IN-BETWEEN GAMIFICATION AND PLAYFUL DESIGN: ENGAGING PEOPLE THROUGH THE LUDIC DIMENSION

DOI: https://doi.org/10.18485/arh_pt.2025.10.ch72

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ABSTRACT

This paper aims at exploring the process of the "gamification of reality", a topic which is receiving growing interest in contemporary studies. This process involves making things more fun, applying game-like elements and principles in non-game contexts. Gameful design has emerged as a prominent strategy across various fields, using gamification to attract people, and to engage, motivate, and enhance experiences. However, defining, recognising, and designing playful experiences remain challenging task due to their inherently subjective and context-dependent nature. After introducing the essential concepts of gamification and playful design, its liminality and versatility, the paper focuses on the application of playful mechanisms as tools for promoting a broader heritage in Sardinia.

KEYWORDS _ *Gamification, playful design, cultural heritage*

INTRODUCTION

Gamification, defined as a design method that uses game elements and mechanics to make experiences more fun, has become a major issue in today's world. It is becoming increasingly essential in the business world, but also in the public sphere. Affecting different disciplines and professions from entrepreneurs, marketing experts, designers, to trainers and facilitators, gamification affects deeply culture, identity and lifestyles.

In addition to health services, education and, in the cultural field, visits to museums and heritage studies, it has interesting applications in managerial team building processes (Patricio et al. 2022), in participatory and co-creation practices in the field of service design, as well as to intervene on certain behaviours (Deliyannis, Kaimara, 2019).

The idea of benefiting from playful interactions to enrich the public's involvement in a variety of application contexts is certainly not new. There is a plenty of literature about what Gamification is, but the concept still often remains reinterpreted vaguely due to its vast applications.

To take gamification as a design strategy one must know what principles it relays on, where it came from, and how to use game mechanics effectively for the specific target while addressing ethical challenges. Therefore, understanding gamification as a design strategy means involvement of many factors, including motivation and engagement of people, game elements, behavioural psychology, context matters and ethical considerations.

This paper aims to discuss gamification and playful design as versatile, liminal and complementary concepts that may serve intended as an "innovative" strategy to promote local values – cultural and natural, material and immaterial – of places and the environment. The discussion is exemplified on two projects realised in Alghero by the Labororatory "AnimazioneDesign", namely "eko-bab" and "Alghero Playful experience". use gamification in different ways to engage public.

BACKGROUNDS OF GAMIFICATION

The term gamification is attributed to the Nick Pelling, a computer programmer and inventor born in England, who coined the term in 2002 - the same year the Serious Games Initiative (SGI) was created to oversee the development of several games for the US military. Pelling used the term gamification to describe the application of game design elements to non-game contexts. In the years that followed, the term gained wider recognition and usage as the concept evolved and was adopted in various fields, including business and education.

While Pelling used the term first at the blog, a few years later, in 2008, it was firstly published in a scientific article by Bret Terrill (Sharma and Sharma, 2023).

From 2013 to 2015, extensive research and evaluation were conducted on gamification strategies across different sectors (Sharma and Sharma, 2023). A research review that concentrates on gamification and cultural heritage dissemination state that the number of studies about these topics doubled from 2015-2020 (Khan, Aviero, Oliveira, 2020).

In 2015, over 50% of all media was consumed on a mobile device, and since gamification works so well on mobile, it is a strong argument for its potential staying power on mobile platforms; it has begun and will likely continue to grow exponentially with them (Cristians, 2018).

However, gamified experiences existed even before the technological era. Examples relate to the badge system – the one used even by Boy Scouts. In marketing, the company that sells merchandise, Sperry and Hutchinson Co. has used Green Stamps in the 1930s (Cristians, 2018). After spending a certain amount of money, the customer was rewarded with a stamp. More money spent led to more stamps, which were used for purchases instead of regular money.

As these cases rely on increasing sales based on a reward system that is one of the elements of game design, they can serve as perfect examples of gamification. However, they are not suitable for classification as playful design experiences because they have purchase before entertainment as a prior goal.

Arguing current gamified experiences, the most cited distinction made in scientific literature is given by Deterding et al. (2011). The author explains that "gamefulness" is complement to a playfulness in terms of design goals, behaviour and experiences, distinguishing gamification from a "serious games" to one side and, playful interactions at the other. Another point that he highlights is extremely high level of subjectivity and contextuality of gamification – this means that game or gamified experience is defined by the designer's intention or the user experiences and enactments (Deterding et al. 2011).

Gamification can then be interpreted as a design strategy to enhance the involvement of the public in the experience of a product or service, whose deep meaning goes well beyond the idea of transferring playful interactions to non-playful contexts (Deterding et al. 2011; Werbach and Hunter 2012; Burke 2014). And this is precisely because it is a useful implementer of important experiential mechanisms (Chou, 2014/2019), a facilitator, a trigger to activate interpersonal dynamics and a stimulus to motivate participation.

Gamification as a Design strategy in broader heritage

Benefits of using gamification in the heritage context are numerous, including enhanced visitor engagement, higher attractiveness or appealing to a broader audience or target group, improved learning, encouraged repetitive visits, boosting cultural appreciation, facilitating accessibility, promoting sustainable tourism or benefiting to marketing and economy.

In this paper, we focus on benefits directly related to the user experience, rather than those that have a general and/or long-term impact, such as promoting sustainable tourism or strengthening the economy of heritage sites.

Therefore, we will discuss chosen case studies in relation with the engagement of people, messages that the gamified experience convey and the dissemination of knowledge.

SARDINIAN CASES OF GAMIFIED EXPERIENCE DESIGN

To illustrate versatility of the gamification concept, we choose to different project on gamification in broader heritage context. We use term broader heritage context to define the promotion of local values – natural and cultural – interpreting heritage as presently living environment that we should save for the future generations.

The first project, Alghero Playful Itinerary, is an example of gamification as a communication system for valorisation and promotion of cultural heritage and local values of the territory of Alghero. The second, eco-bab, uses gamification as a cultural dissemination of scientific knowledge about phytoplankton.

While design stages were always the same, including designing, prototyping and two testing sessions, the strategies we initially defined for each project differ due to the application context of gamified experience.

Besides contextual differences, our target audience was different. The first project aimed at tourists. The second has two types of target groups: the main target was student population of the first years of secondary school, and the general public.

The first was commissioned by the local agency, Fondazione Alghero, and developed within an EU

project “MedGaims”. The second was developed as part of the “CulturGame” research, funded by the Italian Ministry of University and Research.

Alghero Playful Itinerary

A comprehensive design approach is oriented towards interactions with both the tangible and intangible aspects of the local cultural heritage, focusing on the relationships between places and people.

The project took a form of an itinerary stretching from the local airport to the old city centre. Along the way, a series of installations (we call it totems) promoted direct interaction through playful activities, stimulating the public’s active participation promoting a sense of discovery of the city and of its surroundings. A key concept underlying the system is that, spatially distributed installations have the same visual communication language, which makes them as a recognizable and memorable entity.

The design strategy combines elementary visual and tactile stimuli with physical interactions.

A unique visual identity was created to be suitable for both the printed physical realm and the digital realm. Application took different forms from the shuttle buses that connect the airport to the city centre and a wide array of promotional printed matter, to the physical totems, as well as other installations part of the itinerary (Fig.1).



Figure 1: An example of applications of visual identity to the different physical elements making part of the playful itinerary. Figure also demonstrate uses by day and night. Source: LaboratorioAnimazioneDesign, 2021/2022.

ECO-bab

Part of a wider partnership involved in the project our design unit, in collaboration with a team of ecologists, professional game developers and with managing support from a private company specialized in experience design and digital transformation. Our “Eco-bab” project was finally publicly exhibited in the historical science museum of our University of Sassari - mUNISS in October 2023.

The gaming simulation we have devised introduces the public to the discovery of the aquatic environments’ ecology, addressing the role of phytoplankton in the planet’s ecological balance. The project aimed at improving the public’s awareness in a domain that is as invisible, abstract and,

apparently remote, as it is crucial to life itself.

The design strategy relied on a few principles. Among the key elements that guided us in tracing the project's general structure is a firmly established pedagogical tradition that emphasizes the pivotal role of playful experiences as elements of the learning continuum.

The first, which aims at exploring the potential of the collaborative dimension through a gaming environment capable of encouraging interaction and empowering a spirit of togetherness. This principle conditioned a "circular form" of playing environment (Fig.2).

The second conceptual pillar of our project is based on the idea of exploring the power offered by the interconnections between the physical and digital realms – *figital*. The figure 2, illustrates a complex playful experience composed on both physical, wooden elements and tablets with an application that served as a guide trough the game.

Then, physical parts designed in a form of vertical shaped puzzle, were designed to be tactile.

The approach to the playful mechanisms relies on gradual learning and affordance.



Figure 2: eco-bab experience and the detail of tactile elements that represent characteristics of phytoplankton. Source: LaboratorioAnimazioneDesign, 2023.

CONCLUSIONS

Although the concept was applied much earlier, the term gamification appeared in 2004, and since the 2010s there has been growing interest in the scientific field. Exponential growth is most likely to continue because gamification works well with mobile platforms.

Nevertheless, we decided to give an example of two cases of gamification in the context of heritage that are not primarily related to technological devices, but strongly encourage physical presence and engagement, where the digital dimension is supportive.

The briefly presented cases show how design strategy changes due to the contextual issues that the gamification experience aims to address. This supports what Deterling et al. argue, saying that gamification is highly contextual and subjective.

While the eco-bab is undoubtly a clear example of gamification, Alghero playful experience has some

elements that can seemingly be categorised as playful interactions. For example, illustrated in Figure 2, the "hop-scotch game" is a kind of carpet that anyone can interact with as they wish. That was deliberate design choice. Two years of behavioural observations showed interactions to be playful, especially for children.

Therefore, gamification is a versatile strategic design tool for heritage promotion. It has to be tailored for the context, and its success remains subjective in terms of use if gaming mechanisms are not clearly applied.

This work has been developed within the framework of the project e.INS-Ecosystem of Innovation for Next Generation Sardinia (cod. ECS 00000038) funded by the Italian Ministry for Research and Education (MUR) under the National Recovery and Resilience Plan (NRRP) - MISSION 4 COMPONENT 2, "From research to business" INVESTMENT 1.5, "Creation and strengthe-ning of Ecosystems of innovation" and construction of "Territorial R&D Leaders", CUP J83C21000320007.

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