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Heritage for people

Sharing vernacular knowledge to build the future

versus plus
heritage for people

With the support of the
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CONTENTS


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GAMIFICATION FOR COMMUNITY ENGAGEMENT IN HERITAGE AND SUSTAINABILITY

Alessandro Merlo, Letizia Dipasquale
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Gamification refers to the application of game design elements and mechanics in non-game contexts to engage and motivate users: serious games, urban games, and pervasive games are alternative terms for games that facilitate the understanding, exploration, and awareness of heritage by integrating direct on-ground experiences with digital technologies to expand user knowledge and interaction.
When applied to cultural heritage, gamification can enhance the preservation, accessibility, and appreciation of cultural landscapes, sites, buildings, and traditional knowledge. Gamification can promote social interaction and foster a sense of community among individuals interested in cultural heritage. Users can share their achievements, experiences, and discoveries, further encouraging others to participate.
Digital and virtual games appeal to younger generations who are often more comfortable with digital technology. By using gamified platforms, cultural heritage can reach a broader and more diverse audience, ensuring its preservation for future generations.
Gamified experiences can make learning about cultural heritage more interactive and enjoyable. Users can engage with historical events, artefacts, and stories through games, quizzes, and challenges, making the learning process more immersive and memorable.

opposite page
People playing with educational cards on the cultural heritage of Formentera (Spain)
(credits: S. Farina)

Introduction

The video game market generated 92.3 billion Dollars in 2022, and analysts predict it will continue to grow over the coming years (Newzoo, 2023). This figure, which in itself is not surprising – the human appetite for digital games has been well known for quite some time (Platania, 2017) –, acquires a special relevance from the moment that the governments of many countries, and therefore no longer only the private sector, have understood its importance; in Italy, for example, the introduction of a tax credit for the production of video games has represented a major incentive for the growth of this industry, while also confirming that video games can be a very useful tool for developing digital literacy, transversal competencies and creative thought in students (Saletta, 2022; Cantoia, 2022).
Within the so-called mobile network society, characterised by ubiquitous and potentially perpetual connections mediated by devices and made possible by platforms, that distinguishes the way in which man relates to the world today (Zurovac, 2015), also video games have evolved in order to use the net to connect players with each other. Social gaming, in fact, makes it possible for people not only to have fun, but also to interact with other users, thus contributing to ascribe an important social function to video games

(Rossi, 2009). The most recent frontier of this development is the possibility of using the Metaverse as a 3D on-line environment for playing games, as well as for socialising, working together, etc. (Chia et al., 2023).

An attempt to classify video games is therefore more difficult than ever, especially due to the speed with which products belonging to different genres hybridise with each other.

The use of the net, which allows developers to have multiple players interact simultaneously within the same video game, has undoubtedly disrupted the traditional player vs. device or player vs. player interaction (in this case both simultaneously present in the same place and connected to the same console), that had characterised video gaming until the Eighties.

A first macro-differentiation thus regards the modes of play, which can involve a single player (Single Player Games – SPs), or else several players connected online (Massively Multiplayer Online Games - MMOs).

This classification can be followed by another related to the main three categories of games: those in which action dominates, where the user generally acts in the first person, those in which the creative aspect prevails, and finally those in which strategy is predominant. The first two types (action and creativity) are those that are more successful among MMOs; an example of this type are MOBAs (Multiplayer Online Battle Arena), which are characterised by competitions between groups of players and are especially widespread today (such as eSports).

Main categories of games
(credits: CHM_Lab)

MODE	FEATURES	EXAMPLE
SP (Single Player)	Action	FPS (First Person Shooter)
	Strategy	RTS (Real Time Strategy)
	Creativity	RPG (Role-Playing Games)
MMO (Massively Multiplayer Online)	Action	MMOFPS
	Creativity	MMORPG
MOBA (Multiplayer Online Battle Arena)	Action, Competition	MOBAFPS
	Creativity, Competition	MOBARPG

In recent years, there has been an increase of a new category of games, that, while maintaining a playful purpose, embraces educational objectives.

Video games of the category generally known as Serious Games (Tan, Nurul-Asna, 2023), include Simulation Games (for practising operations that would involve risks in real life), Exercise Games (for carrying out physical-motor activities), and Educational Games (for learning certain concepts or developing specific skills).The latter are of particular interest, since they are increasingly being integrated within Game-based Learning (GBL) methods in schools of all levels.

Educational Games also play a fundamental role in the knowledge, valorisation and promotion of Cultural Heritage, both tangible and intangible (Pescarin, 2020).

Pienza under construction: **planning game developed under the EU project 3DPAST** *(credits: authors)*

Games for Cultural Heritage Enhancement and Sustainability

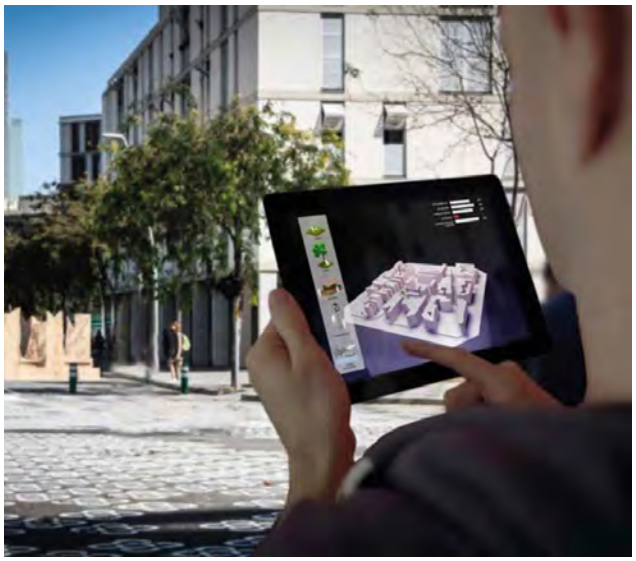
Cultural Heritage can be represented in games in many forms: from the setting, sometimes depicted with a high level of realism, of events that are unrelated to the proposed scenarios, through the recreation of events that actually happened (or are presumed to have happened) which then become part of the dynamics of the game, to the interaction between players and objects belonging to past eras (such as those contained in museums).

The real world, whether present-day natural landscapes or the archaeological remains of the cities of our past, has proven to arouse the interest of players as much, if not actually more, than fictional ones.

From this perspective, the processes of documentation and digital restitution of the Cultural Heritage, using methods and techniques (usually structure from motion) which allow the data produced to be usable within game engines, take on a fundamental role.

The products that derive from them are often excellent from a philological, anthropological and historical perspective, as well as from the game-playing point of view, thanks to the close contact with the world of culture and of cultural institutions, both during the development of the story development and other subsequent phases, such as the construction of the settings and 3D models, etc., which determine its success. Below is a non-exhaustive list of the main types of games that can encourage heritage enhancement and awareness of sustainability issues.

- *City-building and Planning Games.* Players are encouraged to build or rebuild cities or settlements, choosing resources, materials, times, or forms. To foster awareness of heritage and sustainability, the players should consider the preservation of cultural landmarks or incorporate sustainable practices in their virtual cities. This can raise awareness about the impact of urban development on heritage and the environment.



Video game called *SuperBarrio*
Developed by IAAC, which offers each user the opportunity to co-design their own neighbourhood
(credits: Institute for Advanced Architecture of Catalonia- IAAC)

Assassin's Creed II (Ubisoft),
detail of the Piazza del Duomo in San Gimignano, Siena, Italy

- *Virtual Tours and Augmented Reality.* AR technology can be used to overlay historical information and stories on real-world locations. Players can use their smartphones or AR goggles to immerse themselves in the past and learn about the heritage of their surroundings. Through VR and AR, users can explore cultural sites and historical locations virtually, bridging the gap between the past and present and enhancing their understanding of historical contexts.
- *Scavenger Hunts, Challenges and Geocaching.* Players can explore their surroundings and discover cultural landmarks, historical sites, or hidden treasures. Digital quests can lead participants to discover historical sites and landmarks in their communities, encouraging appreciation of the local cultural heritage. Apps or games that use geolocation can guide users through heritage sites, thus making cultural heritage more accessible to a wider audience. Competitions and challenges can inspire community members to generate new cultural preservation and sustainability ideas, encouraging innovation and teamwork.
- *Pervasive games.* They use various media, technologies, and physical locations to immerse players, allowing them to interact with their real-world environment, with objects, and/or other players. Some pervasive games use AR technology to overlay virtual elements onto the real world. Many of them encourage collaboration and social interaction among players to solve puzzles or challenges.
- *Sustainability Simulations.* Design simulations that allow players to experience the consequences of their decisions on the environment and cultural heritage. This can promote a better understanding of the importance of sustainable practices.
- *Community Storytelling and Role-Playing.* Create platforms or games that allow community members to share personal stories and memories related to cultural heritage and sustainability. This can strengthen the sense of community and shared identity. Interactive storytelling experiences allow users to foster empathy and deeper connections to historical events, making them more relatable and meaningful.
- *Data Collection and Crowdsourcing.* Gamification can be employed to collect data and to crowdsource information related to cultural heritage. For example, users can contribute by identifying historical locations in old photographs or transcribing historical documents.

Conclusions

Gamification can be a powerful and effective way to raise awareness, educate, and involve people in preserving cultural heritage and promoting sustainable practices. It offers a creative and engaging approach to enhancing cultural heritage by leveraging the power of technology and interactivity. By incorporating game elements, cultural institutions, educators, and communities, it can make cultural heritage more accessible, enjoyable, and relevant to a wider audience, ultimately fostering a deeper appreciation for our shared history and traditions. Through interactive and enjoyable experiences, people are more likely to take an active role in preserving their cultural legacy and making sustainable choices for the future.

References

Cantoia M. 2022, *Imparare con i videogiochi in classe: consigli ed esempi pratici per i docenti italiani*, IIDEA - Italian Interactive Digital, Milan.

Chia A., Malazita J.W., Young C.J., Nieborg D.B., Joseph D.J., Gantt M.D. 2023, *The engine is the message: videogame infrastructure and the future of digital platforms*, in *AoIR Selected Papers of Internet Research*, 2022, online: <https://spir.aoir.org/ojs/index.php/spir/article/view/12954/1082> (04/23).

Felicia P. 2022, *Usare i videogiochi educativi in classe: linee guida per risultati di apprendimento di successo*, European Schoolnet, Brussels.

Gamification.it 2020, *Gamification o Serious Game? Punti di incontro e diversità*, <https://www.gamification.it/gamification/la-gamification-e-le-sue-strategie/> (04/23).

Jacobs R.S., Jansz J., de la Hera Conde-Pumpido T. 2017, *The Key Features of Persuasive Games: A Model and Case Analysis*, in *New Perspectives on the Social Aspects of Digital Gaming: Multiplayer 2*, Routledge, pp.153-171.

Masala D., Lazzaro E., Iona T. 2021, *L'evoluzione ludica dell'uomo: l'influenza del gioco moderno sulla formazione delle scienze motorie*, «Formazione & Insegnamento», XIX – 3s, pp. 84-95.

Newzoo 2023, *PC & Console Gaming Report*, <https://newzoo.com/resources/trend-reports/pc-console-gaming-report-2023> (04/23).

Platania G. 2017, *Studi sul videogioco: dalle origini come attività ludica ai game studies*, «Media Education – Studi, ricerche, buone pratiche», vol.8, no.1, pp. 93-105.

Pescarin S. (ed.) 2020, *Videogames, Ricerca, Patrimonio Culturale*, FrancoAngeli, Milan.

Rossi L. 2009, *Playing your network: gaming in social network sites*, in *Proceedings of the 2009 DiGRA International Conference: Breaking New Ground: Innovation in Games, Play, Practice and Theory*, Brunel University, vol. 5.

Saletta M. 2022, *Videogiochi, una crescita inarrestabile: risultati e potenzialità future*, <https://www.agendadigitale.eu/mercati-digitali/videogiochi-una-crescita-inarrestabile-risultati-e-potenzialita-future/> (04/23).

Tan C.K.W., Nurul-Asna H. 2023, *Serious games for environmental education*, «Integrative Conservation», vol. 2, pp. 19–42.

Zurovac E. 2015, *Frammentazione e ricomposizione del virtuale in mobilità: la pratica dello screenshot*, PhD thesis, Universita' degli Studi di Urbino Carlo Bo.