small thing is usually enough for the motivated person to understand the potential of the idea. The rest of the way he builds it immediately in his own mind.</p> <p>The main motivation is obviously the restoration of the daughter's ability to interact with others. In reality, the creation of a museum performance expresses an effort to open up a museum to communication with children on their own terms. The opposite is also true: teachers make an effort to ensure that children do not have an autistic attitude towards art and culture.</p> <p>Jack and Jill initially choose a cautious approach of experimentation without involving anyone else to see how far they can go. This is one of the possible decisions to be made in the preliminary informal meeting.</p>
Relevance	Critical
Location	
Date	First step of the initiative
Duration	A few dozen minutes



Protagonist(s)	<ul style="list-style-type: none"> • Jack, museum educator • Jill, primary school teacher
Participants	
What should I remember to do first?	
<p>The person promoting the meeting - usually from the museum - needs to be clear about his or her motivation and the potential benefits for the speaker. Furthermore, he/she has to be able to show a clear and incisive example.</p> <p>The caller - usually from the school - must be clear about their motivations and their room for manoeuvre within their organisation.</p>	
What should I remember to do during the scene?	
<ul style="list-style-type: none"> • Breaking the ice • Quick explanation of what a museum performance is • Viewing a practical example • Discussion • Decision on next steps 	
What should I remember to do next?	
<ul style="list-style-type: none"> • Follow-up call from the person who promoted the meeting to confirm their strong dedication to the project; • Organisation of agreed activities. 	

Scene 02	
General Information	
Title	Can't be too careful
Type	Event
Objective	To check one's own expectations regarding the museum performance
Relevance	Accessory
Location	Museum where Jack works
Date	
Duration	A couple of hours
Protagonist(s)	<ul style="list-style-type: none"> • Jill, primary school teacher • Jack, museum educator
Participants	<ul style="list-style-type: none"> • Children from Jill's class • Jill and Jack's daughter Vic • The Blind Woman
What do I need to remember to do first?	
<p>It's a small school outing that doesn't need any special preparation, apart from the usual permissions.</p> <p>It's also routine for the museum and no special preparation is required, apart from checking that everything is in order for a simple demonstration performance.</p>	
What should I remember to do during the scene?	



The Blind Woman tells Vic one of her stories to trigger interaction between the children. Jack and Jill act as facilitators.

What do I need to remember to do next?

A quick meeting to exchange impressions is useful.

Scene 03	
General information	
Title	Jack Probes the Terrain
Type	Meeting
Objective	Jack wants to make sure that there are no prejudicial obstacles to the activation of a museum performance season.
Relevance	Importance
Location	Museum Director's Office
Date	
Duration	Few minutes
Protagonist(s)	<ul style="list-style-type: none"> • Jack, museum educator
Participants	<ul style="list-style-type: none"> • The Museum Director
What should I remember to do first?	
<ul style="list-style-type: none"> • Prepare a 30-45 second elevator pitch to capture the Director's attention; • Be clear about why the museum should run a museum performance programme. 	
What should I remember to do during the scene?	
<ul style="list-style-type: none"> • Elevator pitch; • Concise illustration of the advantages for the museum. 	
What do I need to remember to do afterwards?	
It might be useful to send a memo to the Director, summarising what was said verbally.	

Scene 04	
General Information	
Title	All the world's a digital stage
Type	Meeting
Objective	To define the functional and non-functional requirements of the digital stage management system for museum performance.
Relevance	Critical
Location	Home of Jack & Jill
Date	
Duration	10-20 hours, spread over 2-4 weeks
Starring	<ul style="list-style-type: none"> • Andrea, expert in immersive technologies
Participants	<ul style="list-style-type: none"> • Jack, museum educator



	<ul style="list-style-type: none">• Jill, primary school teacher• Tony, support teacher• Other teachers
What should I remember to do first?	
<ul style="list-style-type: none">• Jack needs to be able to explain how a museum performance should work in his museum.	
What should I remember to do during the scene?	
<ul style="list-style-type: none">• Jack explains the idea of a museum performance from the museum's point of view;• Jill explains the idea of a museum performance from the point of view of the primary school;• Tony explains the needs of pupils with special needs;• Occasionally, other teachers from different disciplines are heard who might be involved in the operational phase;• Andrea interviews Jack and Jill to translate their ideas into functional and non-functional requirements for the digital stage.	
During the scene it emerges that:	
<ul style="list-style-type: none">• The designed digital platform has to manage all phases of the production and staging of a museum performance. Precisely:<ul style="list-style-type: none">– Facilitate the process of defining agreements between school and museum. The minimum level of assistance to be guaranteed is a section where one or more memorandum of understanding templates, the updated operational guide and a collection of updatable F.A.Q. are made available;– Care and sharing of a digital collection of cultural OER. The museum educators of each museum participating in the platform should be able to:<ol style="list-style-type: none">1. Create digital OER, uploading their contents and completing them with adequate descriptive metadata to facilitate search;2. Update, evaluate, comment and delete existing OER. The privileges to perform these activities are differentiated on the basis of the user's profile and ownership of the resource;3. Maintain collections of digital OER;4. Share collections with anyone or with predefined groups of users;– Staging a museum performance, through guided compilation of templates for each of the main scene types (see section 5.2 of this guide). Two approaches can be followed to enable simple collaborative development. The first involves	



customising a CMS system with specific page templates and the possibility of collecting pages into collections. The second is oriented towards file sharing. It offers a cloneable and editable document template with Git-style versioning services;

- Integrate the script with the elements of digital scenography for augmented reality fruition, integrating digital narrative resources (video, 2D and 3D animations, audio, etc.) from the OER collection or available through an external reference. Ideally, all digital content should come from the OER collection and be included in the script as simple internal references;
 - Designing the digital set design and stage movements of the museum performance, using floor plans, 3D reconstructions and 36° photos of the environments as reference. In a similar way to script writing, an interactive web-based design approach or a file versioning approach can be followed;
 - Designing multi-museum displays and representations, thanks to the possibility of total or partial access to OER collections created by several museums;
 - Generate the AR experience that allows access to the digital stage and its contents from the museum guide's mobile device.
 - Manage users and their access privileges;
 - Learn how the platform works and understand its possible uses through a help and tutorial system.
- The platform should include a specific component for mobile devices that allows participation in the museum performance in augmented reality. Compatible with technology developments, ideally the AR experience should be persistent, i.e. accessible by several users at the same time and in a way that they can interact with each other. Ideally, the different users should be able to choose the character to be played or, from a technical point of view, access different content according to their profile. This function is useful to stimulate the interaction of young visitor-actors, who can tell each other what they see differently.

What should I remember to do next?

Andrea has to collect what has been agreed with Jake and Jill in a shared document.



Scene 05	
General Information	
Title	Performance demo
Type	Task
Objective	To create a simple demo to show the essential elements of a museum performance.
Relevance	Importance
Location	
Date	
Duration	1 week
Protagonist(s)	<ul style="list-style-type: none"> • Andrea • Jill • Jack
Participants	
What should I remember to do first?	
No special preparatory activities are required beyond what has already been done in the previous scenes.	
What should I remember to do during the scene?	
<ul style="list-style-type: none"> • Identify the subject of the performance. • Obtain a map of the museum where the performance will take place and possibly some photos of the environment. • Create a simple AR experience activated by a picture. • Stage a simple scene built around the AR-activated image. 	
What should I remember to do next?	

Scene 06	
General information	
Title	Internal prototype test
Type	Meeting
Objective	To verify the validity of the demo within the production team before showing it in public.
Relevance	Critical
Location	Jack & Jill's House (location is not relevant)
Date	
Duration	1 hour
Protagonist(s)	<ul style="list-style-type: none"> • Jack • Jill
Participants	<ul style="list-style-type: none"> • Andrea • Tony • Rose
What should I remember to do first?	
<ul style="list-style-type: none"> • Prepare a list of all materials and services needed for the 	



<ul style="list-style-type: none"> test. Check the list before the arrival of the other participants.
What should I remember to do during the scene?
<ul style="list-style-type: none"> Running the demo Comment session and elaboration of possible improvements.
What do I need to remember to do afterwards?
<ul style="list-style-type: none"> Write a report with all decisions to be implemented and details of changes to be made.

Scene 07	
General Information	
Title	Museum presentation
Type	Meeting
Objective	To convince the responsible persons to authorise the performance.
Relevance	Critical
Location	Office of the Museum Director
Date	
Duration	30-60 minutes
Protagonist(s)	<ul style="list-style-type: none"> Jack
Participants	<ul style="list-style-type: none"> Museum Director Murray The Cat with the Big Yellow Eyes
What do I need to remember to do first?	
<ul style="list-style-type: none"> Check that you have all the materials required for the demo Check that all the necessary equipment is working 	
What should I remember to do during the scene?	
<ul style="list-style-type: none"> Describe the benefits of what you are going to propose in 60-90 seconds. Run the demo. Explain the details. 	
What do I need to remember to do next?	
<ul style="list-style-type: none"> Send a memo to all meeting participants with the essential decisions made. 	

Scene 08	
General Information	
Title	Presentation to school leaders
Type	Meeting
Objective	To convince those responsible to authorise the execution of the performance
Relevance	Critical
Location	Office of the School Principal



Date	
Duration	30-60 minutes
Protagonist(s)	<ul style="list-style-type: none"> Jill
Participants	<ul style="list-style-type: none"> Head teacher Administrative Director
What should I remember to do first?	
<ul style="list-style-type: none"> Check that you have all the materials required for the demo Check that all necessary equipment is working 	
What should I remember to do during the scene?	
<ul style="list-style-type: none"> Describe the benefits of what you are going to propose in 60-90 seconds. Run the demo. Explain the details. 	
What do I need to remember to do next?	
<ul style="list-style-type: none"> Send a memo to all meeting participants with the essential decisions made. 	

Scene 09	
General Information	
Title	Internal presentation
Type	Event
Objective	To involve a sufficient number of professors in the project to ensure the necessary multidisciplinary.
Relevance	Importance
Location	The school's main hall
Date	
Duration	1 hour
Protagonist(s)	<ul style="list-style-type: none"> Jill
Participants	<ul style="list-style-type: none"> Tony The School Principal Rose (Digital Animator) Jill's school teachers
What do I need to remember to do first?	
<ul style="list-style-type: none"> Contact a number of key teachers in advance to ensure they will speak in favour of the project at the meeting. Ensure the head teacher's participation and stated support for the project. Prepare a short presentation. Check that the demo is fully functional. Check that the computer that will be used is correctly matched to the projector. Check that the presentation appears correctly on the computer that will be used. 	



What should I remember to do during the scene?
<ul style="list-style-type: none"> • Brief explanation of the benefits for the school, students and colleagues present. • Running the demo. • Presentation to explain the details and clarify the commitment required from the participants.
What should I remember to do next?
Contact immediately colleagues who have shown interest to involve them operationally.

Scene 10	
General Information	
Title	Share with colleagues from the Museum
Type	Meeting
Objective	To obtain the cooperation of museum colleagues
Relevance	Importance
Location	Museum Meeting Room
Date	
Duration	30-60 minutes
Protagonist(s)	<ul style="list-style-type: none"> • Jack
Participants	<ul style="list-style-type: none"> • Murray • Jack's colleagues
What should I remember to do first?	
<ul style="list-style-type: none"> • Contact in advance the colleagues most directly concerned to gain their public support for the project. • Secure the participation of the Director and his declared support for the project • Prepare a short presentation. • Check that the demo is fully functional. • Check that the computer to be used is correctly matched to the projector. • Check that the presentation appears correctly on the computer that will be used. 	
What should I remember to do during the scene?	
<ul style="list-style-type: none"> • Brief explanation of the benefits for the museum and colleagues present. • Running the demo. • Presentation to explain the details and to clarify the commitment required from the participants. 	
What should I remember to do next?	
Contact immediately the colleagues who showed interest to involve them operationally.	



Scene 11	
General Information	
Title	Coordination Group Meeting
Type	Meeting
Objective	To coordinate school-museum activities.
Relevance	Critical
Location	Jack & Jill's House
Date	
Duration	The entire duration of the project. Frequency as needed.
Protagonist(s)	<ul style="list-style-type: none"> • Jack • Jill
Participants	<ul style="list-style-type: none"> • Tony • Rose • Andrew
What should I remember to do first?	
<ul style="list-style-type: none"> • Have the two organisations nominate their representatives 	
What should I remember to do during the scene?	
<ul style="list-style-type: none"> • Approve the agenda • Short progress report from all participants • Approval of activities to be carried out 	
What should I remember to do next?	
<ul style="list-style-type: none"> • Produce concise minutes • Make sure everyone reads the minutes 	

Scene 12	
General information	
Title	Informal meeting with colleagues at school
Type	Meeting
Objective	To agree on how to proceed with activities.
Relevance	To do if possible
Location	Teachers' room
Date	
Duration	Several meetings of a few minutes
Protagonist(s)	<ul style="list-style-type: none"> • Jill • Tony • Rose
Participants	<ul style="list-style-type: none"> • Other teachers involved in the performance
What do I need to remember to do first?	
<ul style="list-style-type: none"> • It may be advisable to set up a chat channel where you can invite all the teachers involved. 	
What should I remember to do during the scene?	
This entry is a placeholder for the small meetings needed during	



<p>this kind of project to agree on activities, check progress and keep each other updated.</p>
<p>What should I remember to do next?</p>
<p>Record the results of the conversations and share them with all potential stakeholders on the chat.</p>

Scene 13	
General Information	
Title	Informal meeting with colleagues in the museum
Type	Meeting
Objective	To agree on how to proceed with the activities.
Relevance	To do if possible
Location	Not relevant
Date	
Duration	Several meetings of a few minutes
Protagonist(s)	<ul style="list-style-type: none"> Jack
Participants	<ul style="list-style-type: none"> Jack's colleagues
What should I remember to do first?	
<ul style="list-style-type: none"> It may be advisable to set up a chat channel where you can invite all colleagues involved. 	
What should I remember to do during the scene?	
<p>This item is a placeholder for the small meetings needed during this kind of project to agree on activities, check progress and keep each other updated.</p>	
What should I remember to do next?	
<p>Record the results of the conversations and share them with all potential stakeholders on the chat.</p>	

Scene 14	
General information	
Title	First reconnaissance in the museum
Type	Task
Objective	To acquire the elements for the first version of the screenplay.
Relevance	Critical
Location	Museum hall where the performance will take place
Date	
Duration	2-3 hours
Protagonist(s)	<ul style="list-style-type: none"> Jack
Participants	<ul style="list-style-type: none"> Jill



	<ul style="list-style-type: none">• Tony• Rose• Andrew
What should I remember to do first?	
<ul style="list-style-type: none">• Make sure that there are no activities planned in the relevant rooms that could be disturbed by the survey;• Obtain an up-to-date and accurate floor plan of the rooms.	
What should I remember to do during the scene?	
<ul style="list-style-type: none">• Recognition round of the elements on the map;• Annotate the map with information about the flow of visitors. It is necessary to try to imagine how the group of children will move and what could be the points and moments of dispersion of the group in order to prevent them with activities of the museum guide or accompanying persons. The visit route should also be designed to minimise these distractions.• Annotation of the map with information about the travel time between the different stations of the performance. This is important information to calibrate the linking stories in the script phase.• Take 360° photographs of all environments (ideal solution) or video sequences showing them.• Take photos of all important details.• Check for dead spots in the wifi coverage.• Identify the stations on the visit route. The choice is conditioned by the presence of points of interest (exhibits, information panels, monitors with content created by the teachers) and suitable spaces for the group to interact with the guide.• Study the Guide's movements and positioning in order to condition the group's movements and guide the participants' attention.• Study the complementary movements of the companions to facilitate the management of the group.• List all possible technical problems. For example, the presence of reflections on a glass case containing an object, whose image is used as a trigger for an AR experience. Reflections could confuse the image recognition system. A "safe" framing must be studied or, if this is not possible, an alternative way of activation must be decided.• A sound map of the environment should be drawn up to ensure that any audio contributions are sufficiently audible.	
What should I remember to do next?	
Make and share a report.	



Scene 15	
General Information	
Title	Content production
Type	Task
Objective	To stage the performance and prepare all its digital content
Relevance	Critical
Location	Diverse location
Date	
Duration	2 months
Protagonist(s)	<ul style="list-style-type: none"> • Jack • Jill • Tony • Rose
Participants	<ul style="list-style-type: none"> • Andrea • Other teachers contributing occasionally
What should I remember to do first?	
Stage 14 must take place before this one.	
What should I remember to do during the scene?	
<ul style="list-style-type: none"> • Define the educational objectives of the performance • Establish the sequence of scenes that will make up the performance; • Associate a "station" in the museum to each scene; • For each scene define how it contributes to the educational objectives, identify the characters, write the dialogues, describe the scene movements and list all the necessary resources; • Create the audiovisual content to support each scene; • Use the DREAM platform to 	
What should I remember to do next?	

Scene 16	
General information	
Title	Test - Backstage
Type	Task
Objective	To verify that the stage set-up is in place
Relevance	Critical
Location	Museum rooms where the performance takes place
Date	
Duration	2-3 hours
Protagonist(s)	<ul style="list-style-type: none"> • Jack



Participants	<ul style="list-style-type: none"> • Jill • Tony • Rose • Andrea (Technical Support)
What do I need to remember to do first?	
The Scene 15 must have been completed.	
What should I remember to do during the scene?	
You must carry out a technical function test to check the accessibility of all digital material from the rooms where the performance will take place. In addition, it must be verified that all the material is actually the correct one and that it is usable in an appropriate way. This test is particularly important for materials that contain spoken audio. The activity is led by Jack (museum educator) and involves all the content creators (Jill, Tony and Rose) and technical support (Andrea).	
What should I remember to do next?	
Jack produces a list of all possible actions to be taken. If they are significant, a second field test will be necessary.	

Scene 17	
General Information	
Title	Test - Performance Test
Type	Event
Objective	Test performance to fine-tune it
Relevance	Critical
Location	Museum room where the performance takes place
Date	Can take place simultaneously with Scene 16
Duration	3-6 hours
Protagonist(s)	<ul style="list-style-type: none"> • Jack
Participants	<ul style="list-style-type: none"> • Jill • Tony • Rose
What should I remember to do first?	
You must have completed scenes 15 and 16.	
What should I remember to do during the scene?	
Stage by scene a rehearsal must be carried out as if performed in front of the audience. You should check that: <ul style="list-style-type: none"> • The Museum Guide is able to perform the scene properly; • All digital materials are accessible without difficulty; • The stage movements of the Museum Guide can be carried out in a fluid and unobstructed way. For example, it should be verified that she is never forced to cross the audience or go around obstacles. It should be checked that he/she is 	



<p>always able to have visual control of the group.</p> <ul style="list-style-type: none"> • The movements of the stage assistants are coordinated with those of the guide and help to move the group in the desired manner; • The timing of the scene movements to check that they are appropriate and that the Guide’s speech is of a duration compatible with them; • The Guide shows the audiovisual content in a way that is easily perceived by the children’s audience.
What should I remember to do next?
Tony and Rose (the main museum guides) draw up a list of all the improvements to be made for the final test.

Scene 18	
General Information	
Title	Content review
Type	Task
Objective	To refine the script, content and staging
Relevance	Critical
Location	Diffent location
Date	
Duration	1 week
Protagonist(s)	<ul style="list-style-type: none"> • Tony • Rose
Participants	<ul style="list-style-type: none"> • Jack • Jill • Andrew
What should I remember to do first?	
This Scene necessarily follows Scene 17	
What should I remember to do during the scene?	
<ul style="list-style-type: none"> • Do the activities listed in the lists produced as a result of Scenes 16 and 17. 	
What do I need to remember to do next?	

Scene 19	
General information	
Title	Test - Final performance test
Type	Event
Objective	To verify that the performance can be performed perfectly
Relevance	Critical
Location	Museum rooms where the performance



	takes place
Date	
Duration	2-4 hours
Protagonist(s)	<ul style="list-style-type: none"> • Tony • Rose
Participants	<ul style="list-style-type: none"> • Jack • Jill • Andrew
What should I remember to do first?	
Scene 18 must be completed.	
What should I remember to do during the scene?	
<p>The final rehearsal takes place in two stages. The first replicates exactly the structure of Scene 17. And precisely: Scene by scene a rehearsal must be carried out as if performed in front of the audience. It is necessary to check that:</p> <ul style="list-style-type: none"> • The Museum Guide is able to perform the scene properly; • All digital materials are accessible without difficulty; • The stage movements of the Museum Guide can be carried out in a fluid and unobstructed way. For example, it should be verified that she is never forced to cross the audience or go around obstacles. It should be checked that he/she is always able to have visual control of the group. • The movements of the stage assistants are coordinated with those of the guide and help to move the group in the desired manner; • The timing of the scene movements to check that they are appropriate and that the Guide's speech is of a duration compatible with them; • The Guide shows the audiovisual content in such a way that it is clearly perceptible to the children's audience. <p>The second phase involves performing the performance in one go exactly as it is to be staged. This phase should be repeated until the performance is perfect.</p>	
What should I remember to do next?	

Scene 20	
General Information	
Title	Workshop session with children
Type	Event
Objective	To prepare the visit with the children and have them prepare materials that will be used to make them feel part of the museum.
Relevance	Significance



Location	Classroom
Date	
Duration	1 or 2 working sessions
Protagonist(s)	<ul style="list-style-type: none"> Rose
Participants	<ul style="list-style-type: none"> Tony
What should I remember to do first?	
<ul style="list-style-type: none"> Decide on method of classroom management Deciding on the theme of the children's work (scents) 	
What should I remember to do during the scene?	
<ul style="list-style-type: none"> Explain how the visit will take place and motivate the children. Explain their task to the children Assist the class in carrying out the task Digitise the children's work (scans or photos of drawings) 	
What should I remember to do next?	
<ul style="list-style-type: none"> Ask the parents for permission to use images or videos taken during the visit for the production of educational material. 	

Scene 21	
General information	
Title	Uploading materials produced by the children
Type	Task
Objective	To make the children's work available during the visit.
Relevance	Significance
Location	
Date	
Duration	1 hour
Protagonist(s)	<ul style="list-style-type: none"> Rose
Participants	<ul style="list-style-type: none"> Tony
What should I remember to do first?	
This must be the end of Scene 20.	
What should I remember to do during the scene?	
Use the DREAM platform to upload student-created drawings.	
What do I need to remember to do next?	

Scene 22	
General Information	
Title	Final Stage Survey
Type	Task
Objective	To ensure that all services and materials are



	available for the performance.
Relevance	Critical
Location	Museum rooms where the performance takes place
Date	Date before or on the same day of the performance
Duration	1-2 hours
Character(s)	<ul style="list-style-type: none"> • Jack
Participants	<ul style="list-style-type: none"> • Andrea
What should I remember to do first?	
What should I remember to do during the scene?	
Verify that all hardware equipment and software services are functioning properly.	
What should I remember to do next?	

Scene 23	
General information	
Title	Performance - Reception
Type	Event
Objective	To remind the children how the visit will work and to get them into the spirit of the adventure.
Relevance	Critical
Location	Museum room where the Scene takes place
Date	
Duration	A few minutes
Protagonist(s)	<ul style="list-style-type: none"> • Jack • Rose
Participants	<ul style="list-style-type: none"> • Tony • Jill
What should I remember to do first?	
<ul style="list-style-type: none"> • Make sure you have all the releases 	
What should I remember to do during the scene?	
This is where you put the outline of the topics actually covered in the welcome as a quick reminder for the Museum Guide.	
What should I remember to do afterwards?	

Scene 24	
General information	
Title	Performance - First Phantom
Type	Event
Objective	To achieve the first educational objective
Relevance	Critical



Location	Museum room where the scene takes place
Date	
Duration	5-15 minutes
Protagonist(s)	<ul style="list-style-type: none"> • Rose • Tony
Participants	
What should I remember to do first?	
What should I remember to do during the scene?	
<ul style="list-style-type: none"> • Introduce the educational topic and prepare the children for the appearance of the ghost. Some might be scared, but most will be curious or excited. • Use the tablet to activate the AR experience. • Show the ghost to the children and stimulate them to interact with questions. • Synthesize what has been learned and prepare children to continue 	
What should I remember to do next?	

Scene 25	
General Information	
Title	Performance - Second Phantom
Type	Event
Objective	Achieving the second educational objective
Relevance	Critical
Location	Museum room where the scene takes place
Date	
Duration	5-15 minutes
Protagonist(s)	<ul style="list-style-type: none"> • Tony
Participants	<ul style="list-style-type: none"> • Rose
What should I remember to do first?	
What should I remember to do during the scene?	
<ul style="list-style-type: none"> • Introduce the topic didactic and prepare the children for the appearance of the ghost. • Use the tablet to activate the AR experience. • Show the ghost to the children and stimulate them to interact with questions. • Synthesize what has been learned and prepare the children to continue 	
What should I remember to do next?	



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Scene 26	
General information	
Title	Performance - Mama Cat
Type	Event
Objective	Gratify the children using the materials used in the classroom and achieve the educational objective of the visit
Relevance	Critical
Location	Final room of the museum visit
Date	
Duration	15-30 minutes
Protagonist(s)	<ul style="list-style-type: none"> • Rose • Tony
Participants	<ul style="list-style-type: none"> • Jack • Jill
What should I remember to do first?	
What should I remember to do during the scene?	
<ul style="list-style-type: none"> • Showing children the result of their workshop work in the museum • Manage interactive activities (selfie, small video,...) 	
What should I remember to do afterwards?	
<ul style="list-style-type: none"> • Upload the materials generated by the children to the platform. 	

Scene 27	
General Information	
Title	The Meeting with the Museums
Type	Meeting
Objective	To create synergies between the different museum activities.
Relevance	Importance
Location	Museum Meeting Room
Date	
Duration	2-3 hours
Protagonist(s)	<ul style="list-style-type: none"> • Jack
Participants	<ul style="list-style-type: none"> • Museum Director • Murray • Other colleagues from the Museum or other museums
What should I remember to do first?	



What should I remember to do during the scene?
The sense of this scene in the economy of the story is that this kind of new activity is not in competition with other more conventional experiments or displays. Someone within the museum organisation might perceive it that way (in the story it is represented by Murray). If this happens, it is important to create moments of confrontation.
What should I remember to do next?

Scene 28	
General information	
Title	Follow up in the classroom
Type	Event
Objective	To consolidate children's learning
Relevance	Relevance
Location	Classroom
Date	Ideally the day after the visit
Duration	1 hour
Protagonist(s)	<ul style="list-style-type: none"> Rose
Participants	<ul style="list-style-type: none"> Tony
What should I remember to do first?	
<ul style="list-style-type: none"> Prepare a picture gallery with photos taken of the children during the visit. 	
What should I remember to do during the scene?	
Review the experience and highlight what you have learned	
What should I remember to do afterwards?	

Scene 29	
General Information	
Title	Follow up at school
Type	Meeting
Objective	To evaluate the experience with colleagues who participated and to share with the head teacher and other colleagues its benefits.
Relevance	Importance
Location	School Meeting Room or Headmaster's Office
Date	Within 1 week of performance
Duration	1 hour
Character(s)	<ul style="list-style-type: none"> Rose Tony



	<ul style="list-style-type: none"> • Jill
Participants	<ul style="list-style-type: none"> • Teacher Principal • Administrative Director • Potentially interested colleagues
What do I need to remember to do first?	
Prepare a collection of photos and videos taken during the performance	
What should I remember to do during the scene?	
<ul style="list-style-type: none"> • Explain the course of the performance through the photos and videos • Explain the results 	
What should I remember to do afterwards?	

Scene 30	
General information	
Title	Follow up at the museum
Type	Meeting
Objective	To evaluate the experience
Relevance	To do if possible
Location	
Date	Within one week of the performance
Duration	1 hour
Protagonist(s)	<ul style="list-style-type: none"> • Jack
Participants	<ul style="list-style-type: none"> • Museum director (first time) • Colleagues involved in preparation
What should I remember to do first?	
<ul style="list-style-type: none"> • Prepare a list of topics to be discussed 	
What should I remember to do during the scene?	
<ul style="list-style-type: none"> • Outline each topic to be evaluated and discuss with the team how it could be improved 	
What do I need to remember to do afterwards?	
<ul style="list-style-type: none"> • Draw up and circulate minutes with the decisions taken during the meeting. 	

5.3.2 Locations

Location 01



Denomination	Home of Jack and Jill
Location	
Accessibility	
Responsible	
Scenes	01, 04, 06, 11
Notes	This location is an example for all activities that are carried out at home by participants in a project.

Location 02	
Denomination	Office of the Museum Director
Location	The Director's office is located on the 1st floor of the museum.
Accessibility	Always check with the secretary if it is possible to get in or make an appointment through her.
Responsible	Director's secretary, tel. 555-555-9936
Scenes	03, 07, 30
Notes	

Location 03	
Denomination	Office of the School Principal
Location	The school Principal's office is located on the 2nd floor of the school.
Accessibility	Access is free, but it is always best to contact the School Principal, especially if you need to schedule a meeting with her.
Responsible	
Scenes	08, 29
Notes	

Location 04	
Denomination	Main hall of the school
Location	The room is located in a separate building within the school grounds.
Accessibility	Access by appointment only.
Responsible	To book it, please contact the Education Office, tel. 555-435-9154
Scenes	09
Notes	



Location 05	
Denomination	Department of the Administrative Director
Location	The Administrative Director's office on the 2nd floor of the School
Accessibility	
Responsible	
Scenes	
Notes	

Location 06	
Denomination	Museum administrative offices
Location	Museum administrative offices are located on the 1st floor in the East Wing of the Museum.
Accessibility	
Responsible	
Scenes	
Notes	

Location 07	
Denomination	Museum rooms
Location	Museum ground floor
Accessibility	The rooms are accessible via the offices (entrance on the side street) or via the main entrance for the public. In the latter case it is necessary to leave your name at the ticket office. The Museum has also been made accessible for people with motor disabilities and in this case too, correctly, you can enter through the main entrance.
Responsible	Contact the Director's Office directly or through Jack to have direct entry authorised through the ticket office.
Scenes	02, 14, 16, 17, 19, 22, 23, 24, 25, 26
Notes	

Location 08	
Denomination	Museum Meeting Room
Location	Museum 1st floor
Accessibility	Useable by appointment only.
Responsible	To book, please contact the Director's office, tel. 555-555-9936
Scenes	10, 27



Notes	
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Location 09	
Denomination	Professors' room
Location	First floor in the school
Accessibility	
Responsible	
Scenes	12
Notes	

Location 10	
Denomination	Laboratory
Location	On the 1st floor of the school
Accessibility	Regular access by teachers according to a general schedule.
Responsible	
Scenes	20, 28
Notes	

5.3.3 Characters

Character 01	
Name	Jack
Description	Young museum educator, Vic's dad, Jill's husband.
Role	Protagonist, Emotion
Actor	
Scenes	1-7, 10-11, 13-19, 22-23, 26-27, 30
Notes	

Character 02	
Name	Jill
Description	Primary school teacher, Vic's mum, Jack's wife.
Role	Protagonist, Emotion
Actor	
Scenes	1-2, 4-6, 8-9, 11-12, 14-19, 23, 26,29
Notes	



Character 03	
Name	Victoria, Vic
Description	Precocious child, very intelligent, shy and withdrawn, but doing very well at school, attending the first cycle school. She is affected by autism.
Role	Mentor, Faith
Actor	
Scenes	2, 23-26
Notes	

Character 04	
Name	The Blind Woman
Description	Blind museum keeper, always assigned to the Egyptian Hall.
Role	Mentor, Faith, Emotion
Actor	
Scenes	2, 23-26
Notes	

Character 05	
Name	Andrea
Description	Creator of immersive digital installations
Role	Mentor, Reason
Actor	
Scenes	5-6, 11, 14, 15-16, 18-19, 22
Notes	

Character 06	
Name	Tony
Description	Support teacher for Vic and other children. Museum guide.
Role	Mentor, Reason, Faith
Actor	
Scenes	4, 6, 9, 11-12, 14-26, 28-29
Notes	

Character 07	
Name	Rose
Description	Digital Animator, Main Museum Guide
Role	Mentor, Reason, Faith





Actor	
Scenes	6, 9, 11-12, 14-26, 28-29
Notes	

Character 08	
Name	Museum director
Description	An experienced and pragmatic man. Open to innovation, but careful to ensure the core business of the museum. He is well aware of all the reasons why the museum performance could fail. He requires Jack to devote the bulk of his energies to the New Great Exhibition.
Role	Contagonist, Scepticism
Actor	
Scenes	3, 7, 27, 30
Notes	

Character 09	
Name	School principal
Description	An energetic woman who strongly believes in experimenting with new ways of teaching.
Role	Mentor, Faith
Actor	
Scenes	8-9, 29
Notes	

Character 10	
Name	Administrative Director
Description	Administrative head of the school, sees every change as a potential problem and tries to avoid it in order to protect the school.
Role	Antagonist, Scepticism
Actor	
Scenes	8, 29
Notes	

Character 11	
Name	Murray
Description	Jack's colleague most involved with him in the organisation of the New Great Exhibition. He



	perceives the museum performance as a danger to his work and does everything in his power to stop it.
Role	Antagonist, Reason
Actor	
Scenes	7, 10, 27, 30
Notes	

Character 12	
Name	Museum curator
Description	Professional and very focused on their role. They assess the situation correctly, but risk missing the opportunity to find a solution to everyone's problems because they do not think in a multidisciplinary way. Their presence for Jack is a painful distraction.
Role	Contagonists, Reason.
Actor	
Scenes	27
Notes	

Character 13	
Name	Husbands of museum curators
Description	Two elderly and elegant gentlemen, who are ready to abandon "business as usual" when they see something else that might be interesting.
Role	Mentor, Emotion, Faith
Actor	
Scenes	25, 27
Notes	

Character 14	
Name	Child reassuring the teacher
Description	A random child from the group of students.
Role	Faith
Actor	
Scene	26
Notes	Keeping this child in mind is important as a reminder that this activity is aimed at children and we must always put ourselves in their shoes and their naive logic. They often see things that we adults don't.



Character 15	
Name	The Cat with the Big Yellow Eyes
Description	An incredibly old but still sprightly cat. Beloved institution of the museum, but she shouldn't be there.
Role	Character, Faith, Emotion
Actor	
Scenes	2, 23-26
Notes	The presence of the Cat, along with that of Bastet, serves as a reminder that to innovate is to methodically prepare and plan a space to accommodate the unexpected.

Character 16	
Name	Bastet
Description	Egyptian feline deity with a very long history. Changes meaning several times. In her latest incarnation she is seen in the maternal and protective role of the mother cat, but she was born as a fierce warrior deity. Her presence serves as a reminder that many events are generated not by what she is, but by what people believe.
Role	Protagonist, Emotion
Actor	
Scene	23-26
Notes	

Character 17	
Name	The Cat with the Big Emerald Eyes
Description	A kitten who immediately takes the place of the Cat with the Big Yellow Eyes. It serves as a reminder that innovation is an ongoing process. As soon as a problem is solved, even for the very fact of having solved it, the world has changed and new challenges must be faced immediately.
Role	Mentor
Actor	
Scene	Epilogue
Notes	



5.3.4 Resources

Resource 01	
Name	Memorandum of Understanding
Description	<p>A Memorandum of Understanding (MoU) to be signed between the two institutions, school and museum, to establish the will to collaborate. Administrative policies can be very different for each institution, so it is necessary to start from a basic model of protocol that can be integrated and modified as needed.</p> <p>The protocol must be signed by the legal representatives of the school and the museum.</p>
Notes	

Resource 02	
Name	Archive OER
Description	<p>A repository of digital educational resources functions as a source of quality materials, curated by museum educators and teachers, which can be used to build the digital set designs of museum performances. Teachers and educators can add new OER developed for their performances.</p>

Resource 03	
Name	Hardware resource: Tablet
Description	<p>Tablets are essential for the use of the AR contents that are part of the digital scenography of a museum performance. They can be provided either by the school or the museum, but must be available when the development of the digital content starts.</p>
Notes	

Resource 04	
Name	Digital devices: touch screens
Description	<p>Touch screens must be installed in the museum in order to show the digital content on the platform. The museum can decide whether to buy or rent the screens. If a permanent exhibition is planned, the purchase of the screens can be considered as an investment.</p> <p>It has to be ensured that they are functional</p>



Notes	
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Resource 05	
Name	Digital Scenography
Description	Each museum performance is equipped with a digital scenography, composed of contents that can be activated through screens along the route or in augmented reality through tablets. The museum performance "package" is available through the DREAM platform. It includes the script, the floor plan, and all the audio and video content to be presented by monitor or AR.
Notes	