GAMEFUL PLACES: EXPANDING THE SPACE OF CITY MUSEUMS THROUGH PLAY

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INTRODUCTION

The creation of digital experiences in museums is now an accepted practice. Many of these experiences build upon more traditional outreach and interpretation strategies that museums have been offering since their missions have evolved from focusing on collection, documentation and preservation, to bringing the audience to the centre of their activities. Engagement, interpretation and participation have become key concepts in museums as they strive to fulfil their missions and meet the demands of twenty-first century audiences[1]. Digital technologies have proven essential to this transformation, which has seen visitors become more actively involved in the co-creation of meaning within cultural institutions, and visits to museums evolve into multilayered, often personalised experiences that build upon more traditional gallery tours. In this paper, using a case study from Exeter's Royal Albert Memorial Museum & Art Gallery (RAMM), I explore how gameful design can be used to expand the space of museums, by making the experience of the museum tour — the journey that visitors take around the museum — more gameful. Many of the digital experiences that exist in museums are built with the aim of enhancing the visitor's journey throughout the museum and, increasingly, outside the museum, by incorporating the institution's surroundings into the experience. These

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[1] BLACK, 2005; BLACK, 2012; SIMON, 2010.

journeys are often built around narratives, as museums are increasingly seen as places for multimedia storytelling practices created around objects[2], but can also be organised around a particular theme, topic or event.

Digital technologies can be used to augment the visitor's journey in the form of mobile applications, websites that encourage personalized exploration, and self-guided tours built in the form of trails, audio guides, or multimedia guides. Several museums, including RAMM, use different digital technologies to make the museum tour more interactive, personalized and engaging for visitors, and these technologies can be built upon through the practice of gameful design. Gameful design is the addition of game elements to non-game experiences[3]. This can be achieved by looking at the structure of games in search of patterns that fit the characteristics of existing non-game experiences, which is the focus of the next section. Then we will detail the development process of the case study for this paper, *The Great Exeter Garden Quest*, a gameful trail inspired by and linked to the exhibition International Garden Photographer of the Year 9, which opened at RAMM in April 2016. The intention was to use an existing digital platform, Exeter Time Trail, to create a gamelike experience that would allow players to rediscover the city and its connections to the museum's collection, and also encourage players to engage with the exhibition's theme in a creative way. After explaining the methodology used to evaluate this experience, we discuss the results in terms of how effective it was in enhancing the way visitors experienced the exhibition.

MUSEUM TOURS, TRAILS, AND GAMES

Over the years, museums have devised various strategies to help guide visitors through their collections. The most visible way that museums structure visits is through the physical arrangement of their galleries and the objects displayed therein, which follow an internal logic devised by the curatorial staff. Galleries can incorporate cues such as directions, numbered rooms or displays, corridors, and lighting, that give visitors pointers in possible directions for their visit, without restricting their movements or hampering their ability to choose where to go next. The act of physically moving through gallery space involves creating a connection to that environment[4]. As visitors explore the museum, they are presented with content that invites them to some form of interaction, from simple visual inspection to physical manipulation, to discussion with other visitors. They may find and create connections between objects, memories, and ideas through their visit, but they tend to be guided more by serendipity than any existing arrangement. The simplest way to visit the museum is, therefore, an informally structured walk.

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[2] WYMAN *et al.*, 2011.
[3] DETERDING *et al.*, 2011.
[4] ODDEY, 2009: 133.

Trails are formed when structure is added to these unguided walks. They do not necessarily involve the use of digital technologies, but these are often used to enhance and guide the experience. In museums, trails build upon the idea of the tour and seek to structure it through the creation of a physical journey that follows a specific theme. They can be confined to inside the museum, or take people outside to the spaces surrounding the institution, and the themes they follow are generally grounded in the collection or architecture of the museum. Besides giving visitors a more structured way of exploring the museum, trails also add a degree of personalisation, as they allow visitors to choose to go to certain places or see certain things according to their personal interests and preferences. As part of the Exeter Time Trails project, trails have been extensively studied by Giannachi *et al.* as tools for creating presence and producing knowledge, supported by theoretical work grounded in Anthropology, as well as concepts of mapping, cartography and personalisation[5]. Trails can be an effective way of structuring a museum visit since they are cheap to create and do not require any resources from museum staff, in addition to creativity, imagination and lateral thinking[6]. They can also be tailored to visitors with different characteristics and needs. Trails for children, for example, generally involve activities such as drawing, touching, and finding, which engage them with the content, promoting learning while also fostering their creativity[7].

Trails share characteristics with games, most visibly by creating journeys. Journeys feature heavily in certain types of videogames, particularly narrative-driven games that put the player in the central role of the hero, such as roleplaying games[8]. The game element that can be most closely associated with the journey is the player's quest, or mission, which can be present in a myriad of forms in different genres of games. Quests in games usually have an end goal, that is, a quantifiable outcome and winning condition[9], while possibly also incorporating several incremental sub-goals. They are often an important vehicle for the game's storytelling, enabling roleplay by giving players an action-driven context for the story. Quests utilise the space in the game world as background to create a physical as well as an intellectual and emotional journey, involving some kind of challenge that requires skill to be conquered. It is possible to identify parallels between the quest and the museum tour. While the museum tour cannot be said to have quantifiable outcomes or even winning conditions, it does have a goal, which is for visitors to visit and travel through the museum in a way that fulfils their expectations. Like quests, the museum tour implies movement through space. The context created by both quests and tours is one of storytelling, in which narrative evolves in a multimodal way, one

[5] GIANNACHI *et al.*, 2014: 110-111.
[6] BLACK, 2012: 179.
[7] BLACK, 2012: 179.
[8] WHITTON, 2010: 57.
[9] SALEN & ZIMMERMAN, 2003: 258.

that involves the players, other people, the space and objects that surround them, and activities to be conducted in that space. Like quests, tours can be self-guided or guided by others, can involve free choice or take people on a constricted, predetermined path.

Quests have been part of dramatic stories for millennia, often in recurring patterns of storytelling mechanisms, plot structure, and character development, as evidenced by Joseph Campbell's classic work *The Hero With a Thousand Faces*[10]. However, unlike in literature, where readers follow the hero along on his or her journey, in games players are put in the role of the protagonist, and they are the ones responsible for answering the call for adventure, going on the journey of transformation and challenges, and returning as victors. In short, in books, one reads about quests, while in games, one performs them[11]. Quests in games are often used as tools for narrative and spatial progression, giving the player goals and actions to carry out, while at the same time providing context and meaning for those actions. In short, they are a way to structure both content and context in games. In the context of gameful design in museums, they can be used to structure the museum tour in new ways, which is what we did at RAMM with *The Great Exeter Garden Quest*.

THE GREAT EXETER GARDEN QUEST: BACKGROUND AND DEVELOPMENT

In creating a quest-based museum visit, the first step was to consider how it would work in tandem with the rest of the museum's programme. We decided the experience would be closely linked to a specific temporary exhibition, the International Garden Photographer of the Year 2016. The International Garden Photographer of the Year (IGPOTY) is a photography competition focused on the theme of gardens, plants and natural environments, run by Garden World Images Ltd. in association with the Royal Botanic Gardens, Kew, United Kingdom. Now in its ninth year, it is open to photographers of all ages, of all skill levels, from amateurs to professionals, from all over the world. The aim for our quest-based experience was to encourage players to engage with the exhibition's theme in a creative, participatory and fun way, and see if, and how, that would change the way they visited and experienced the exhibition. Since it would be organised in conjunction with a temporary event, it was decided that the experience would be available to the public for only a limited time, coinciding with the months that the exhibition was at RAMM, from April to August 2016. Furthermore, due to its outdoors theme, the quest would not be limited to the museum's building, but would also make use of Exeter's local public parks. This was also regarded as an opportunity to highlight the connections between the museum's collection and its surrounding

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[10] CAMPBELL, 2008 [1949].
[11] TAVINOR, 2009: 5.

physical urban environment, and to expand the galleries outwards into the city around them. Finally, in order to encourage players to engage with the exhibition's theme, it was decided that the quest challenges would be based on developing photographic skills. Taking advantage of the fact that the quest would be accessed through players' smartphones or tablets, which include built-in cameras, the quest challenges players to create and share photographs responding to a particular action related to the theme of the quest.

After deciding upon the theme, the associated event, and the objective of the quest-based experience, we analysed the various digital platforms and experiences offered by RAMM. The decision was made to adapt Exeter Time Trail, an online tool that allows the museum and users to create and share multimedia trails, to create the quest. This decision was informed by the fact that, as mentioned earlier, like quests, trails are based around the concept of going on a journey, and so can be seamlessly transformed through the application of gameful design. Moreover, the application, a collaboration between RAMM, the Centre for Intermedia at the University of Exeter, 1010 Media, and Exeter City Football Club Supporters Trust, funded by Research and Enterprise in Arts and Creative Technology — Higher Education Innovation Funding (REACT-HEIF)[12], is versatile enough to allow users to go beyond the creation of simple trails, supporting ways to enrich trails with various components, including a map with icons showing each stop, images, videos, audio, text and web links. Users also have the option of allowing trail goers to contribute their own responses to the trail, in the form of photographs, audio recording, and text comments, which can in turn be shared on various social media.

We used an iterative, user-centred gameful design process to create the quest-based experience. The first step was to identify the goal of the experience: to encourage visitors to the IGPOTY exhibition to engage with the exhibition's theme as creators, not just viewers, with the aim of improving their experience of the exhibition. The second step was to define the audience, which included visitors to the museum who were interested in photography, and narrowed to the subset of that group that regularly used their smartphones as facilitators or platforms to engage with their surroundings.

After listing all of Exeter's public gardens and parks, a preliminary list of ten locations was chosen. The next step was to visit those locations on foot, the way that players themselves travelled during the quest, to assess accessibility conditions and measure how much time and physical effort it would take to travel from one location to another. The next step was to look at the remaining locations and investigate their history and characteristics, in order to find possible connections with objects in RAMM's collection. These connections could be historical (a park with a Roman wall, or other traces of Exeter's Roman past, could be connected to the many Roman artefacts on display in the museum), thematic (a location that serves as living environment for animals which

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[12] GIANNACHI *et al.*, 2014: 97.

can also be found in RAMM's extensive taxidermy collection), or artistic (for example, sculptures by Barbara Hepworth can be found both in RAMM's collection and in the grounds of the University of Exeter, which are open to the public). After identifying these connections, an object from RAMM's collection was chosen to illustrate each of the stops in the quest. Finally, the photographic challenges were planned. Taking into account that players of all skill levels should be accommodated, as well as the limits of the technology, the challenges suggested certain actions and themes to players, but left them enough space to create their own interpretation of the rules, thus acting as a frame that restricts their options, while giving them a degree of freedom to decide what to create and share.

The first version of the quest included the locations, the order in which they should be visited, photographic challenges, and a list of objects from the museum collection, to which were added the introductory text, the directions, and the descriptions of the locations. In order to direct players from one location to another, beyond the default inclusion of a map with the locations indicated as icons, a short paragraph was included that referenced physical landmarks to help players navigate the city. The quest text was fleshed out with a simple storyline, with a call to action that let players know they would take on the role of a nature photographer, explore the city, learn about its history and RAMM's collection, and develop their photographic skills along the way.

Fig. 1. The last challenge of the quest, which involved engaging with the sculpture *Figure for Landscape* (1960), by Barbara Hepworth, was deemed too far away and hard to reach during early testing, so it was transformed into a bonus, optional level

The Great Exeter Garden Quest: the Experience

The quest opened with a welcome screen that greeted players as photographers and explorers, whose aim was to explore Exeter and look at their surroundings with a photographer's eye. The language used was purposefully playful, simple, and clear, addressing the player directly to give a sense of personalised interaction. Like the story, the roleplay was action-driven, emphasising spatial exploration and photography-based challenges.

The quest took players on a physical journey that started at RAMM's aptly named Garden Reception, travelled around the Exeter city centre, and ended back at RAMM, at the IGPOTY exhibition. Along the way, players visited and explored five public parks: the Cathedral Green, Rougemont Gardens, Northernhay Gardens, Bury Meadow Park, and the University of Exeter's Streatham campus (the optional level), in this order. The various locations were indicated on a map, available for players to consult at any time during the quest. The experience was one of progression, since the quest asked players to find locations in a specific order. Even though the experience was temporarily available, it was possible to see the physical settings of the parks change in appearance according to season, as different plants and flowers are in bloom during spring and summer. Whenever players reached a new location, the quests showed them an image of an artefact from the museum's collection thematically or historically related to that location. Thus, beyond the questing experience, the platform created a virtual exhibition by taking the museum's collection out the building and into the city.

The quest's photographic challenges were created in response to the specific setting of each location. For example, in the Cathedral Green, players were challenged to create a photograph in which the cathedral's building appears, but not as the central focus of the image, while in Rougemont Gardens, they were tasked with finding and photographing a squirrel, or, alternatively, selecting and photographing the tree where they thought was most likely that a squirrel might live in. While the challenges gave players specific directions, they were still open enough to allow them to create their own interpretations, within the rules given by the quest. As players responded to the challenge, their photographs were immediately shared on the platform, allowing them to see the results of their efforts, and also how other players responded to each challenge.

The Great Exeter Garden Quest: Results

In order to study this gameful tour experience and how players reacted to the quest structure in a museum environment, an interdisciplinary qualitative research methodology was needed that could be applied both to game studies and museum studies, with a focus on the journey that visitors go on when visiting the museum. A framework that connects the idea of trails with digital experiences and ethnomethodology is the mixed

reality trajectories[13], which served as a basis for the methodology. Specific methods included studying the photographs that players shared online, and organising a gameplay test day with a group of six volunteer players from the community of museum visitors, with direct observation and documentation of those players' behaviours, as well as a semi-structured focus group discussion that gave insights into players' motivations and experiences while playing and visiting the exhibition after the gameplay experience. To establish a comparison between the experience of visiting the exhibition for players and non-players, a group of six visitors to the IGPOTY exhibition who had chosen to visit the museum but had not gone on the quest were also interviewed. The group of players, an equal number of females and males in their late twenties or early thirties, responded to an open call detailing the quest event, while the non-player visitors, two males and four females with ages from 19 to 70, were approached randomly during the museum's normal visiting times.

The feedback from quest players during and after the experience was generally positive, with players reporting how much they had enjoyed the journey and how they had learned new things during gameplay. Several players reported that, although they were local to Exeter or had visited the city before, they had never visited all the locations featured in the quest. The experience thus served as a reason to visit places that they would otherwise «never have bothered going to», in the words of Player 11. The ones who had visited before reported that the facts incorporated into the quest text, which gave historical contextualisation to the locations, as well as connections with objects in the museum's collection, helped them learn new facts about familiar places. This learning was not forced upon players, and instead occurred organically as they were engaged in the quest, reading the story and interpreting the challenges: «[…] you go through the activity, which is fun, and you enjoy it […] but at the same time you learn something exciting and new about the city» (Player 12). This type of learning that occurs during gameplay, sometimes denominated «stealth learning»[14], is common in the experience of playing videogames. While not specifically focused on education, the quest still promoted learning about the museum's collection as part of the experience.

The creation of an experience that involved physical locations beyond the museum building, in a way that made sense within the theme of the exhibition, had the effect of expanding and augmenting the space of the museum, both physically and virtually, by letting players learn about the collection beyond the galleries. Player 9 described this connection: «It does extend the museum experience. […] it's nice to have [the inside and outside] connected so that your museum experience isn't isolated from the city». Besides building connections between the museum and its surrounding city context, the quest

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[13] BENFORD & GIANNACHI, 2011.
[14] MACCALLUM-STEWART, 2011.

gave players an engaging experience on an intellectual, creative, and also physical level, since following directions demands physical movement, and the challenges implied a degree of physical, as well as intellectual, involvement with the player's surroundings.

Fig. 2. A selection of player-contributed photographs for the fourth challenge in the quest, in the Northernhay Gardens. From left to right: Player 8, Players 12 and 13, Player 9, and Player 11

According to players, the photographic challenges were the most engaging part of the experience. During the focus group discussion, players said that one of the benefits of the quest structure was that, beyond taking them on a tour of locations, as a trail would, the quest gave them tasks to complete upon arrival on each location, turning a passive experience to an active one. One player admitted that he was «surprised by how much [he] enjoyed it», as he had thought the quest would entail just «walking around», and appreciated the fact that it was instead an experience where he was asked to be creative and contribute content. This suggests that, more than making the player part of a story within the quest, it is the action-based roleplaying experience, that is, the opportunity to be creative and productive while embodying a role, which is more attractive about the experience.

Feedback about the exhibition was unanimously positive among both players and non-players. Participants in both groups discussed the photographic techniques on show with each other while wandering the gallery, and praised the exhibition in terms of the talent of the authors and the quality of the photographs, mentioning their sensorial qualities, such as the expert use of colour, light, and texture. In this, there was no discernible distinction between the comments from players and non-players. The differences became visible when both groups were asked if they identified with the authors in the exhibition. Most non-players referred to themselves as interested in nature and photography, but not photographers, showing reluctance in attempting to create photographs like the ones on show. Many players reported feelings of inadequacy regarding their photographic abilities, with Player 9, for example, admitting, «I tend to not take pictures because I know I'm not very good at it». However, they also reported feeling closer to the creative process, as they had attempted to create something similar shortly before, which enhanced their awareness of the work that had gone into each photograph. When asked

about the impact of the quest on their experience in the exhibition, players described how being put in the same role as the artists on exhibition, that of amateur nature photographers, helped them connect more deeply with the images on view:

> Player 10: *I think it probably gives you a bit of context on how hard it might be to get such great photos. […] You've just shortly before tried yourself to take a photo. So I think it's interesting to go from trying yourself to seeing some really great examples of people doing that.*

> Player 9: *Yeah, I think I also feel like I wouldn't necessarily be very connected to… I'd look and think that they were all experts, but actually having tried it first did for me, make me feel like I was more linked into it. So, yeah… Closed the distance.*

> Player 8: *Yes, because it sets up your minds to… To see that way as well.*

These results suggest that the challenge-based roleplaying that the quest afforded players was successful in promoting a deeper engagement with the exhibition's theme, namely, to promote and celebrate nature through the eyes of all creative people, no matter their age, nationality, or professional level. This seems to confirm our initial assessment that, through a combination of story, action-based roleplay, challenges that give players goals and sub-goals, which require a certain amount of skill to complete, and which turn players into content creators, while they are being taken on a narrative and physical journey, it is possible to create an experience that successfully engages players and allows them to develop a deeper understanding of and connection with the exhibition on show at the museum.

CONCLUSION

This paper was dedicated to the expansion of the museum space outwards and making the museum visit more gameful, namely by transforming it through the use of a structure commonly found in games, the quest. This gameful design process is useful to gamify digital experiences and platforms that are already offered by museums to enhance the visit experience, including mobile applications and self-guided tours in the form of trails or audio guides. The case study, *The Great Exeter Garden Quest*, made use of story, action-based roleplay, a physical journey that included facts and images for historical contextualisation, and location-specific challenges that sparked the players' creativity and asked them to create and share content, using the existing capabilities of players' own mobile devices. It also extended the space of the museum outwards, into the city, by taking objects in the museum's collection and inserting them into new contexts, and brought the players back to the museum through the connection with a specific exhibition, the International Garden Photographer of the Year.

The results suggest that a quest structure, with its story, action-driven roleplay, and creative challenges, is more engaging than existing trail tours, as it encourages players to experience the museum and related environments on physical, emotional and intellectual levels. The challenges encouraged players to employ creativity in their responses to the directions, while also giving them space to create their own interpretations. In the end, the results suggest that the quest was successful in increasing players' engagement with the exhibition's theme, which was the main objective for this gameful experience.

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