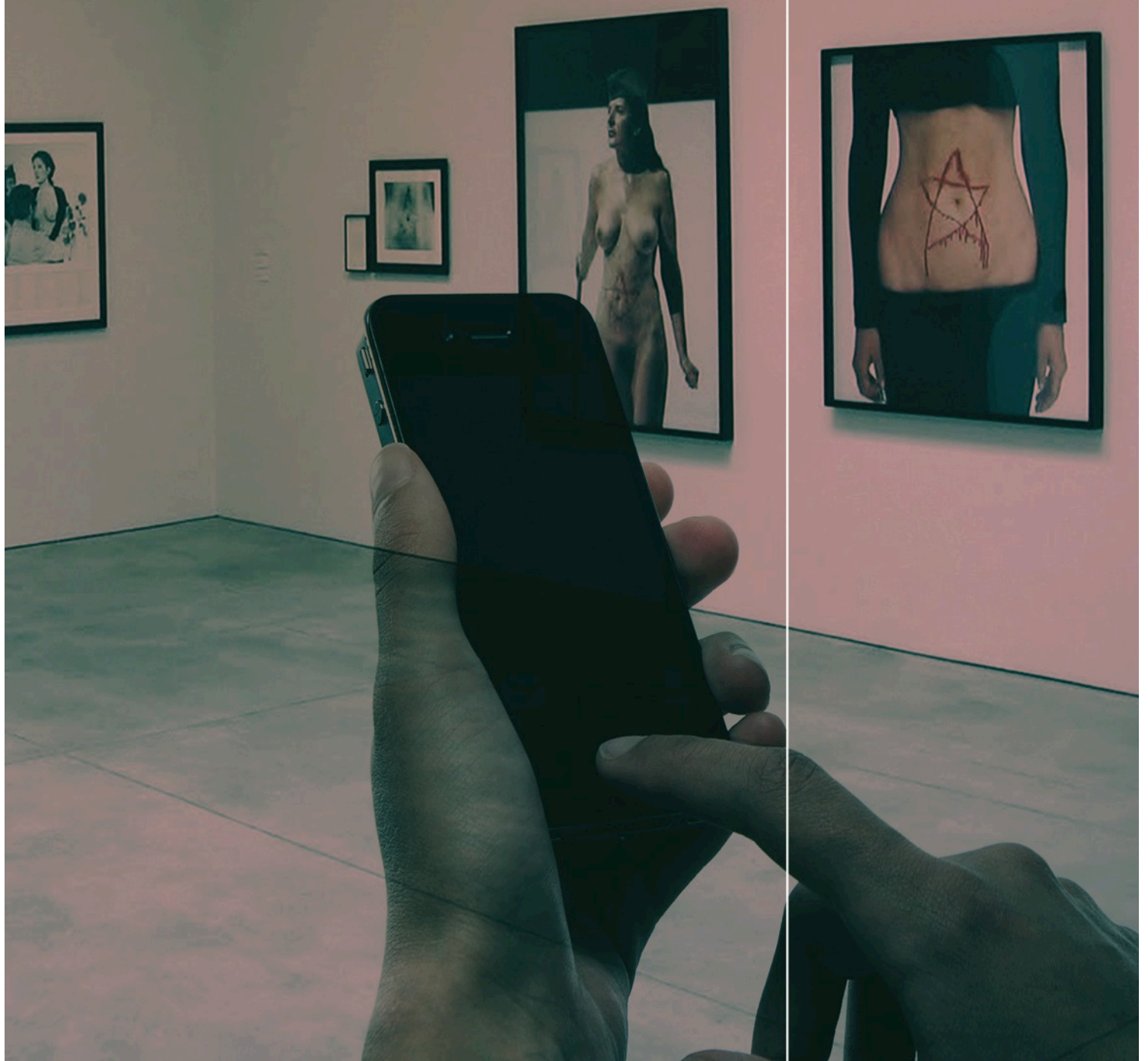


# **EXPLORE. CONNECT. PARTICIPATE.**

*Transforming the Gallery Space  
into a Mobile Mediated Playground*







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## Transforming the Gallery Space into a Mobile Mediated Playground

SEPTEMBER 2012

### Abstract

In the recent years, there has been an increasing commitment among museum professionals, designers and artists alike to enhance the ways in which visitors interact with and participate in the gallery exhibits. The explosive growth in mobile media has drawn much interest in the museum sector, as there have been many instances of mobile media embracement in the museum visit. Along with the development of mobile mediated museum visits, museums, galleries and cultural institutions leverage play as an audience development tool in order to entice new audiences enter the museum doors. To that end, the project explores the use of mobile media for museal mediation of play that transcend the conventional way of approaching museum exhibitions. In this regard, the gallery space is transformed into a mobile mediated playground whereby visitors, as players, explore the collections, connect through their mobile devices with the museums mobile apps, and actively participate in the museum visit.

The project will analyze this scope through a *playful, participatory and visitor experience design* process.

### Keywords:

Play, mobile media, mobile apps, museums, experience design, participatory design, digital heritage



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## Introduction

Throughout the twentieth century museums have conceptually shifted their focus from being 'cabinets of curiosities' with thousands of objects displayed for enlightening purposes to dynamic centres for diverse audiences to interpret and explore the world both in onsite and offsite environments. While museums have traditionally manifested themselves as repositories of knowledge around cultural heritage, they have now expanded in variety as museum practitioners are continuously seeking new ways of showcasing their collections and transform museum's role in society.

Museums have historically focused on safeguarding, curating and exhibiting works where the majority of which were initially functioning as private collections shared among the selected participants (Falk and Dierking 1992). The first museum visits were conducted in private, and consequently they had no didactic character as visitors were touring the museum walls just to appreciate or buy artworks whereas the relationship between the visitor and the objects was unmediated and unconstructed (idem). However, with the increasing popularization of information technologies the once traditional role of the museum and the way art was presented has been placed in the microscope. As Gail Anderson, author and consultant in the museum sector points out:

*"The museum is no longer sacred or untouchable; rather, the museum is open to scrutiny, from within its walls and from an increasingly discriminating public. The process of rethinking the museum has brought intense examination of values and assumptions, the scope and nature of services offered, the focus and approach to leadership and management, and the relationship between museums and the people they wish to serve - the public" (Anderson 2004, 1).*

Anderson incisively captures the dramatic shift in the role of museums by "dismantling the museum as an ivory tower of exclusivity and toward the construction of a more socially responsive cultural institution in service to the public" (idem). This observation ties together with Walter Benjamin's commentary about the changing role of art in society and the fact that art no longer remained distant and ritual but a 'product' for the masses (Benjamin 1969). This profound transformation has engaged artists, curators and museum professionals alike to make artworks widely accessible and turn their collections from private to public, thus opening new forms of interpretation to the artworks and extending the museum experience from the elite to the masses.

In the last decade for instance, technological advancements have generated innovative ways of displaying collections and artworks. New communication technologies pertained our lives – from the Internet to multimedia handhelds to cell phones, iPods and personal digital assistants (PDAs) – and transformed the way we interact with art (and with each other) within museum walls. Every newly introduced technological device came to replace or supplement an older one and in this sense provided museum professionals great opportunities to further enrich and enhance the museum visit. Not surprisingly, today most art, science and technology museums as well as some cultural institutions are leveraging new technological forms for providing opportunities for learning and entertainment both to physical and online visitors. From assigning visitors handheld devices to access information about the artworks to the most recent integration of smartphones and tablet computers, museums are experimenting with various technologies with the aim to break the long established conventions of approaching the art and enhance the visitor experience both onsite and offsite the museum walls.

The need for museums to open their doors to a wider audience and improve the museum experience has recently drawn much attention. For example, on a recent lecture in D.C.'s Newseum as a presentation by AAM's Center for the Future of Museums, the game designer Jane McGonigal emphasized that museums have the potential to attract novice visitors by mobilizing them to become part of something bigger in contrast to the conventional way of mere visiting an exhibition or viewing an artwork. For McGonigal, play represents a focal point upon which learning, participation and social interaction can be established. In the museum landscape, McGonigal remarks, what museum professionals do through the production of exhibitions is to tell visitors a story; they are above all narrators and storytellers. But, what if the visitors became a part of that story? What if the visitors instead of simply consuming the story, became active participants of the narration? What if museum professionals created large-scale participatory systems that are based on play and through which, visitors are invited to *participate*, *engage* and *interact* with the exhibitions and with the other participants accordingly? That being the case, Jane McGonigal points to play, as she argues that play is the key hub in delivering such experiences (McGonigal 2008).

When it comes to the incorporation of play within museum walls, mobile media technologies manifest themselves as an important area of facilitating play, as they are considered substantial tools for augmenting museum exhibits and support visitors before, during and after their visit (Yiannoutsou et. al 2009). Museums treat mobile media as vehicles to enter the everyday, poised to transform the museum experience for their audience. Although museums and

cultural institutions are rarely seen as spaces for the use of advanced technology, as audiences enter these spaces, they bring along aspects of the 'everyday' that could potentially enhance the museum visit (Petrie and Talon 2010). With today's networked mobile devices the enrichment of museum collections with interactive mobile media and software mobile apps amongst others seems to be on the rise (Proctor 2010). The advancements in digital technology and the subsequent ubiquity of mobile media devices has led to the development of mobile media apps not only aimed at the offsite gallery visit but also for the onsite one. In this regard, museum practitioners aspire to create mobile products to reach and retain audiences and follow along the advancements in technology.

Given the foregoing, the paper will then explore the following research question:

*How the museal mobile mediation of play transforms the conventional way of visiting a museum and encourages visitor participation both onsite and offsite the gallery space?*

Within this context, I argue, mobile media serve as significant tools for the *facilitation of play* in the gallery space and act as mediators of play in order to *transcend* the conventional way of approaching museums exhibitions. This suggests in turn that the gallery space is used as a playground whereby visitors as players explore the collections, connect through their mobile devices with the museums mobile apps and actively participate in the museum visit.

## **Method of Research**

The project "Explore. Connect. Participate. Transforming the Gallery Space into a Mobile Mediated Playground" examines the scope for using mobile media as interfaces for *playing with the exhibits* as well as for participation and interaction among its visitors. The research identifies a gap on the mobile mediation of play and the conceived interaction between the audience and the exhibits. In addition, it indicates that a research project is needed to reflect on the current academic debate and provides an understanding of the discourse surrounding play and its mediation by mobile media devices to support and encourage adults to interact and 'play' with the exhibits.

The aim of this research is therefore to map out the discourses around the interplay of museums and play and the potential of mobile media devices based on sophisticated and advanced software platforms inscribed on their design to encourage certain practices. The case study of *Tate Trumps* aim to demonstrate



such practices and illustrate how the use of these devices induces visitor participation and playful interaction with the gallery exhibits. At the same time, by exploring the affordances of mobile media devices, this project will shed some light on their ability to elicit play and contribute to the production of playful/participatory spaces.

On the basis of the aim of this research, my thesis is divided into two parts: first, a chapter “Play. Museums as a Playground” of theoretical background and a discourse analysis surrounding the concept of play, its connection to mobile media devices and the affordances of the mobile media to facilitate the construction of play spaces. The goal of the first part is to situate my research in existing debates and discourses around the use of play and its application to current media practices in the museum sector. However, this thesis is not about the recently introduced concept of ‘gamification’, i.e. the use of game elements to enhance non-game contexts (Deterding et al. 2011). I do not intent to document the concept and practice of gamification and its relation to current cultural practices; rather, I concentrate on the playful elements that arise from certain media practices that are located outside the scope of formal games. In contrast to the theoretical background depicted in “Play. Museums as a Playground”, I start the second part with two chapters (Mobile Media, Visitor Participation). “Mobile Media” presents the case study of *Tate Trumps* that serves the purpose of answering the research question formulated. It also addresses the transformation of the conventional museum experience through mobile media and forwards the need for museum professionals to rethink about their current strategies and leverage mobile media as tools to keep audiences engaged and active in the museum visit. “Visitor Participation” chapter, explores the nature of mobile media to foster participation and social interaction and studies the latter from an experience design standpoint, suggesting that an effective design strategy is needed with the intention to enrich and engage visitors more actively in the museum experience. Finally, the concluding part summarizes my research and echoes the opinion of museum professionals regarding the integration of mobile media in the museum visit, as well as how they envision the museum of the future.

## Play. Museums<sup>1</sup> as a Playground

In this chapter I attempt to discuss the concept of play and shed some light on the playful elements inherited in current mobile media devices. In doing so, I

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<sup>1</sup> With the term ‘museum’ and for the sake of clarity in this research, I hereby wish to enclose not only museums in the narrow sense but also cultural institutions, galleries and exhibition spaces.

present the view of a number of key actors that explore the notion of play from different perspectives; from Dutch historian Johan Huizinga, philosopher Roger Caillois to media scholars Christopher Moore, Roger Silverstone and Michiel de Lange. Building upon existing literature about the concept of play I seek to present the vital role of play and its relation to current media discourses. The connection of play and mobile media can help to clarify the mobile mediation of play in the museum setting and the consequent transformation of the museum into a playground.

## The notion of Play

Naturally, when it comes to the notion of play, the scholarly literature has long been drawing on the groundbreaking *Homo Ludens: A Study of the Play Element in Culture* by historian Johan Huizinga (Huizinga 1955). In his work, Johan Huizinga traces the elements of play and discusses how the notion of play is incorporated in our culture. Huizinga distinguishes play as:

*“a voluntary activity or occupation executed within certain fixed limits of time and place, according to rules freely accepted but absolutely binding, having its aim in itself and accompanied by a feeling of tension, joy and the consciousness that it is ‘different’ from ordinary life” (ibid, 28).*

Huizinga’s approach to the notion of play has received both praise and criticism as he has set the ground for fruitful debates around the study of play and its significance in the way we perceive and interpret the world around us. Although his definition of play can be characterized as too broad - i.e. he does not assign any attributes or categories to play – perhaps of great interest is his view that play should not be regarded as mere fun or a non-serious activity. This is an interesting observation because museum practitioners may often receive the terms ‘play’ and ‘museum’ as incompatible to one another since these terms may invoke contradictory associations when closely examined. As the experience designer Katarzyna Warpas comments, the term ‘play’ is commonly associated with fun and entertainment while the term ‘museum’ is identified with silence, passivity or lack of comprehension (Warpas 2011). This perception, however, seems to have been altered with the passing of time, particularly in the museum setting where play has served as audience development tool. Although, still in the introductory process many museums have already invented new ways to play with the exhibits by combining onsite, offsite or online play assisted by digital narratives. For example *Tate Kids* is a section of Tate Online with the goal to engage younger audiences in play activities that promote both education and entertainment, enhancing their understanding of art. After its launch in 2008, the

targeted audiences have warmly received *Tate Kids* section as it currently hosts around 32,000 unique visits per month – a notable increase from the 17,000 users that Tate was receiving back in 2007 (Jackson 2012). Most of the instances that are encountered in current museum practices - as well as the case study that will be examined in the following chapters – do not represent games per se but mainly a sample of playful interactive experiences (idem). This leads us back to our initial discussion on what play is and how we can distinguish it. Considering Huizinga's broad definition of play it is not possible to accurately characterize an activity as play since we do not have any specific features to ascribe to it.

French philosopher Roger Caillois responds to the ambiguity surrounding the work of Johan Huizinga on play. Caillois seeks to limit the boundaries of play and place it in a restricted sphere by assigning certain attributes that govern it. According to Caillois play entails the following characteristics:

- *“Free: in which playing is not obligatory; if it were, it would at once lose its attractive and joyous quality as diversion;*
- *Separate: circumscribed within limits of space and time, defined and fixed in advance;*
- *Uncertain: the course of which cannot be determined, nor the result attained beforehand, and some latitude for innovations being left to the player's initiative;*
- *Unproductive: creating neither goods, nor wealth, nor new elements of any kind; and, except for the exchange of property among the players, ending in a situation identical to that prevailing at the beginning of the game;*
- *Governed by rules: under conventions that suspend ordinary laws, and for the moment establish new legislation, which alone counts;*
- *Make-believe: accompanied by a special awareness of a second reality or of a free unreality, as against real life” (Caillois 2001, 9-10).*

Even though Caillois classification of play works towards a redefined understanding of the notion of play, it is also very problematic when jointly interpreted. For example, do all of these features that Caillois proposes describe play? Huizinga and Caillois cannot fully depict the scope of activities associated with play; rather they recommend some patterns for distinguishing play from game activities although the boundaries can be blurry. Within these representative approaches, we observe that there is not an agreed upon definition on the concept of play. Setting aside the problematic definitions found in Huizingas' and Caillois' works I turn to game scholar Christopher Moore who distinguishes play as “a processual mode of experience, a cultural creativity that

recontextualizes the frames and boundaries of play as part of an ongoing, always changing expression" (Moore 2011, 384). The reason for selecting this definition is mirrored in Moore's work, as he acknowledges play's dynamic and always changing nature that is inaccurate to situate it in limited and vague classifications and definitions.

## Mobile Media as Loci for Play

*"We often become too familiar with our own museum and do not see the potential for gaming hidden in every artwork, stairwell and plant pot"* (Georgina Goodlander, cited in Bale 2011).

Not surprisingly, the research on play has yielded a considerable amount of studies that seem to connect it with digital media technologies (e.g. De Lange 2009, 2010; Downe 2011; Kücklich 2004; Silverstone 1999; Yiannoutsou et al. 2009). For example, media scholar Roger Silverstone was the first author to introduce the notion of play as a tool for the analysis of media technologies (De Lange 2010). In his book *Why study the Media?* Silverstone states:

*"There are many ways in which we can see the media as being sites for play, both in their texts and in the responses that those texts engender. And not just in the endless thud of the computer game. Watching television, surfing the net, doing the crossword, guessing the answers in a quiz, taking part in a lottery, all involve play"* (Silverstone 1999, 60).

Silverstone demonstrates that play constitutes a central dimension of media experience and that media have the capacity to engage audiences in play (idem). Play is inherited in our culture and as he tellingly observes "popular culture has [therefore] always been a playful culture" (ibid, 62). The author identifies play in the fabric of everyday experiences, particularly focusing on the carnival, travelling fairs or the circus. These experiences have "taken the serious and often oppressive regulation of the conduct of everyday life, the regulation by state, religion and community, and turned it on its head: carnival, bacchanalia, charivari" (idem). However, even in the world of digital media we can still recognize these playful dimensions, these sites for play, as the boundaries between play and non-play are becoming increasingly blurry.

To comprehend better the connection between media technologies and play, it is wise to examine the existing literature on the playful practices of media experiences in a more detailed way. According to game designer Julian Kücklich playful practices that reside in the use of digital media can be identified due to

the latter's aspect of "playfulness". Kücklich defines playfulness "as an attitude that promotes playability" (Kücklich 2004, 23). For game designer and scholar Aki Järvinen playability refers to "the guidelines regarding how to implement the necessary elements to give birth to a desired sort of play" (Järvinen et al. 2002, 17). It is clear that in their definition of playability, Järvinen et al. stress the technical issue that lies behind the concept of playability as they describe playability as a consequent tendency that arises "out of specific design decisions during the production process" (Kücklich 2004, 22). Following Järvinen et al. technology-centred definition of playability, it is observed that the authors place a great focus on the design inscribed in media technologies to facilitate play. Kücklich reflects on Järvinen et al. definition of playability and emphasizes the possibilities of using the term playability as something that arises not only from design guidelines but also from the player's attitude and the features of the play. In this way, Kücklich broadens the term 'playability' to include also the potential of receiving certain options from the side of the player, therefore relating it to the concept of playfulness.

Playfulness and playability serve as valuable concepts when examining the notion of play (Järvinen et al. 2002; Kücklich 2004). As important it is to comprehend the notion of play and its relation to media technologies, playability and playfulness can well reflect on the affordances of media technologies to invite play. As media scholar Michiel de Lange (De Lange 2010) comments, media technologies and particularly mobile media have certain playful affordances and invite users to play. For instance, the introduction of software, like web browsers, text-messaging as well as powerful software applications such as Wi-Fi, social networking and games has radically increased the consumption of mobile devices and their appeal to users. The incorporation of such technologies in mobile devices can be used to turn the physical context into a gameboard and thus introduce play into the fabric of everyday life. By drawing on game researcher Julian Kücklich, De Lange suggests that mobile media technologies possess playful affordances and invite people to tinker and play with them; an attribute that represents their *playability* (idem).

Building upon the existing research into the concept of play I sought to present the essential role of play and its relation to current media discourses. By examining the terms 'playfulness' and 'playability' I wish to bring forward the relevance of these analytical concepts and how these concepts can better facilitate current debates and discussions about museum practices and new media technologies. On reflection, it seems more accurate to say that when approaching the issue of play, and its integration into the gallery visit, exploratory research on museal mobile mediation of play is sparse. Existing

literature includes research by Yiannoutsou's et al. studies on the design of educational games for children mediated by mobile technology (Yiannoutsou et al. 2009); Calvi's and Cassella's project on the use of mobile tools by museums to facilitate mobile access to the exhibitions (Calvi and Cassella 2011) or, Economou's and Meintani's recent work on the evaluation of museum mobile phone apps to promote their exhibitions and programmes (Economou and Meintani 2011). As indicated by these examples, however, the existing literature has primarily focused on children and museum education, or on the impact that mobile media use has on cultural heritage access and promotion. With regard to this, the following section presents another way of looking at the interplay of museums, play and mobile media as we cannot ignore the potential of mobile mediation of play within the museum walls; an experience not only aiming to stimulate the involvement of children in the onsite/offsite visit but adults as well.

## **Interface- afforded play spaces**

In order to keep up-to-date with the latest technologies, museum professionals have long explored creative applications of mobiles as they recognize their added value in the museum visits. With the advent of mobile apps, museums have become more adept at developing and leveraging them with the aim to extend the museum experience. The range of technology that can be found in these mobile media devices can be very broad, thus, museum professionals foresee the potential use of these devices for many sorts of experiences, going beyond the mere access to information about the exhibition or an artefact. Mobile applications reconsider the ways in which we communicate, interact, share and disseminate information.

Interestingly, when discussing about mobile apps, the interface of mobile devices receives little or no direct attention. Search engines, social networking, location awareness and mapping tools, instant messaging and games constantly pervade every aspect of our everyday lives. It is the interface's role to deliver Web pages, to geo-tag our pictures, to constantly inform us of our current location or to connect us with a number of other mobile media users on the go, just to name a few. The possibility of an 'always on' connection, and the broad features provided by the interface of mobile apps, makes the interface to be "the invisible glue that ties it all together" (Manovich 2008, 3).

According to media theorist Steve Johnson, interfaces can be conceived as communication mediators, projecting information between two parts, so that the information becomes realized from both of them (Johnson 1997). Media

scholar De Souza e Silva reflects on the concept of human-computer interface and states that traditionally it “defines a communication relationship between a human and a machine” (De Souza e Silva 2006, 261). In this research, I propose a further conceptualization of “playful interfaces”, which describe a digital device that elicits playful practices. With regard to this, playful interfaces reconfigure the relationship between the human and the machine, proposing a playful space in which the interaction occurs. Within this new dimension, mobile media should not be perceived as mere communication devices facilitating a two-way interaction but also as technologies that enable the creation of new types of spaces; play spaces. As such, that leaves us with the question of how mobile media devices can be regarded as interfaces of play spaces that reconfigure the museum experience. In order to conceptualize this new dimension that arose from the interplay of mobile media and play, I address the role of mobile apps to evoke play along with some instances of mobile media use in the cultural sector.

The capability of mobile media devices to stimulate play, that I claim, goes in line with media scholar Michiel de Lange’s work *Moving Circles, Mobile Media and Playful Identities* in which he argues that objects can have properties and affordances that invite play (De Lange 2010). For example, a pen invites people to draw or write, a digital camera invites people to shoot movies and take pictures and referencing the sociologist Bruno Latour, in his work “On Technical Mediation” the gun is an object, created by humans, which invites them to attack or to defend themselves by shooting something or someone (Latour 1994). In this sense, the non-human (object) gives a prescription to the humans and shapes their actions by inviting them to leverage their affordances. Within this context, play can arise from a computer code translated in the interface of a mobile device as it encourages users to perform certain actions such as interacting with other users, exploring, learning and collaborating among a few.

Expanding on the playful character of mobile media devices, play has become a key building block when designing mobile experiences in museums. Play not only can be found through -the more established -electronic games and interactive toys, but also through mobile mediation. For example, *ARtours*, the Augmented Reality project of the Stedelijk Museum of Amsterdam, exhibits art in augmented reality by using smartphones integrated with the mobile application Layar. Users with their smartphone can bookmark artworks from the collection of the Stedelijk Museum by scanning the QR code embedded on them. Once the artwork is scanned, users can position the artwork anywhere onsite and offsite the museum walls, thus mounting up a temporary exhibition in the space around them. Other users can also see the superimposed artworks by using the same technology and also place their own. These experiences of mobile media

apps constitute instances of how mobile media devices give interface afforded opportunities to introduce play both within and beyond museum walls.

In addition, apart from being communication technologies, mobile media are interfaces through which users can play. In this regard, the interface of a mobile media device invites play. As Johan Huizinga analyzes in *Homo Ludens*, play experiences can be observed anywhere, from the roller coaster ride to “free play” (paidia) and to the rule-governed games (ludus). In this sense, free play resides also in mobile media and it involves a great deal of exploration and experimentation through a series of trials and errors.

With reference to De Lange’s playful aspect that is inherited in mobile media, I thus seek to show that a *potential playground* emerges in the gallery space, not explicitly through the use of games but *mediated* through mobile media. As we will see in the following chapter, mobile media enable participation both in the onsite and the offsite the gallery space. Their properties and affordances pave the way for the creation of unlimited opportunities to engage visitors in a playful way with the museum and its artefacts. Like De Lange, I see a significant potential associated with mobile media and playful practices. Mobile media have a prominent role in transforming the gallery into a gaming board and bring back the joy, interactivity and participation that play is often associated with into the museum experience. By integrating mobile media in the museum visit, the gallery is turned into a play space and fosters exploration with the exhibit and the objects through play. This approach, as opposed to the conventional way of viewing the artworks, inspires and engages with the networked audience and invites them to ‘play’ with the exhibits. The museum artefacts no longer remain intangible as mobile media break down the barriers of approaching an artwork.

## Mobile Media.

This chapter denotes the beginning of part two (Mobile Media, Visitors’ Participation); a practical elaboration of the various discourses analyzed in the previous chapter with regard to play and its relation to current mobile media practices. Yet, the key question to be examined is how the mobile mediation of play transforms the conventional way of mere visiting an exhibition and encourages users to become part of museum’s narration by actively participating in the museum experience. For this reason, I start this chapter with an overview of recently adopted mobile apps in the museum visit by particularly focusing on the case study of *Tate Trumps*. The reason for selecting this mobile app is that it



can be applied to both onsite and offsite museum experiences and supports my hypothesis that through this app the mobile media device mediates 'playing with the exhibits' and invites visitors as well as distant users to actively participate in the museum experience. The case study represents a key hub upon which I will further examine the transformation of the museum experience through the use of mobile media device, the participatory character engraved on its design as well as its application from a visitor experience perspective; aspects encountered throughout the following chapters of this research.

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## **Mobile apps in Museums: *Tate Trumps* Case Study**

The use of mobile media in urban spaces has already begun to thrive. Mobile media users enthusiastically respond to the technical possibilities of these technologies and adopt them in their daily lives. Their inherent multifunctionality and their affordance in "carrying" the Internet 'on the go', contributed to their establishment both in work and non-work settings. The integration of the Internet on these devices and powerful software features like social networking, games, Wi-Fi, email and many more, affords and encourages users to connect and interact with a plurality of other mobile users despite their physical location. In this dissertation I support the notion that the dispersion and diffusion of mobile media, particularly the one of the iPhone, have induced a social and playful aspect that can be identified onsite and offsite the gallery space. The iPhone case is selected to illustrate such a point, as this device already constitutes mature technology. According to NMC Horizon Report, which was conducted in 2011 for the Museum Edition, by 2015 80% of people accessing the Internet worldwide will be doing so from a mobile device (NMC Horizon Report 2011). The undoubting popularization of the iPhone has led to an explosion in mobile media consumption. This can be demonstrated by the results of a recent report from Nielsen according to which almost a third (32.1%) of US smartphone users have an Apple iPhone (Nielsen 2012). These devices present to museum professionals new opportunities to enhance and reconfigure the onsite and offsite gallery visits and make them ideal tools for novel playful learning experiences.

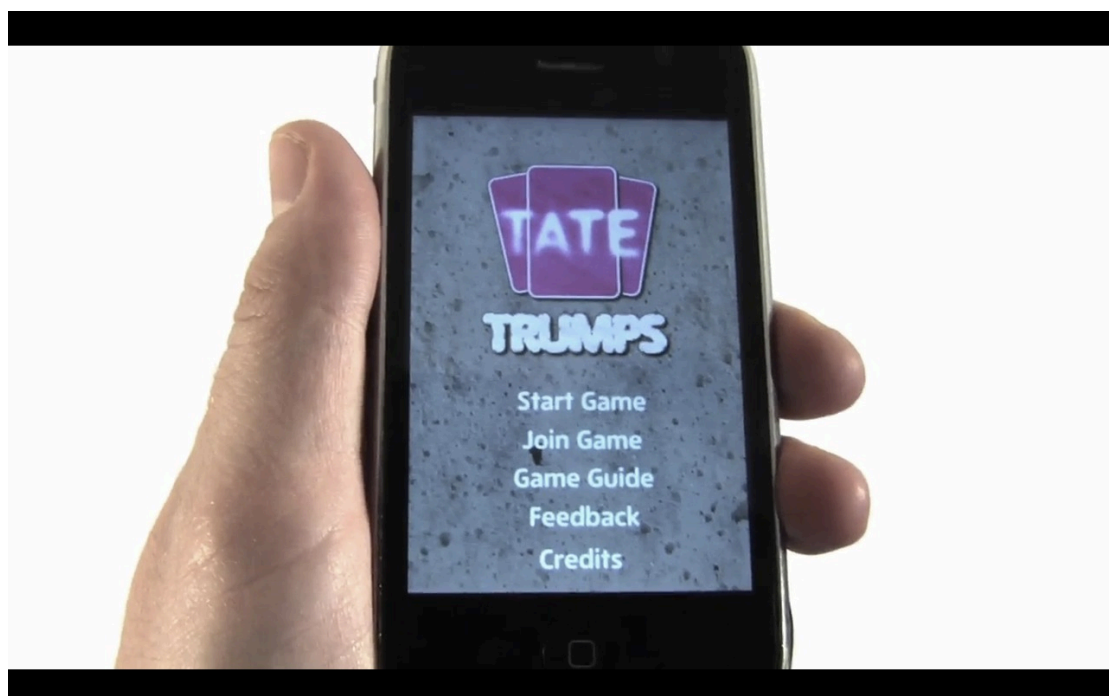
The case of *Tate Trumps* that will be presented in the following section highlights the current trend for museum professionals to provide visitors a seamless experience across different mobile media devices. Whether it is a smartphone – like in our case – or an iPod, PDA and a tablet computer, the need for museum professionals to include in the museum visit collection-related rich media has

become paramount. Museum professionals have begun developing creative strategies by working closely with technologists, researchers and curators so that they can successfully embrace digital advancements for more interactive and engaging visits.

### **Tate – *Tate Trumps* app**

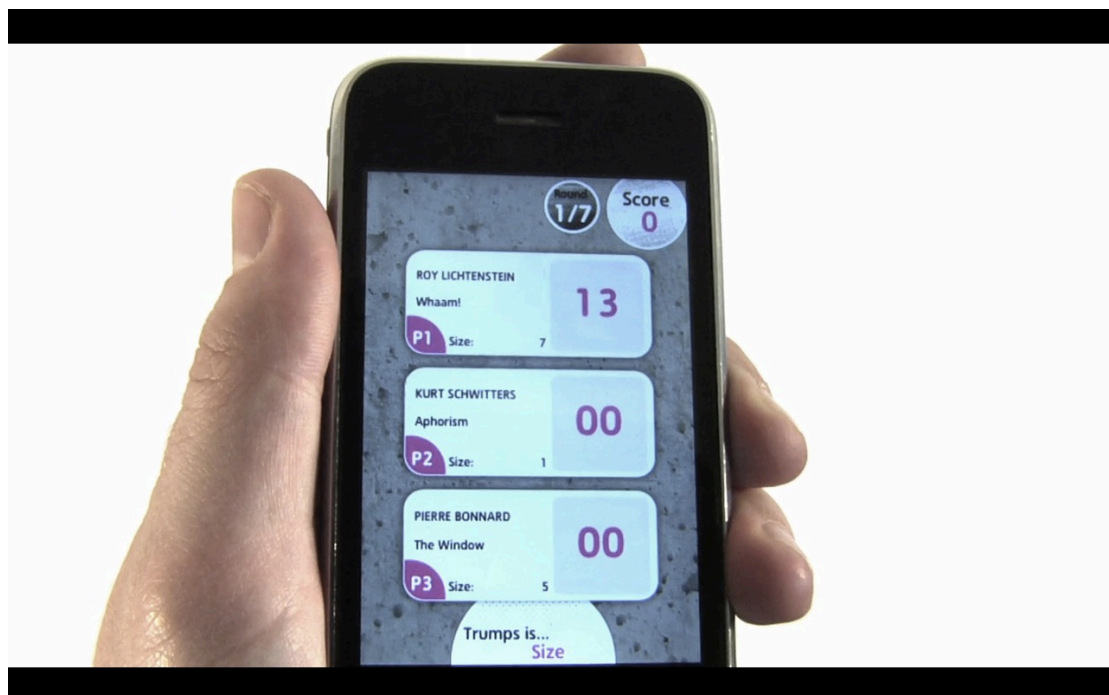
*Tate Trumps* is an iPhone operating system (iOS) application designed and developed for Tate Modern with the aim to transform the gallery space into a participatory playground. The application invites visitors to form teams and collaborate with each other in order to experience the collections using one of the suggested modes; the Battle mode, the Mood mode and the Collector mode. *Tate Trumps* encourages users to view the collections upon completing a little mission:

*“Imagine if all the artworks in the gallery came to life and had a fight. Could you pick which one would win? Take a look at your favourite painting and try to gauge its mood. Is it menacing, exhilarating or absurd? Have you ever started planning the ultimate home gallery? Will you pick works which are famous or which would fit in your living room?”* (Tate 2011).



**Figure 1: The user encounters the following options once he installs the app on his smartphone. Screenshot taken from *Tate Trumps* video**

The players are then challenged to respond to the presence of the artefacts by selecting the mode through which they want to participate. For example, in the Battle mode players imagine what would happen in case the artworks came alive and attack each other; in the Mood mode, users are encouraged to tag artworks that correspond with feelings like exhilaration, threat or absurdness and finally in the Collector mode, players are given the opportunity to dive into the world of curation and art handling by deciding which artefacts to accumulate for their own virtual art gallery. In this sense, the visitors can experience the gallery space in a more playful way and become active participants in a personalised museum experience.



**Figure 2: Users pit the artworks from Tate's collection against each other in order to see which one scores high**

Once players have chosen upon a roster of artefacts in any of these modes, they are prompted to join a competitive battle of trumps to play with their fellow team members based on their selected modes. By participating in one of these scenarios, visitors explore the collections and add an interactive and social character to the traditional way of viewing the artworks. The need for museum professionals to include in the museum visit collection-related rich media has become increasingly valuable. Tate Modern infuses the gallery visit with more playful and participatory elements and turns museum going into an interactive experience. *Tate Trumps* affords to connect the user with the artworks while at the same time the game ensures that visitors can physically explore and interact with the artworks without always concentrating on their screens.

Unlike other Tate Modern applications *Tate Trumps* was initially designed to be used within the confines of the museum. As Jane Burton, Creative Director for Tate Media comments:

*“Being a multi-player game, it also acknowledges the fact that gallery-going, for many, is a social activity, shared amongst friends. Tate Trumps was deliberately designed to be played only at Tate Modern in order to encourage a direct encounter with artworks”* (Burton 2011).

In order to expand the experience to distant museum enthusiasts, Tate Modern recently release *Anywhere Mode* as an additional mode to *Tate Trumps*. In this mode, users are invited to play *Tate Trumps* wherever they are by selecting artefacts from the virtual gallery and pit them against human or computerised players (Tate 2012). For the novice online or offline visitor, *Tate Trumps* can be used as an audience development tool, since it gives visitors a reason to tour the collections and become familiar with the gallery and its exhibitions. The game though, is not targeted only to first-time visitors but to avid museumgoers as well as it brings forward a brand new angle through which visitors can speculate on the artworks. The diversity of the gameplay affords and stimulates both individual and collective practices as it can be played for up to three players. The players need to collect seven different artworks that will later on use to compete against each other and figure out who accumulated the most points. The sequence of roaming the gallery individually and then forming a team to play a game of trumps against each other induces a careful and critical analysis upon the artworks. The different modes of gameplay require a high score, which in turn encourages the user to examine the artefacts from new angles and enhance their understanding and appreciation of the collections and the museum itself.

As the viral video for the promotion of *Tate Trumps* suggests, “galleries will never be the same again” (Tate 2011), which signals the transformation of traditional museum practices. With the introduction of *Tate Trumps*, Tate Modern paves the way for the accomplishment of more interactive and engaging visits through the use of mobile media technologies. Whether interacting with the works of art in the offline/virtual gallery space by collecting points and bookmarking artworks or, competing with other visitors/ users in a battle of trumps, *Tate Trumps* infuses the audience into a playful collective museum experience.

## Transforming Museums through Mobile Media

As witnessed for quite some time now, museums and cultural institutions seem to have undergone a fundamental transformation in the way they approach and communicate with their audiences. The exponential growth in mobile media devices and the wireless and communication infrastructures represents a key reason for museums to move towards the adoption of these technologies and celebrate them as places that communicate with diverse audiences in diverse ways. Mobile media communication devices have been embraced as “revolutionising progress and radically changing for the better the ways we communicate, do business, think of time and space, play, romance, arrange meetings, and so forth” (De Vries 2012, 13). Driven by the smartphone devices’ success, mobile technology has pervaded our lives and has radically enriched our ways of communication. Smartphones with Wi-Fi and Internet access, location awareness sensors and diverse multimedia applications are associated with the evolution in communication technology and are recently spreading all over the world with great vigor. The Apple iPhone devices constitute prominent instances of mobile media devices that have been heralded as a widespread communication tools increasingly used to design mobile museum experiences. With the popularity of such devices, users have the potential - apart from mere connecting with other mobile media users- to play games, browse through a variety of multimedia applications, capture and edit photos and videos, read their emails as well as interact and engage with other users via social networking. As Calvi and Cassella remark:

*“According to the last Pew & American Life Project Report, 47% of American adults state they access local news on their cell phones or tablet computers. The demographic characteristics of mobile information consumers show that adults using mobile information are very young, affluent, educated and live in non-rural communities. By 2020, mobile devices will be the primary connection tool to the Internet for most people in the world”* (Calvi and Cassella 2011, 262).

The versatility of contemporary mobile media technologies in providing seamless experiences across many different platforms and their capability in delivering large quantities of information customized to user’s needs is central when designing mobile media applications for the museum visit. As mobile media technologies evolve, so does their capacity in facilitating powerful customized and enriched museum experiences. It is of no wonder, that the first technology

aimed to facilitate visitors in the museum was handheld. In fact, when the first handheld technology was introduced in the museum back in 1952 its conception relied on its potential to mediate individually-controlled, content rich and customized experiences that “no other medium can replicate” (Tallon and Walker 2008, 19). Mobile media affords mediated, personalized experiences individually adjustable by each visitor that can fill in the gap of the learning potential served by a catalogue or information brochure. In this sense, mobile media technologies as handheld technologies represent interesting devices that museums could tap into. As mobile experience designer and researcher in the museum sector Loïc Tallon remarks, with handheld technologies visitors become accustomed to their modes of engagement and are completely free to use them in their own way; their relationship is characterized as ‘ready-made’ and ‘intuitive’ (idem). Therefore, it should not be of a surprise that early handheld technologies were the first to be fully embraced within museums walls. Interestingly, handheld technologies and particularly mobile media constitute significant tools for visitor learning through interaction independent of their skills, technological savvy or education level.

The increasing adoption of mobile media in museums has challenged museum professionals to *rethink* about the traditional ways of displaying the artworks and has given rise to the need for museums to become *relevant* to the present and *reinvent* their role in society. Karin Schipper Educational Curator at the Witte de With Center for Contemporary Art (WDW) in Rotterdam acknowledges the fact that mobile media have become a crucial component in museum exhibits and comments that WDW has recently launched a mobile-friendly website for its audience to explore current and past exhibits as well as connect via social networking sites like Facebook and Twitter (Schipper 2012). Although they have not yet implemented any mobile media projects, she comments, a balanced use of mobile devices could potentially bring in novice visitors. Nevertheless, a careful implementation is needed as it could devalue the museum experience by drawing the attention away of its initial purpose. “Visitors need to understand that we are not entertainment centres. Content and learning is crucial on top of every museum mobile strategy”, Karin continues (idem).

This is in fact a very telling observation as in the midst of the digital media age the focus of museum has shifted from *content* to *experience*. And this leads us to the crux of the matter of museum learning in the digital age. As museums embrace current technologies how can we ensure that technology actually deepens visitor understanding rather than mere acting as a marketing tool? With an influx of museum mobile apps and playful participatory practices where does museums’ strategy stems from? Is it the voice of a well thought educational plan or is it a mere marketing blockbuster? Kristof Michiels, Digital Strategist and

Developer at M HKA Museum in Antwerp, remarks that there are many instances of playful activities in the museum aided by ICT, however some of them seem light-hearted, safely separated from the more serious aspects of the museum. "I would like museums to dare to go further", he comments. Therefore, we notice that as the age of experience sets foot in the museum landscape, how visitors acquire content sometimes becomes more crucial than the content itself. Museums, I argue in response, should not be naïve as to the utopian possibilities of mobile media technologies, rather they should mediate museum experiences in a carefully examined manner so that they can offer deep memorable experiences while at the same time retain their hallmark as guardians of our cultural heritage.

One way or the other, for museums, which are continuously seeking new ways to communicate and engage with their audience, I suggest that mobile media devices represent the backbone behind innovative exhibitions and programming. And as we will see later in the following chapter, when this potential is combined with 'participatory design', museums pave the way for reaching out new audiences, not only during the museum visit but also before and after the visit, thus forming a seemingly endless potential of options for interaction and learning. This potential witnessed in the pervasiveness of mobile media communication devices can be strengthened with the recent integration of mobile apps like the one presented in the case study. The development of mobile apps in the museum context is rapidly expanding as several museums and cultural institutions experiment with their advanced computing features. However, upon developing any mobile apps museums need to bear in mind that audience should be in the forefront of these experiences as it is visitors that will ultimately evoke such experiences and explorations with these devices. Ed Rodley, Exhibit Developer at the Museum of Science in Boston, identifies several attributes that museum professionals should consider when designing mobile apps:

- "-They are appropriate for the medium*
- They are relevant first to visitors, not the institution*
- They encourage authentic visitor feedback.*
- They possess a narrative*
- They don't skimp on quality*
- They are free, in some form" (Rodley 2011).*

The above hallmarks share a great potential for museums to design engaging mobile media experiences and connect with their audiences onsite and offsite the gallery space. Nancy Proctor, Head of Mobile Strategy and Initiatives at the Smithsonian Institution comments that by merging the "versatility of a Web app

with the stability of locally stored content, smartphone apps support the full range of content types that can be included in mobile interpretation programs today" (Proctor 2010). These types of mobile experiences can bring in compelling content but also opportunities for social networking and the creation of communities of users that share the same cultural interests (Economou and Meintani 2011). While in most conventional museums visitors are requested to silence their mobile media devices or put them away upon entering the museum walls, there have been many instances of contemporary art, science and technology museums that break these conventions and fully embrace the capacity found in the sheer abundance of these devices. For example, the Brooklyn Museum, one of the largest art museums in the United States, launched *BklynMuse*, a mobile application designed to remix the gallery experience by encouraging visitors to check in situ recommendations of artworks, see what exhibits other visitors are suggesting and follow along in the gallery. Shelley Bernstein, Chief of Technology at the Brooklyn Museum elucidated on the reason behind the implementation of the mobile app:

*"This is one of a series of things we are implementing to bridge both the online experience with the in-person visit. In the case of BklynMuse, Posse members get their recommendations saved to their profiles for future reference—think of it as bookmarking your favs on the go in the gallery and then being able to access them later"* (Bernstein 2009).

In similar fashion, the *Miroslaw Balka: How It Is* app designed by Tate Modern - referring to Miroslaw Balka's commissioned work- offers to iPhone and iPad users an alternative interpretation of the artist's collection. It is an interactive audio tour that entails playlists and interviews of the artist about his work and lets users immerse themselves in a virtual environment by unlocking -onsite- a secret game. Undoubtedly, I consider that the experiential character of some of museums applications holds great opportunities to deepen visitor engagement with the institution. Mobile apps can redefine the way the museum visit is framed and break the conventions of the long established white cube attitude. As we have seen so far, with every new technology popping up in the museum landscape, a debate around its role and the impact it has on museums' authority and expertise arises. First, there is a group of museum professionals attached to the ethos and aura emerging from an artefact who vote for more 'auratic' moments around unique objects. On the other side, there is a growing interest to explore and experiment with mobile technologies and the view that most technologically advanced ways for mediating museum visits are yet unexplored. Art critic Jason Edward Kaufman reflects on the current trend of museums and cultural institutions to experiment with mobile technologies:



*"The consensus among experts is that the field is still in the R&D phase, testing strategies and new technologies to learn which approaches will best serve museums' missions. But all agree that museums inexorably are moving into the brave new virtual world" (Kaufman 2011).*

Indeed, the growing popularity of museums that embrace digital technologies has induced a change in the role of curators to encompass facilitation of mobile media devices while redefining the concept of interacting with the exhibits. From the first implementation of handheld devices to the integration of cell phones, iPods, and now smartphones and tablet computers it is of no wonder that the interaction among visitors and between visitors/ artwork has also profoundly changed. Stefania Angelini Curator and Gallerist at L'Atelier-kunstspielraum in Berlin remarks:

*"Some of our best museums are doing a great job in that field [mobile media]; and I do believe it is because they are proposing new ways of approaching art. For instance, MoMA, Tate Modern, Hamburger Bahnhof, Palais de Tokyo amongst others, are all exploring new technologies. It is a good subterfuge to rend the visits more interactive and improve the communication around the artworks also between visitors; the two being both in-demand concepts of the 21<sup>st</sup>-century art world" (Angelini 2012).*

Tying it all together, museum's role is shifting from being a storehouse of unique objects to a transparent platform for instilling knowledge. Museums, assisted by current mobile media technologies, are poised to evoke and construct *memorable, engaging and learning* experiences. Yet, I argued that there is a fine line between a deep memorable educational experience and another futile blockbuster. For this reason, museums should not compete with entertainment centres, rather they should comprehend that successful technological mediations originate from museum's expertise in providing meaningful experiences.

## Visitor Participation

In responding to the last part of my research question, mainly how the museal mediation of play encourages visitor participation, I examine the participatory nature of mobile media and their affordances to encourage the formation of collective and social experiences. I turn to various actors, which discuss the participatory nature of mobile media from different perspectives and apply them

to the case study of *Tate Trumps*. Additionally, I argue that mobile media act as social devices through which visitors can get together and embark on shared activities. In conclusion, I suggest that the design of such experiences plays a paramount role in facilitate such opportunities for collaboration and participation. For this reason, “Experience Design in the Spotlight for Crafting Playful Participatory Practices” explores the use of the museal mediation of play from an experience design standpoint with the aim to highlight the importance of a clear and effective design strategy that museums should follow in order to enrich visitor experience.

## **The Participatory Nature of Mobile Mediated Play in the Museum Visit**

*We want the museum to be an arena for bonding and social experiences*  
(Rokne 2011, 282)

Interactivity, curiosity, creativity, interpretation, challenge, participation: all these themes can be distinguished when closely examining current museum mobile media apps. As I already analyzed through the case study in the previous chapter, museum mobile apps can be used as tools to engage the audience and enable them to gain a closer relationship to the museum collection. Through the use of challenges, sharing and social interaction illustrated in *Tate Trumps*, visitors stop being passive observers of the artworks; they become instead active participants in the museum visit that in turn includes and embraces the collective voice of its visitors. For museum consultant and exhibit designer Nina Simon, objects like a mobile phone and the experiences that these objects foster, are all regarded as social objects. Simon’s framework distinguishes social objects everywhere in our daily lives by their ability to trigger communication and generate *socially constructed experiences* (Simon 2010). In line with this, I regard mobile phones as social objects that connect individuals around a shared interest, like their enthusiasm for arts and culture. For example, a mobile phone app, like *Tate Trumps* can also be regarded as a social object as it sparks collaboration and participation among visitors, giving them the opportunity to share common interests around art. By playing against each other on a battle of trumps visitors are interacting not only virtually through their mobile devices but also physically in the gallery space as they can get together with other visitors to pit their bookmarked artworks. So how does this form of participation arise, stemming from visitor interaction with and around exhibits? I propose that mobile media devices are social devices that get visitors together to share an activity and construct things collectively.

Indeed, since early on, the development of mobile media devices is strongly bound up with sociological factors. Smartphones, for instance, have been studied as social interfaces (e.g. De Souza e Silva 2006) as they are able to digitally connect people who simultaneously move through physical spaces and introduce the Internet and location sharing in public spaces. Unlike to the conventional two-way communication facilitated by traditional cell phones, recent developments in mobile media devices force the latter to become the interfaces through which users can interact with each other and reconfigure the connection to the space they inhabit (De Souza e Silva 2006). Contemporary mobile media devices are able to transgress the long established and static two-way communication of regular phones, and bring the Internet on 'the go'. Particularly in the case of *Tate Trumps*, the app strengthens visitors connection to the gallery space as it invites them to carefully examine the artworks, bookmark them in the digital space and finally participate and interact with each other through the digital card game. *Tate Trumps* provides evidence that mobile media devices afford not only the communication of users who do not share the same location, but also people within close proximity in physical space. Once visitors switch from static cell phone devices to mobile media devices, a 'space of flows' is constructed through the constant movement in the gallery spaces.

The notion behind the 'space of flows' is conceptualised by sociologist Manuel Castells in his book *The Rise of the Network Society*. According to Castells, the space of flows is defined as "a new spatial form characteristic of social practices that dominate and shape the network society" (Castells 2000, 453). In this sense, physical spaces have become processes and networks as the space of flows is embedded on them (ibid, 417). In addition, in his work 'Net and the Self', he goes on to argue that the introduction of an advanced technology like a mobile device contributes to the reduction of the social alienation of the self and the establishment of a social connection, a network of flows, also known as networked society (Castells 1996). This judgment however does not assume a deterministic view upon technology and society; rather it proposes that society cannot be interpreted without taking into consideration the technologies being used. Echoing Castells, the introduction of sophisticated software platforms and the wide range of features they have inscribed on their design in the web 2.0 era, has led to a sheer abundance of mobile media devices, that in turn encourage the formation of network societies and the construction of social structures. With this regard, Castells stipulates that within a network society, the space of flows is constructed by the real-time interaction of goods, information and people, that move around in the physical space. Castells states:

*"Our societies are constructed around flows: flows of capital, flows of information, flows of technology, flows of organizational interactions, flows of images, sounds and symbols. Flows are not just one element of social organization: they are the expression of the processes dominating our economic, political, and symbolic life. ... Thus, I propose the idea that there is a new spatial form characteristic of social practices that dominate and shape the network society: the space of flows. The space of flows is the material organization of time-sharing social practices that work through flows. By flows I understand purposeful, repetitive, programmable sequences of exchange and interaction between physically disjointed positions held by social actors" (Castells 1996, 412).*

Castells' technology-driven framework can be further examined and comprehended through a sociological analysis of a network model found in the work of sociologist and anthropologist Bruno Latour. Latour's network approach has received critical attention as it goes a step further locating the notion of 'social' in the dynamics of mobility, displacement and transformation formed by social actors, termed *actants* (Latour 2005, 54). Latour rightly observes that our contemporary technology-dominated world is so pervasively fabricated, that any detachment between humans and non-humans would be misleading. In this regard, Latour designates the term *actant* to denote both humans and non-human actors (objects), meaning that all entities in a network should be regarded in equal terms.

Applying Latour's and Castells' approach in the museum context, we can also see actors everywhere; from humans, like the visitors, museum professionals, artists and curators to non-human actors like the digital media technologies used to facilitate the visit. I argue that *Tate Trumps* as non-human actor contributes to the construction of social structures that are formed from the mobility of human and non-human actors in the gallery space. Visitors as users are physically moving around with their mobile devices while interacting with each other in the digital space, thereby establishing social connections around the space they inhabit. In this way, *Tate Trumps* as a non-human actor is considered to have an agency upon other actors (visitors) and encourages them to participate in the museum visit. Therefore, based on the notion of non-human agency, non-human actors also possess social dimensions as human and non-humans actively engage in "chains of associations" (Latour 1991).

Furthermore, of particular importance is the *affordance* of technological objects to invite actors to perform actions. In line with the ANT, a mobile media device is not a dead object as it invites users to communicate, play, take pictures and videos, navigate around the Web and so on. Each of the auditory and visual features of the mobile media device encourages and channels user activities.

Objects and humans exchange interface-afforded competencies to facilitate communication, interactivity, collaboration and sharing among a few. Especially, when focusing on the social character of non-human objects like mobile media devices, Lefebvre's concept of social spaces seems pertaining. French sociologist and philosopher Henri Lefebvre, widely known for his work *The Production of Space* argues: "*We have already been led to the conclusion that any space implies, contains and dissimulates social relationships – and this despite the fact that a space is not a thing but rather a set of relations between things (objects and products)*" (Lefebvre 1991, 83).

Drawing on this, we can assent that mobile media devices like the iPhone are identified as exhibiting social dimensions and enable the construction of social spaces. In addition, new media scholar Mirko Tobias Schäfer comments that digital artefacts "actively engage with users" and the software-afforded features embedded on them ascribe participatory agency and propose "collective interactions between machines and users" (Schäfer 2011,14). Following this, I suggest that the constant improvement on mobile media devices and specifically on their design, prompt users to participate more actively in the museum visit and contribute to the formation of social spaces. Besides, in our case study, visitor participation is not only afforded by the mobile app design but it is also triggered by it. The freemium model of the app, its audio-visual incorporation, as well as the social features embedded on it encourages visitors to get together and participate in playful activities. Especially in the case of *Tate Trumps Anywhere app*, due to the mobile devices always-on connection, we expect interactivity and participation from physically disjointed places at anytime.

Indeed, the growth of mobile media technologies has certainly "transformed participation from something limited and infrequent to something possible anytime, for anyone, anywhere" (Simon 2010). Reflecting on media scholar Henry Jenkins, museums and cultural institutions are increasingly becoming part of the 'convergence culture' since regular visitors are given strong incentives to use, appropriate and reuse cultural artefacts and become co-authors of the museum experience. It has become a top priority for museums and cultural institutions to leverage new media technologies such as smartphones and "shift the focus of literacy from one of individual expression to community involvement" (Jenkins 2006, 7). Back to our case, one can observe that *Tate Trumps* can act as an aggregation tool that gathers visitors around a shared activity and contributes to a sense of community involvement. With regard to this, museums and cultural institutions have the potential to become leading participatory venues and facilitate social interaction around works of art in physical and virtual

environments of the museums (Simon 2010).

As we have seen, the indubitable popularity of mobile gadgets, devices and applications affords users tremendous opportunities for utilizing them in social activities (Tamminen et al. 2004). For instance, as we observed through the case study, there have been developed various museum mobile applications for interacting with the artworks both onsite and offsite the gallery space. As new media scholar Marc Tuters suggests, the emergence of these technologies has the potential to transform the physical space into a space full of potentially social spaces (Tuters 2004). The technologies inscribed on these devices can be thus seen as *social interfaces* that propose the creation of social spaces by inviting mobile users to interact with the artworks as well as with other users. In line with Latour's notion of non-human agency that I elaborated on before, the mobile application *Tate Trumps* is not regarded as a dead object. This mobile app represents technologies created by humans that encourage certain actions to occur. For instance, by using their mobile media device, users can download and install the apps and are challenged to reflect on the physical presence of the artefacts in various ways. Specifically, as seen on *Tate Trumps*, once visitors install the app they are challenged to immerse themselves in a game of trumps with other visitors or their friends after collecting artworks of interest that they might score high in the digital card game. By linking visitors around a shared interest, museums can harness playful social activities, which through the mobility of the visitors, they help construct a network of potential social spaces of participation and interaction. To conclude, as witnessed in *Tate Trumps*, the app exhibits social dimensions and engenders *new ways of seeing and experiencing museum exhibits*; a characteristic that museums could leverage in order to shape visitor experiences. For this, a closer look on the design of such experiences needs to be taken, an approach that will be elaborated on the following section.

## **Experience Design in the Spotlight for Crafting Playful Participatory Practices**

Since the past few years, we have seen a tremendous explosion of smartphone and tablet computing applications available from museums. A simple search into the Apple store generates a plethora of mobile applications. Due to mobile devices' multi-functionality, ubiquity, handiness, and social networking capability, museums are called to leverage these technologies in order to convey meaningful content and engage visitors with the exhibits. Koven Smith, Director of Technology at the Denver Art Museum, states in *Mobile Apps for Museums*:

*"Where tour-based audio guides were once the only type of mobile experience available to museum visitors, we are currently witnessing an explosion in the types of experiences from which visitors might choose. Augmented reality games, crowd-sourced content curation, or even experiences not designed to occur inside the museum at all are just a few of the new ways that museums are beginning to explore to enhance either a physical or a virtual visit" (Smith 2011)*

Koven Smith underlines the significance of adopting mobile media and stresses the value for museums to take a more nuanced approach to how to generate better mobile experiences to the public. It can be argued that this broad appeal of mobile devices can now be reflected on the increasing attention of museums to embrace *experience design* in order to provide mobile experiences 'outside the box' of traditional handheld tours. By integrating mobile technologies into the museum visit, museums and cultural institutions *reach out new audiences* and revitalize the museum experience. Visitors interact with the exhibits with the use of mobile devices; they get supplementary information about the objects that they are interested in, share them on social networks, suggest them to friends, tag them and participate in a more engaged way in the museum visit. For example, Dordrechts museum represents one of the instances of museums that embrace mobile technologies and fully comprehend the necessity for the cultural sector to move into that direction. Dordrechts museum supports the idea of personalised museum visits by asking visitors to create their own profile online so that the museum can retrieve this information and offer visitors a customised experience directed to their interests and needs. In this way, visitors, while onsite at the gallery space, via an iPod, tablet computer or a smartphone, can download their online profile, wander through the exhibition and receive novel personalised museum experiences.

Licia Calvi and Maria Cassella suggest that such instances of mobile media integration reflect the upcoming development of designing visitor experiences (Calvi and Cassella 2011). The experience design demonstrates that a visitor remembers best a certain event that had added some value to his visit, and orchestrated a memorable experience. Gail Anderson also highlights the importance for museums and cultural institutions to take a more experience-design approach when developing creative strategies:

*"Experience design is a new and special skill, and it will be in great demand in the future. Museums need to better understand and develop this skill now, in collaboration with filmmakers, game creators, artists, poets, storytellers, and others who can bring necessary skills and talents to the process...The real and authentic objects, stories, ideas, and lives that are the subject matter of museum experiences*

*have a resonance that is more powerful than all but the most compelling imaginary experiences” (Anderson 2004, 128).*

The concept of *experience design* can be strengthened by the integration of play as an *audience development tool* to entice new visitors to attend the gallery space. The integration of playful experiences at museums can increase the understanding of the artefacts and encourage first-time visitors who are not familiar with the gallery space to explore the exhibitions in a novel way. Therefore, I wish to argue that the design of effective and memorable museum experiences in play environments appears to be paramount. Museum practitioners need to put some emphasis on the experience design of their mobile strategies and especially when tackling the issue of play and ‘gamified’ art exhibits; even that might imply the involvement of game designers or experts on playful experiences. This is aligned with School and Community Programs Developer at Voelker Orth Museum Rebecca Mir’s argument on *Museums and the Web* Group on LinkedIn: *“Museums MUST hire game designers in order to do any sort of games/play thing successfully. Game design is a professional skill and while some museum professionals can do it all right, game designers can probably do it better”* (Rebecca Mir 2012).

Of course experience design should not steal any of the authority or expertise that museums possess by default. It is museum authority that provides the opportunity for memorable experiences through their expertise in safeguarding the museums collection. Although ultimately it is the visitor that affects the way mediated experiences will be consumed, experiencing the museum collections from a game designer standpoint might bring forward some fresh perspectives. In this context, I suggest, that the spectrum of visitor experience with the exhibits can be broadened and enriched. Jim Richardson, founder of MuseumNext on his interview for journalist Matthew Caines foresees a great potential in the interplay of experience design and new technologies: *“I also think the museum experience is becoming increasingly collaborative... Museums are becoming more comfortable with letting audiences have a say, and again technology can facilitate this”* (Jim Richardson, cited in Caines 2012).

Richardson’s position is in line with my assumption that a well-reflected mobile experience design can revitalize museums through community strengthening and the direct involvement of the audience in museum exhibits. This belief can be further reinforced by Huizinga’s commentary on ‘play communities’. According to Huizinga, a play community “generally tends to become permanent even after the game is over” (Huizinga 1949, 12). Huizinga’s well-grounded statement communicates the underlying promises of designing collaborative



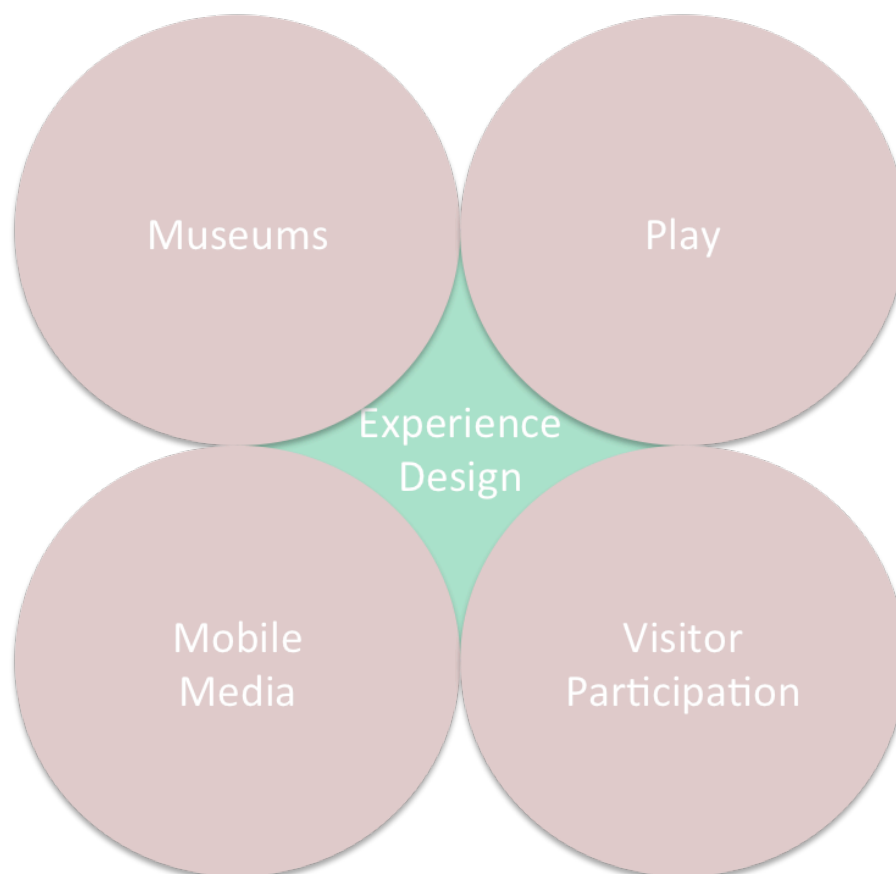
playful museum experiences. By focusing on memorable experience designs, museum professionals can potentially contribute to community bonding and audience retention. Yet, the design of such experiences serves not only for the retention of current visitors but also for first-time visitor development. For example, the game designer and author of *Reality is Broken: Why Games Make Us Better and How They Can Change the World*, Jane McGonigal remarks, that play activities can teach players, inspire them and engage them in ways that reality is not and by integrating play into the gallery visit, museums can help generate more *participation bandwidth* and tap into novice visitors (McGonigal 2011). In this sense, museum professionals are challenged to consider play and games as an opportunity to gain new audiences and interact in new ways with the current ones.

Another interesting option to consider when designing museum experiences comes from Flowers, digital programmes manager at Victoria and Albert museum, who recommends that museums should focus on representing and re-promoting the gallery exhibits as something “magical, wonderful and alive” (Flowers 2011, 289). Galleries had always been conceived as places of wonder; thus, play provides the opportunity for museums to reconfigure visitors experience by augmenting their offline and online visit in a creative manner (idem). An effective experience design can introduce fictional narratives, challenges and tasks that visitors need to accomplish, and thereby enhance visitor experience and understanding of the exhibits. These instances break the conventions around the idea that museums are plain storehouses of artworks; instead they encourage visitors to become part of the museum process.

Perhaps of relevance when discussing about the design of museum experiences is the notion of “experience economy” that was introduced by the authors Pine and Gilmore in 1999. According to the authors, the economy should move towards the orchestration of memorable experiences for the public, as it is the memory itself that constructs the experience (Pine and Gilmore 1999). Following the experience design logic, museums are adjusting their services to the needs of a changing society by designing digitally enhanced play spaces to cultivate and engage visitors with artefacts and nurture participatory practices within museum walls. Designing an experience does not necessarily suggest the conceptualization of the experience itself. Instead, it entails all the necessary components upon which visitor experience flourishes. As the designer Donald Norman states in his book *The Design of Everyday Things*: “With modern computers and their powerful graphic displays, we now have the power to show what is really happening, to provide a good, complete image that matches the person's mental model of the task” (Norman 1998, 192).

Echoing Norman, I propose that as digital media have entered the museum world, an effective design approach for enriching visitors experience with the museum exhibits needs to tie together all the necessary factors that emerge from the context of (figure 3):

- *Play*
- *Mobile Media Technologies*
- *Museums and Cultural Institutions*
- *Visitor Participation*



**Figure 3: Factors for considering when designing playful mobile participatory experiences**

In order for a potential mobile mediated playground to spring up, I hereby illustrate that museum professionals need to find the right balance amongst these factors. A museum playground should reflect the afore-mentioned features with the aim to encourage *participant-driven, playful explorations* with the museums' collections. Additionally, as Flowers tellingly observes, an effective experience design is considered essential for the museum's strategy with the aim to revitalize the museum experience and re-introduce it as a place of "wonder" and "imagination" (Flowers 2011, 287). In order to achieve this, the design of visitor mobile experience should afford and encourage playful activities and provide space for interaction and participation in the museum exhibitions.

Interestingly, there seems to be consensus on this as Ed Rodley, Exhibit Developer at Museum of Science in Boston comments:

*“These kinds of experiences hold great potential to deliver compelling content in a manner that connects with audiences, both within and beyond the museum’s walls. And reaching a broader audience using these devices is one of the most important reasons to seriously consider developing mobile experiences. Mobile experiences hold the promise of giving museum visitors a new way to deepen their engagement with the institution, while bringing in and (hopefully) retaining new audiences by making the museum more immediate, accessible and relevant” (Rodley 2011).*

What conclusions can be drawn from this? First, museum practitioners have innumerable options regarding the extent to which they can facilitate memorable design experiences for their visitors. As I discussed in the introduction, museums were traditionally welcoming smaller, more homogeneous audiences as their exhibitions were aiming for the elites, not the masses. However, today, museum audiences are becoming larger and more diverse and with the proliferation of mobile technology visitors seek seamless, engaging experiences across a variety of mobile devices. Whether it is a smartphone, or a tablet computer, visitors expect from museums a wide range of interface-afforded opportunities. No doubt that museums are now better equipped with technological devices but the main issue lies in the balance of all the ingredients that add to a successful playful mobile participatory experience. That, I argued, could be traced in the context of play, mobile media, and visitor participation, all aligned with museums’ brand and its goals. With this graph I wish to show the interconnection between these factors as none of these should be placed in the microscope when developing an experience design strategy. Allegra Burnette Creative Director at The Museum of Modern Art also draws on this issue by stating that *“careful planning and evolving development solutions should help clear a path through the morass as we move past our mobile beginnings to a multiplatform future”* (Burnette 2011). So, whether it is an app, or a cell-phone, audio tour or PDA museums are challenged to think beyond the platform or the device and focus more on the audiences and their needs.

## What the Future Holds?

*“Imagine the museum of the future. You step inside your home tele-dec and settle into an armchair that self-adjusts to your comfort settings. “Computer,” you command,*

*"load the National Gallery of Art." The room brightens and you find yourself in the atrium of the great Washington institution  
Let the virtual visit begin"* (Kaufman 2011).

Although we have not yet reached Kaufman's imaginary vision of approaching the artworks, technological developments that took place the last decades have certainly democratized art and made it accessible to a wide range of museum visitors situated both in the physical space of the gallery and to those connected from a distance. As technological media seem to emerge overnight, museums and cultural institutions of every type and size struggle to keep up-to date with the latest technologies in order to be *relevant, retain* and *attract* new audiences. With each new technological medium spring up, a debate usually comes forth to focus on what the future holds for this new device and how it can be implemented in the museum sector. As the past has shown, there is always a utopian and dystopian controversy around every emerging technology. While I assume that a notable percentage of people working in the arts and the cultural sector still believe in the sacrality of art and the degradation of culture after the age of mechanical reproduction, there is a growing interest from museum professionals to experiment with new technologies. In fact, Assistant Conservator of Objects at the Indianapolis Museum of Art, Richard McCoy confirms this growing interest and underlines the notable role of technology to facilitate visitors' access to artworks:

*"One of the most visible ways in which cultural institutions recently have begun to change is in their capacity to inform and engage visitors both during a visit to the institution and on the Internet. Though there is little doubt that the core function of cultural institutions will continue to flourish – to provide first-hand experiences with cultural property–there are clear signs that the broader functions of institutions are being re-considered and that this process is just beginning. Of course, museums, libraries, and other cultural institutions have been changing and evolving from the time off their inception, but what is genuinely "new" today is that many are more open and accessible – some now embrace the idea of having their inner workings become more transparent. Technology has played a big part in these developments"* (McCoy 2009:1).

With this mindset, museums and cultural institutions can transform themselves from being mere repositories of knowledge to becoming places where visitors not only learn through the use of play and mobile technologies but also engage in participatory activities and become active contributors to the museums' narrations. I claim that by cultivating a more engaged and informed visitor, museums could make a step forward in allowing them to become co-creators of

the content and keep them interested on the museums' projects even after the exhibition is over. This can be shared by McGonigal on her commentary on play communities who argues that if all those individuals who play many hours every day gathered together in the museum setting they could potentially contribute in a useful way to the museums' exhibits:

*"The fate of humanity hangs in the balance over whether we're going to get crowds to do anything useful or not ...Are they going to put all of their cognitive bandwidth into virtual worlds, or are they going to contribute? ... We have all this pent-up knowledge in museums, all this pent-up expertise, and all these collections designed to inspire and bring people together. I think the museum community has a kind of ethical responsibility to unleash it"* (McGonigal, cited in Blair 2009).

Of course, in order to achieve this, museums should push the research into developing a better communication with their audiences; more *round tables* with the presence of the curators, artists and other museum professionals with the aim to enkindle a genuine and direct conversation with the audiences around their preferences and needs. Kristof Michiels observes that museums are indeed in an exploratory phase regarding the implementation of more participatory museum visits, as there is still the barrier of overcoming rigid structures within the museums:

*"To me the most important barrier is the organisational change that is needed. Not technology. The museum as an organisation (from the director to the curators to the people selling tickets) needs to be behind the concept. That is something that will take quite some time... I think museums need to become much more transparent in the future (reporting in many ways by the entire organisation on everything that is going on). This involves an open and genuine conversation with your audiences (without dropping your own expertise as an organisation, as a museum worker), but we are not there yet"* (Michiels 2012).

Therefore, equally relevant to the issue are the questions of whether museums are ready to embark on this technological shift and how they can tackle visitor needs for more participatory sensorial museum experiences. The commentary of Michiels stresses the major importance of the museums to reinvent themselves and rethink their structure, operations and strategies before implementing any mobile experiences for their audiences. It is essential for museums to become more transparent as Michiels remarks, carefully plan their creative strategies and double check that their designs well-reflect visitor needs; they are aligned with the emerging technologies and at the same time facilitate a more personalized and engaging experience. Michiels opens up interesting areas

for discussion by addressing the issue of *relevancy* that currently museums are encountering when seeking to embrace the latest technological developments and the underlying potential behind the introduction of playful environments:

*"I think museums today have a problem of relevancy. If not so much in terms of visitor numbers, definitely, in terms of allowing "real audience participation". A more playful approach, be it through the use of technology or through the general way of approaching audiences, is worth exploring"* (idem).

Caines (2012) adds to that highlighting the need for museums to initiate discussions and debates around museum audiences and get them more involved in the museum visit: *"Expect to see ...museums opening up to become social centres and, hopefully, more questions (and answers) around the quality and quantity of museum audiences"* (Caines 2012). As mentioned earlier, this shift of the role of the museum in society represents part of the transition that museums are facing from being conventional repositories of knowledge to learning spaces. I have argued that this involves a fundamental rethinking in the structure, operations and strategies of the museum to embrace new technologies and facilitate memorable experiences through play.

## Conclusion and Discussion

As observed - throughout my thesis- from the commentary of various museum professionals, gallerists and curators as well as scholars in the cultural and museum sector, some have responded positively to the museum's technological shift while others are considering it in a more grudging manner. This dissertation is also a response to this transition. Through the previous chapters I attempted to describe the transformation of the traditional museum to one that is constantly seeking new ways to convey content and experiment with new technologies and environments in the museum space. I thus brought up the issue of museums without walls, which are transparent in their operations and open for round tables, criticism and feedback.

By shedding some light on current museum mobile media use and by explaining the paramount role mobile media plays in shaping and reconfiguring the museum visit through play, I wished to demonstrate the impact of mobile media in the museum experience. In addition, I proposed some guidelines from an experience design perspective and recommended several factors for museums to reconsider when designing their creative strategies. Therefore this thesis has implications for other research in the field of new media studies, cultural studies

or museology. The research approach that was developed in this dissertation can be used to further examine the construction of digitally enhanced play spaces from a participatory or experience design lens. In the context of this research there are various issues that need to be addressed: As museums increasingly adapt to new media technologies and seek new ways to convey their messages, how can we ensure that these messages will engage visitors in a meaningful way and that they are not just another marketing blockbuster? From a practitioner standpoint, the observations of this study offer insights to museums and cultural institutions about the growing need to leverage mobile media technologies as audience development and retention tools. Museum and cultural institutions professionals interested in developing new media strategies should focus their attention on a careful analysis of all the participating actors on their project and on a balanced strategy for meaningful and engaging experiences. I myself foresee a spirit of playful participation sweeping in the museum visit and a tremendous head start in experimenting with novel ways for providing meaningful learning experiences. In light of the above connotations, I wish to end my thesis by quoting Stefania Angelini's commentary on the future of museums that brings forward an interesting perspective on the issue:

*"The future of art is the sensorial experience for a better understanding, and actually a better living. Art is not only the creation of the artist but it is also a moment of relaxation, of inside thoughts and reminiscences, of meditation, of social and political discussion. Art does have a real power. The only way to make it more accessible is to give an experience to the public. This is our responsibility" (Angelini 2012).*

Experiences are crucial for the museum visitors in the digital era; however, one should not forget that apart from the sensorial experiences visitors still expect from museums to act as learning spaces, and that should be at the centre of attention.

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