Digital narratives for education and cultural dissemination: an application case in the Colosseum archaeological park

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Fig 1 - In the PArCo with Claudius: a path to empowerment.

In recent years, the demand for innovative cultural heritage presentation has risen. Cognitive barriers pose a challenge in connecting cultural sites with the public. Storytelling and gamification can help overcome these barriers, making cultural places more inclusive. We'll discuss Cultrip's innovative approach, focusing on their narrative serious game at the Colosseum archaeological park (Fig. 1).

TOWARDS NEW FORMS OF CULTURAL NARRATION

Storytelling, despite the appearance of novelty given by the term, is a concept perhaps as old as humanity itself. In the context of past civilizations, forms of communication between generations were predominantly oral, creating a rich heritage of stories that, though largely forgotten today, finds new life in the objects displayed in museums, which are intrinsically linked to shared places and imaginaries. The mission of the modern cultural communicator, is precisely to attempt to forge a link between objects and the stories they witness, stories that tell of the daily lives of the men and women of the past.

Storytelling can become a powerful tool to democratize access to culture and knowledge, translating complex concepts into a more accessible language. Additionally, due to the interaction guaranteed by digital technology, individuals with different needs can interact and participate appropriately according to their motivations and cognitive and cultural needs. The visitor is no longer limited to being a passive listener to a story, but becomes an active protagonist who now takes ownership of the experience. Storytelling techniques serve as effective psychological levers that act on the very depths of human psychology. The goal is to emotionally engage the visitor, not only at an intellectual level, but deeply in the most intimate sensitivity of knowledge. In this way, emotion becomes the vehicle for transmitting knowledge without ever trivializing the cultural content or degrading its language.

There is a mechanism as ancestral as storytelling. In the ani-

mal world, puppies learn to survive through play, honing their physical and cognitive skills. Play can be considered a form of simulation in a controlled environment, which aims to reproduce a certain situation, in order to provide an opportunity for learning through the autonomous resolution of a problem.

The so-called gamification, understood as the application of game elements and game-design principles in non-gaming contexts, can be declined, as in our case, also in the cultural field. Game mechanisms like rewards, goals, levels, and challenges, motivate people to perform extraordinary actions they would normally not undertake. The success of gamification is rooted in motivational elements that, once again, draw on intrinsic values of the person, such as the desire to access social rewards and enhance his or her self-esteem.

The use of storytelling and gamification in the cultural context is particularly effective when directed at children and teenagers, as these languages are part of their daily lives. Since young people associate play and storytelling with moments of pleasure and enjoyment, it is possible to mitigate the aversion that some of them might have towards what they perceive as school activities.

AN INTEGRATED METHODOLOGICAL APPROACH

There are many projects in recent years that have approached cultural communication through the concepts of storytelling and gamification. This paper will illustrate the experience of Cultrip, which is remarkable for the fusion of the two concepts. Cultrip is an initiative mainly aimed at children aged 7 to 11, a group that shows enormous receptivity towards such forms of dissemination, as well as curiosity and openness to exploring even complex scientific and historical topics.

The idea behind Cultrip is inspired by the so-called game books born in the '80s in the United States. In these adventure books, the reader took on the role of a character within the story and, jumping back and forth between the pages, made decisions that influenced the development of the plot. This reference is reinterpreted in Cultrip to adapt it to the contemporary context and the peculiarities of the cultural field. Therefore, although interactive stories can be accessed from smartphones or computers, they are closely linked to the site itself. The virtual journey undertaken by the player reflects what could physically be done, thus extending the interaction between the visitor and the site itself. This is one of the advantages of the digital mode of fruition for cultural sites: it accompanies the visitor before the visit to prepare for discovery and after the visit to relive the experience from home.

Another advantage is intense sensory involvement thanks to auditory and visual immersion, as well as increased accessibility. In the digital medium, the concept of non-linear plot, already present in game books, expands further. The story fragments into narrative nodes where the user's choice possibilities are potentially infinite, allowing a new story to be experienced each time. The user becomes a co-creator by autonomously choosing which branch of the story to explore and takes the active role of a protagonist in the tale. By playing in the first person, they trigger that process of identification with the characters and the ancient world that makes the experience so powerful and memorable.
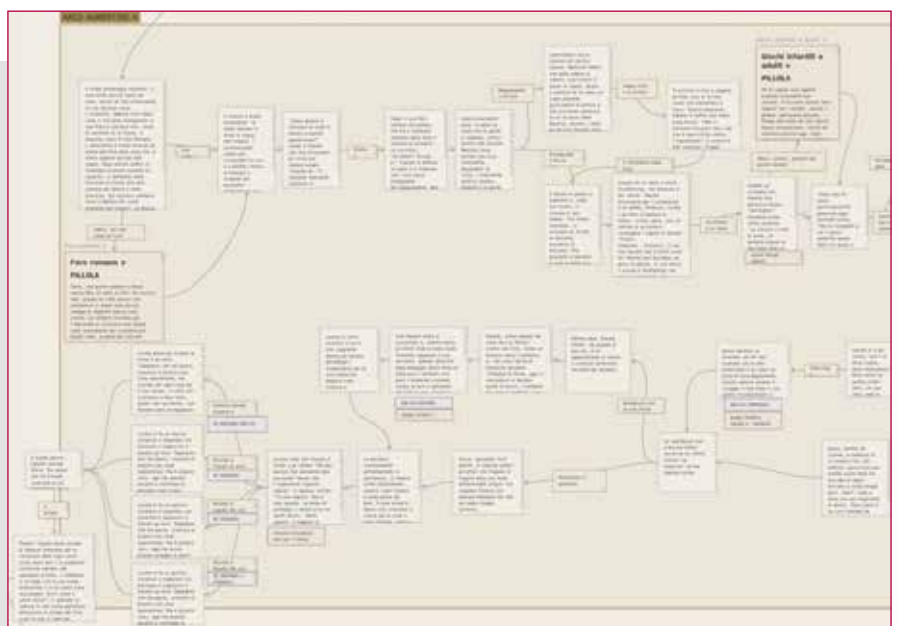

Fig 2. - Structure of narrative passages with nodes and ramifications.

Time spent by children on digital devices is usually perceived by adults as of little value, if not harmful. However, with the dissemination technique described above, such time is not wasted but is transformed into a means of knowledge and development of creative imagination.

OPERATIONAL STEPS

The Cultrip project, prioritizes not so much technology, but more than anything the value of cultural content. A writing methodology was developed to create compelling and aesthetically impactful interactive narratives without betraying historical accuracy. This method will be briefly explained below.

As a first step, working closely with the institutions of the cultural site, an initial attempt is made to establish a connection with the place, to understand its needs and, so to speak, capture its essence. Together we select a possible visit route and consider where to place QR codes that will allow access to the interactive story from different points along the itinerary.

Subsequently, in-depth historical research and source study is undertaken. The material gathered at this stage is subjected to critical analysis in order to identify a historical event, work of art, or theme to serve as a background for the future narrative. The proposed stories are always based on historical facts or the material and intangible culture of the site. This choice might seem like a constraint on imagination, but in fact constraints can provide a coherence that works in favor of the project. The more historical data are gathered, the more the story is enriched with details and subplots and becomes both vivid and plausible. The creative writing stage also assumes a key role in filling in the blanks resulting from incomplete and biased historical sources. In choosing the subject of the narrative, not only the great characters and the best-known events are favored, but also the everyday vicissitudes of ordinary people are considered. In this way, kids can feel closer to the people of those distant times, identifying with their joys and worries.

We proceed to the creation stage, where the narrated story enriched with scientific insights is written, and, in addition, the structure and computer programming for the ramifications of the story is developed. (Fig. 2) Finally, to make the experience engaging and captivating for children, the text is accompanied by vivid illustrations inspired by the world of graphic novels, narrator voices, and sound and musical effects, which make the entire narrative even more vibrant and exciting. This deliberate pop art look, with a vibrant color palette, plays a major role in overcoming the idea of boredom and obsolescence too often associated by children with history.

THE CASE STUDY: THE NARRATIVE SERIOUS GAME FOR THE COLOSSEUM ARCHAEOLOGICAL PARK

We now want to bring as a case study the experience created with the input and collaboration of the Education, Didactics and Training Service of the Colosseum archaeological park.

This shared project, titled "At the PArCo with Claudius: a path to empowerment", aligns with the guidelines that the park's EDF Service has established over time. It follows a strategy focused on the development of gamified experiences, preferably integrated with direct site experiences. This approach is considered essential for effective learning of historical-archaeological content and, above all, for providing a satisfying emotional and sensory experience the ultimate goal of initiatives like this.

The case study consists of an interactive story related to a tour

Fig 3. - Interactive story map at the palatine and Roman forum on Claudius with narrative arc.

route that unfolds between the Palatine and the Roman Forum in which each narrative arc corresponds to a place that is emblematic in the park and important to the narrative. This story is enriched by a series of elements that make it a real teaching aid made available to teachers of Italian elementary and secondary schools and is usable by LIM (interactive whiteboard multimedia). It accompanies the child at all stages of discovery of the archaeological site: at school, with the support of teachers; at home, independently or in family; and finally, during the visit to the archaeological park. (Fig. 3).

Objectives of the project

The goals that had been foreseen were two: first, to gradually introduce children to the knowledge of the Palatine and the Roman Forum through the story of Emperor Claudius during his childhood. Second, to raise children's awareness of socially sensitive issues, such as bullying, marginalization, and disability, experiences Claudius had during his youth. These topics become an opportunity for dialogue and discussion with children about the differences and similarities between past societies and our own, making them empathize with the suffering that arises from these difficult situations.

The narrative broadly takes up the traditional structure of fairy tales as theorized by V. Propp. It is a coming-of-age tale in which young Claudius manages to overcome his fears with the help of new friends until he is ready to embrace adulthood, symbolized by the toga *virilis* ceremony. The player becomes a character

in the Augustan imperial court, talks to historical figures such as the emperor Augustus or the teacher Verrius Flaccus, and explores first-century Rome. Through his or her choices, he or she must help the young Claudius find his lost bulla by facing trials that, if mastered, unlock several possible endings, a peculiarity that promotes the longevity and replayability of the experience.

Educational aspects

The method adopted proves effective in the educational context through the use of various learning mechanisms. In addition to students' emotional involvement in storytelling, a verification system is used to consolidate acquired notions and foster long-term learning. This verification system also provides immediate feedback to teachers on the degree of students' attention and learning.

At the end of listening to insights based on the ministerial syllabus that intersperse the

narrative, a mini-verification game is offered. These quizzes, if passed, reward the player with collectible cards, another cornerstone of the experience. These illustrated cards stimulate children of that age's natural pleasure in collecting, and serve as rewards for learning efforts. The experience is not only digital, but the collectible cards are also provided in paper form to be pasted on a travel diary that serves as a visit guide and a scrapbook. The latter adopts the graphic language and structure of commercially popular sticker albums, but instead of soccer players, the protagonists are Roman emperors, slaves, and artists. (Fig. 4)

CONCLUSION

The success of the Cultrip project, and in particular of the application developed for the Colosseum archaeological park, confirms the potential of digital narrative and gamification techniques in the field of cultural communication. Cultrip's inte-

Fig 4 - Album of stickers and collectible cards.

ractive story created for the Colosseum archaeological park represents an example of how the new methodologies of interactive storytelling and gamification can be applied with success in museum education and cultural outreach.

Thanks to the skillful integration of engaging storytelling and appealing graphic, the project manages not only to stimulate the interest of children towards the historical and artistic heritage of Ancient Rome, but also effectively conveys cultural notions.

It is time to abandon the idea that these types of approaches based on storytelling and play lead to a degradation of the scientific level or demean the importance of the cultural site. On the contrary, the power of stories lies in their ability to excite and create new audiences passionate about history that will bring to the museum a quality cultural tourism.

BIBLIOGRAPHY
Bedini S. (2018), *Racconto & Storytelling. Attualità e forme del narrare*, Firenze: Franco Cesati Editore
Bodo S., Mascheroni S., Panigada M.G. (2016), a cura di, *Un patrimonio di storie. La narrazione nei musei, una risorsa per la cittadinanza culturale*, Milano: Mimesis Edizioni
Bonacini E. (2020), *I Musei e le forme dello Storytelling digitale*, Roma: Aracne Editrice
Bravo G.L (2000), a cura di, *Vladimir J. Propp. Morfologia della fiaba*, Torino: Einaudi
Dal Maso C. (2018), "Introduzione. Storytelling: perché", in Dal Maso C., a cura di, *Racconti da museo. Storytelling d'autore per il museo 4.0*, Bari: Edipuglia, pp. 11-24
Maraffi S., Sacerdoti F.M. (2018), *La didattica innovativa: digital gaming e storytelling*, Limena: Libreria Universitaria
Viola F., Cassone V. (2017), *L'arte del coinvolgimento. Emozioni e stimoli per cambiare il mondo*, Milano: Hoepli

ABSTRACT
The integration of storytelling and gamification in cultural communication and education offers a powerful means to engage audiences and make cultural content more accessible and enjoyable. The Cultrip project exemplifies how these methodologies can be successfully implemented, providing an interactive and educational experience for children at the Colosseum archaeological park. By embracing innovative approaches, cultural institutions can foster a deeper appreciation and understanding of heritage among diverse audiences, ultimately contributing to the democratization of culture and knowledge.

KEYWORDS
STORYTELLING; GAMIFICATION; CULTURAL DISSEMINATION; MUSEUMS; DIGITAL; EDUCATION; ACCESSIBILITY; NARRATIVE SERIOUS GAMES

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