

The Silent Conversation: Designing for Introspection and Social Play in Art Museums

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ABSTRACT

This paper presents an attempt to design for a combination of social play and introspection using a ludic approach within an art museum setting. The field trial is described of a mobile web app called ‘Never let me go’, a two-player system enabling visitors to an art museum to create impromptu experiences in-situ for a companion. The study reveals that players used the app for communicating with each other during the visit, often without speaking. This led to deeply personal and introspective moments, as well as, lots of teasing and playing. The implications of allowing for social, personal and playful experiences in an art museum are discussed, as well as, the advantages and challenges of designing for improvisation.

Author Keywords

Mobile; art; museums; experience; social; introspective; affective; play; personalisation; impromptu experience design

CSS Concepts

• **Human-centered computing** → **User centered design**;
Empirical studies in interaction design; Computer supported cooperative work.

INTRODUCTION

In HCI much work has been done on how to support instructive and informative experiences in museums through digital technology. Typically, these are experiments centred around information delivery [27,42,53,57]. However, the research also includes novel museum experiences such as participation [11,13,14], exploration [54], and play [58,61]. Recently, attempts at enhancing the emotional aspect of the experience of visiting an exhibition or a heritage site seem to be gaining increasing attention in HCI (e.g. [22,28]). This can be seen to mirror a trend in heritage and museum studies where the role of emotions and affective pedagogy is given much interest [39,49]. This shift is due, in part, to how the role of museums is changing from being about collecting, preserving and exhibiting objects, to understanding and

meeting visitors’ multiple needs [40]. When looking into these needs it is clear that instructive experiences are only part of what visitors consider valuable. In a major study, conducted at the Smithsonian Museums, visitors were asked to name the most satisfying experience during their visit. The results showed that apart from the expected object-related experiences (such as seeing the “real thing”) and the instructive and informative experiences, the most satisfying experiences were *introspective* (focused on imagining, reflecting, reminiscing and connecting) and *social* (interactions with friends and family) [41]. These findings suggest that personalisation in museums should not only be concerned with selecting or adapting content based on the visitor’s preferences or visiting style [3], but also with delivering what Fosh et al. call “deep personalisation” [21]. This means fostering museum experiences that are both deeply personal and social. Previously, in HCI, the practice of gifting has been used as a method to explore personal and social aspects of a museum visit [21,51]. This paper takes a different approach and presents an attempt to design for *introspective experiences* in combination with *social play*. The ludic approach [23] was adopted due to the possibility it provides for an open exploration of the social dynamics existing between friends or partners visiting the museum together, whilst still drawing on the intimate knowledge they have of one another.

In this paper, a design-led study is reported of a mobile web app called ‘Never let me go’, which enabled users to create impromptu experiences for each other, during a visit to an art museum. In order to evaluate the app, it was tested in three different art museums during the first stage of the design process. In the second stage, it was trialled with 20 participants, using qualitative methods, at the National Gallery of Denmark in Copenhagen.

BACKGROUND

The Museum Visit as a Social Event

Visiting a museum is generally a social event. People tend to come to museums in small groups, mainly with family or friends [18]. Yet, Tolmie et al. point out that there is still plenty of room for improving the support offered for groups to enhance their visiting experience [55]. Interactions with other people can in fact be crucial to whether visitors even notice particular exhibits [29]. Work has been done in HCI on how to support social interactions in museums between visitors and their friends and family, in real time [25,37] and

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over a series of visits [51], but many aspects of the social nature of a visit have not yet been explored.

Meaning-making in Museums as a Social Process

Within the museum world, there has been a shift in the way visitors are seen and understood. From being seen as neutral, passive subjects, visitors are becoming accepted as “*active interpreters and performers of meaning-making practices within complex cultural sites*” [34:362]. According to Silverman, museum visitors create meaning out of a museum experience through the context they bring, influenced by factors such as self-identity, companions and leisure motivations [48].

Introspective experiences consists of moments in which a person turns inward and access feelings and experiences that are essentially private [41:158]. During a museum visit, introspective experiences are usually triggered by an object or a setting, but may equally be evoked by a well formulated question or a remark from a friend or a partner. From a learning perspective, Blud claims that “*interaction between visitors may be as important as interaction between the visitor and the exhibit*” [6:43].

Sociocultural theory, as exemplified by Lev Vygotsky and later by James Wertsch, emphasises how humans construct meaning in social contexts as they interact through mediators such as talk, signs, symbols, and activity structures [59]. Seeing a museum through a sociocultural lens considers the visitors as people who are in conversation with (and about) the objects on display [33,60]. This approach points to the strong potential inherent in supporting more social forms of interaction within a museum or an exhibition visit.

Play in Museums

Play in museums is often associated with treasure hunts where players follow clues and solve puzzles. Experiments have also been done with pervasive games [12] and storytelling games [56]. When studying play in the context of an adaptive museum guide, Wakkary and Hatala found that it is important that the playfulness induced by the design is not perceived to be separate from the museum environment to the point that it is distracting or doesn't make sense [58]. They refer to two forms of play that worked in a museum setting; *content play* (puns and riddles in informational content) and *physical play* (holding, touching and moving through a space). In both cases, they report that play created a higher degree of engagement with the museum artefacts.

THE POTENTIAL OF THE MAGIC CIRCLE

Play provides a cognitive frame within which we may interpret what we experience differently than we normally do [43:364–372]. This phenomenon is sometimes referred to as the “magic circle of play” [52]. According to Stenros, the magic circle is “*the social contract that is created through implicit or explicit social negotiation and metacommunication in the act of playing*” [52:14]. This social contract helps participants to deal with the potential confusion, awkwardness and “dangers” of play [46].

However, the contract is not stable as it may often be renegotiated or reinterpreted during play. The function it serves is to enable participants to seamlessly slip in and out of the “playful mindset” [2,15] whilst still upholding the game. This means that as we enter into play, we give ourselves permission to act different than we normally do, but we also accept an obligation to follow the rules agreed upon. Together, the playful mindset and the social contract of play are enablers for new social behaviour and meaning to emerge.

ORCHESTRATED OR EMERGENT EXPERIENCES

To manipulate or influence participants' perception of specific objects, environments or situations through instructions, narratives and/or music is a well-known strategy used in mixed-reality games (e.g. [63]), performance art (e.g. [32,36]) and experimental theatre (e.g. [20]). Immersive audio walks have been used successfully both in the art world (e.g. [10]) and in museums (e.g. [64]). Both music and voice are used in these cases as performative tools to create affective and thought-provoking experience away from the screen.

According to Fischer-Lichte, these types of experiences induce an extraordinary state of heightened attention, which transforms what has been ordinary into components of aesthetic experience [19:168]. An example of how these techniques have been used in HCI to enhance a visit to a sculpture garden, can be found in ‘See Me, Feel Me, Touch Me, Hear Me’ [22]. In this case, a sound designer and a performance poet were commissioned to compose the extended visiting experience.

Typically, though, the works described here are directed experiences, meaning that both the content and the user trajectory [5] have been carefully orchestrated by artists, curators or designers. An alternative to this strategy, is to let the experiences be more naturally emergent, for example as part of play. If the communication goes from being directed one-way between curator and visitor, to becoming a two-way communication between visitors, new potentials can be actualised. It allows for experiences where the social dynamics between the participants play a crucial role in the affective engagement as well as in the sense-making process. Knowledge of one another's background and preferences can be used to trigger specific memories, fantasies or reflections. As in a dance, the roles of following and leading (guiding or receiving) can be explored and chosen according to one's disposition or mood. As a result, a form of collaborative emergence [44] can be achieved fostering a rich dialogue between the participants, the exhibited objects and the surrounding environment.

NEVER LET ME GO

The work presented here was motivated by the challenge of designing a generic mobile app which could be used in any large to mid-size art museum, gallery or sculpture park. The focus was to create a web app that would be easy to pick up and use regardless of the specific artworks on display.

'Never let me go' was designed as a two-player experience. It let the players take the roles of an Avatar and a Controller. The Controller was given the tools to spontaneously create an experience for the Avatar, in real time in the museum. The prototype was designed as two connected web apps where only the Controller app had an interface. This interface consisted of a menu with different commands, questions or instructions that could be sent to the Avatar (Figure 2), who would receive them as pre-recorded voice messages.

The decision to use voice recordings was inspired by work done in performance art and theatre (as described in the previous paragraph). In the design of 'Never let me go' the idea was to use the same performative techniques but to put them into a playful context with the purpose of facilitating social interactions. The Controller shared audio with the Avatar in order to keep track of how the experience was playing out. The shared audio was also used to emphasise intimacy and create a shared space where the two participants would feel safe together.



Figure 1. Showing a test session of 'Never let me go'.

In the Controller app, there were six different categories to choose from in the menu. The first was called 'Basic commands' and consisted of direct prompts such as "Explore", "Follow", and "Wait". The second was called 'Body' and consisted of instructions relating to the body of the Avatar, such as "Close your eyes", "Breathe deeply" or "Mimic this with your body". The third category consisted of personal questions that could be used in relation to the art, for example "What part of your life is connected to this?" and "Who would you give this to?". The fourth category was called 'Becomings' and consisted of prompts that were very open for interpretation. Examples were "Become light", "Become sharp" and "Become part of this". The fifth category was 'Feelings' which consisted of questions again to be related to the artworks, but this time in order to direct the Avatar's attention to the emotional content of an art piece. Examples were "Can you feel the longing in this?" or "Can you sense the pain in this?". Lastly, there was a category called 'Imagine that'. This consisted of instructions

intended to trigger the Avatar's imagination. The idea was also to induce a sense of urgency in order to intensify the Avatar's experience. Examples of this category were "Imagine that everything here is about to fall apart" and "Imagine that this is looking back at you". Apart from the categories described, there were a 'Begin' and an 'End' option in the menu. These would trigger longer voice recordings of instructions, both for the Avatar and the Controller. In the case of the Avatar, the instructions included a suggestion that whenever in doubt about what to do, they should just relax and enjoy the art.

The content in the prototype was designed to be building blocks for experiences that could be either performance-like or closer to free play. It offered a structure with a clear beginning and an ending to set the frame for both players to act within. The intention was for players to use the content in an open-ended way. Therefore, a variety of content was implemented which could be interpreted differently depending on the situation. In this way, openness and ambiguity were used to give room for curiosity and exploration. This would also allow for users to express themselves and decide upon which tone to set for the experience. The idea was that this would enable both frivolous as well as serious encounters with the art and with each other. For the same reason, the voice recordings, although being performative in the use of tone, stress, and rhythm [4:295], were kept rather neutral. Brian Eno's ambient soundtrack: 'Music for Airports' was used as background music during half of the test sessions. The intention was to compare having silence with having relaxing music that wouldn't interfere with, or colour, the experience too much.

EVALUATION

The study presented here falls under the broad umbrella of Research through Design (RtD) [62] in which research findings emerge from reflections on practice. It is part of the so-called third wave of HCI, described by Susanne Bødker as related to "nonwork, non-purposeful, non-rational" interactions, concerned with culture, aesthetics, emotions, and a pragmatic approach to experience [7:1–2]. Because qualitative methods are useful in order to answer questions about experience, meaning and perspective from the standpoint of the participant [26], this approach was chosen for the study.

Trialling *Never let me go*

After the first version of the design was in place, three smaller user tests were carried out at different art museums in Copenhagen. The objective was to get feedback on the content and to find out whether it would work cross-institutionally. After a few more iterations, a larger trial was conducted between April 22 and May 2, 2019 at the National Gallery of Denmark.

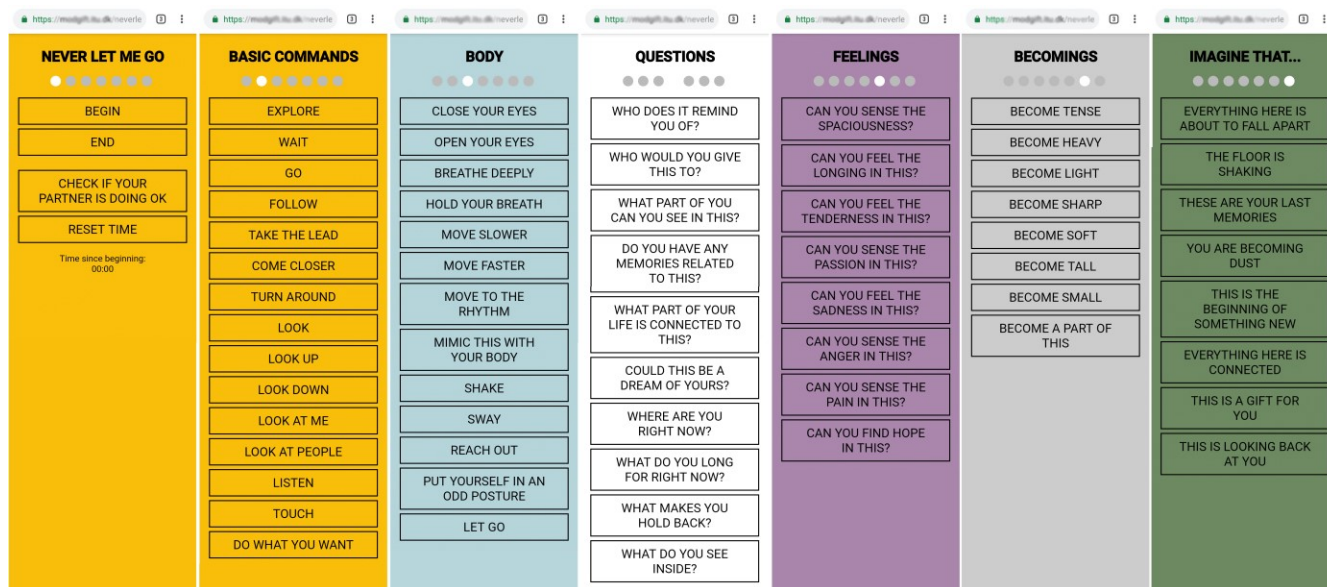


Figure 2. Screenshots from the Controller app.

20 people took part in the main trial. Of these 20, 14 were female; 6 were male; 8 were aged 23 – 30; 6 were aged 31 – 38; and 6 were aged 39 - 46. 6 out of the 10 pairs were romantic couples; 1 pair were siblings; 2 were friends and 1 pair had just met for the first time. All were recruited beforehand through public invitations on social media, and from a mailing list for people interested in cultural experiences in the Copenhagen area. In total, there were people of 13 different nationalities (mostly European) taking part in the study.

Each test was separated into 4 different sessions, approximately 10 minutes long. After a session ended, the participants would swap roles. Thus, they would try out both the Avatar role and the Controller role twice each. Before they started, they were given a mobile device each and a set of over-ear headphones. They could choose where in the museum to start the experience. Most often this would be in the modern art section. The Controllers were instructed to press ‘Begin’ when they felt ready to start.

During the test the participants were observed and photographed (with consent given beforehand) by a researcher, and afterwards semi-structured interviews were carried out with them in pairs. The interviews were recorded, transcribed and analysed through a process of inductive content analysis [17]. The themes that came out of the analysis were based on an iterative coding process where meaning units were identified, labelled, and put into categories. The observing researcher took notes continuously of what the participants were doing and at what time. These notes were also analyzed using codes such as: (1) laughing, (2) talking, (3) taking off headphones, (4) moving together, (5) moving separately, etc. Photographs were taken to supplement the notes and to contribute to the over-all impression of the trial.

RESULTS

The study reveals that the participants used ‘Never let me go’ for two main purposes: 1) to give and receive personal, introspective experiences in relation to the art and the museum space, and 2) to explore their relationship to each other through playing, teasing and pushing social boundaries. Below, the overall experience is first reported on, followed by the specific experiences of being an Avatar and a Controller.

The Overall Experience

Both from the observations and the interviews, it became clear that ‘Never let me go’ was an exercise in communication and interpretation. As P16 put it in the post-trial interview; *“Because you can’t interact with the artwork. In this way, you interact with each other in the context of the artworks”*. When describing their experience, the participants would refer to a prompt being sent or received by saying *“I said”*, *“she said”* or *“he said”*. The fact that they had used someone else’s pre-recorded voice to communicate didn’t seem to matter. P20 compared it to having a *“secret language”* and P13 to *“telepathic communication”*. In most cases, the participants would not speak to each other directly at all during a session. Instead they used body language to communicate the things that they couldn’t say using the system. In a few cases, they would simply remove their headphones to talk, for example to answer a question that had been sent and received (P1, P2, P11, P12, P17, P18 did this). The silence, or the lack of ordinary conversation, seemed to be particularly enjoyable to some of the participants. As P13 says, *“Being able to communicate without having to come up with the things to say. Not having to talk. It was so relaxing. I really love that”*. And as P15 states, *“I prefer not talking, so it was very good for me. And I felt freer than I usually do”*.

Connection and immersion

The experience was generally described as immersive and as being in a bubble together. P12 puts it this way: *“Being connected to another person that I’m close to. That made a very flexible dynamic bubble around us. So, everything felt a little bit safer. And other people were not important. Are they there? Are they looking? I don’t know. I don’t care”*. P17 compares it to diving into water: *“I think it’s a very immersive experience if I was to describe it. It’s like if you dive and then you come up”*. These feelings were strengthened when the background music was used, but even without music the participants felt connected. P8 puts it this way: *“I think without music we had more contact. Like I wanted to look at you more and see where you were. And I was more focused on you. Whilst with the music on, I was more in connection with the art and the environment”*. Most often, participants would follow each other around closely. But in some cases (P7, P8, P13, P14, P19, P20), the two participants would go their separate ways, converging and separating from time to time. *“It was a nice feeling to feel like we were hanging out even though we were in completely separate rooms”*, as P13 puts it.

The Avatar Experience

Being the Avatar triggered feelings of anticipation. Players reported feeling both free and relaxed: *“I didn’t think that the commands were very commanding. Maybe it’s more like suggestions. It’s quite a free situation”*, says P7 for example. But at the same time, as avatars, players were waiting for something to happen. *“I remember enjoying being on my own, doing my stuff. But also, this tension and anticipation about waiting for commands and how that was actually very interesting”*, as P8 describes it. And as P10 says, *“There was a sense of anticipation. I mean, I definitely think I was looking more into detail than usual”*. This somewhat passive, receiving quality of the Avatar role was frustrating to some people (especially P15 and P19). P19 explains, *“I realized that I’m very strong willed. So, I just want to go where I want to go and look. And now it was like oh I have to relate to what somebody is telling me to do”*. But most players enjoyed not having to make decisions for themselves as Avatars: *“I liked somebody else being in control. I’m in control of a lot of things when I’m at work and I was a little bit stressed before I came here. So, this was really nice”*, P13 explains.

The social contract

All the players felt a strong obligation to follow the prompts they received. They relied on the social contract between each other, and felt guilty if they were not able to respond appropriately. P14 describes it this way: *“I forgot about the command once, and I was like ‘Oh shit!’ because I thought about it. Should I do it immediately, or? I mean, I thought about how to do it and how long. But I think for most of them I acted accordingly, in my interpretation of course. But yeah, I played along. I wanted to”*. Nevertheless, on occasions Avatars would take the liberty to knowingly misinterpret a command, twisting the meaning somewhat and doing what

was suggested but not in the expected context (P6, P9, P12, P17 talks about this). P6 gives this example: *“You came next to me and said: ‘Come closer’. I knew, I was sure that you meant go closer to the painting, but I thought I’m not going to go closer to the painting. I’m going to go closer to her and make her uncomfortable. That was fun.”* This type of behaviour was part of how the players would often make jokes, play and tease one another. Being the Avatar seems to have been challenging at times in this regard. The physical prompts were often used by Controllers to push or tease their Avatars, leading to a few occasions of resistance. P3 describes it this way: *“It was mostly because it was awkward for me. For example, she would tell me to stretch or mimic. And I did it a few times but then I was feeling very awkward. So, I didn’t”*. P2 explains, *“If the room was empty then there is no limit. Then you can do something, as long as you don’t disturb others”*.



Figure 3. Avatar squatting down to view the art.

Introspection

What most participants enjoyed was how the different prompts, particularly the questions, would trigger introspective experiences. P12 here describes a situation where he was standing in front of a painting depicting a view over the ocean: *“So, when I got the question ‘Where are you?’ I would have expected the answer to be like: I’m right here! But that wasn’t my experience. I went to where does this painting actually take me. And it took me to a summer holiday trip where I remember I was standing at the beach and looking at the waves”*. Even abstract paintings could trigger this type of experience, as P5 describes: *“I really enjoyed those colours the blue and the green. And when the question was ‘Can you see yourself in this?’ I could see maybe the difficult moments in the spikes. I just let my imagination go into that abstract painting”*. This led to deeply personal moments which were sometimes shared verbally with the Controller.

The Controller Experience

Being a Controller was, not surprisingly, a very different experience from being an Avatar. This role was much less relaxing. As P16 explains, *“I felt a lot of responsibility. For the other person’s safety, but also for the person’s enjoyment*

of the experience, and also the artworks". Taking on this role was interpreted as taking on the challenge to build meaningful and cohesive experiences for another person. As P7 puts it, "Suddenly there is more responsibility or eyes on me. You were challenged to figure out something that would actually work, make sense or have an effect. So, it's like improvising and you have to get into it and then you get out of it".

Prompt	Times used
Explore	53
Begin	45
End	41
Follow	38
Who does it remind you of?	36
Breathe deeply	35
Come closer	25
Close your eyes	25
Take the lead	25
Wait	24
Do what you want	23
Mimic this with your body	18
Go	18
Touch	17
Move faster	16

Table 1. The top 15 prompts used during the trial.

Sharing an experience

In order to make the best of it, most Controllers tried to be aware of the actions and whereabouts of the Avatar, at the same time as thinking of the artworks, the environment and what interpretations or experiences they offered. As P16 explains, "As a controller I'm trying to interpret what the art is or gives me, in order to give that to the person who is looking at it". One source of enjoyment in this task was about sharing your own experience or giving something to the Avatar. P8 puts it this way: "I was trying to feel like it was a game where I was controlling the other player like an avatar. At the same time, I also wanted to see it as a way to share, like a feeling or a situation, wordlessly. You keep it separate and private, but you could still express: 'This is something I enjoy. I like to think about spaciousness here. And now I make you think about it too, and hopefully you will enjoy it as well'".

The relationship matters

Knowing each other well seems to have helped in the process of deciding which prompts to send at what time. As P4 puts it, "Because I knew how she would feel about the commands I was giving her and the paintings, I knew she would enjoy

the pairing of them". The element of trust was also important to the players. As P17 explains, "I think it really makes a difference who you come with. Because we trust each other so much I think it was a deeper experience with some personal revelations and memories".

Three different strategies

In general, there were three different approaches taken by the Controllers. Firstly, they would observe the Avatar closely, sending a prompt only when they thought they could add to or enhance the other person's experience in the form of a joke or to trigger introspection. As P7 puts it, "I tried to sync with the situation, follow what was happening but still adding something". This seems to have worked well for the Avatars, but on a few occasions the Controllers themselves felt frustrated when they didn't get any reply or indication of how their prompts had been received. As P11 puts it, "I kind of wish that he would have said something, to know where he was at and to be able to build on top of that. But at the very beginning there was no feedback loop. So, I was just putting in coins into an arcade machine, and the arcade machine didn't say anything back to me". Secondly, Controllers sought to dominate the experience by pulling their Avatars away from what they were doing. P18 explains it this way: "I found it interesting that I could control her so much that I stopped her from reading the sign. She reads much faster than me and I don't enjoy that so much. In this case, I could make my experience into the dominant experience. So that's interesting. Might not be very productive in terms of the relationship though". The domination strategy was also a way for Controllers to challenge their Avatars to physically act in ways they wouldn't normally choose to do. It was often used to tease and create funny situations that both the Avatar and the Controller could laugh about, but Controllers were also using it with more serious intentions. As P4 explains, "I gave her some commands of becoming this or becoming that and stuff with her body, because I wanted her to overcome her boundaries and maybe to let go and try to do something that she feels is awkward". The third Controller strategy was to let go of the control completely and instead send prompts at random, leaving it up to the Avatar to make sense of the situation. This only happened between P13 and P14 which is interesting considering that these two were professional game designers. P13 explains it this way: "As a game designer you become self-aware of your heavy-handedness in planning an experience for somebody else. You learn not to trust yourself too much, and just let the player experience".

DISCUSSION

What now follows is a discussion on the implications of this work for curators, designers and HCI researchers working in the museum sector. It starts out with a reflection on the significance of social and personal experiences in art museums. It then goes on to discuss the implications of giving people an alibi to play. Lastly, the advantages and disadvantages of improvised experience design are discussed.

Social and Personal Experiences in Art Museums

Most art museums struggle to make visitors engage more deeply with the art [50]. A common strategy is to offer guidance in order to instil a broader understanding of the artworks, their historical context and so forth. Using didactic exercises to inspire introspection in relation to the art, is not uncommon [8]. And as mentioned before, the role of emotions and affective engagement are currently gaining interest in the museum world. However, a prioritization of affective, introspective (or playful) experiences over more instructive or informative ones is sometimes still contested among curators [49].

Trialling ‘Never let me go’ showed that in certain situations players felt that the artwork became more of a background setting for their personal experience. On the other hand, they also reported engaging more deeply with the art than they normally would. P4 highlights the embodied part of this engagement by saying, *“I think it was a chance to connect with the art and not just be the observer, but to be part of the paintings and also the whole room”*. Using the app didn’t stop participants from reading labels and other informative texts about the artwork. Still, it is clear that what they most valued from the experience, was gaining a distinctly personal perspective on the art. The social interactions enabled by the app, enhanced their experience on the whole, but would also draw them away from the artwork. As P12 puts it, *“as an avatar you go a lot deeper into the experience of the museum and the art. As the controller, a little deeper into the experience of your significant other”*.

The bigger question is whether personal and social experiences that are less concerned with the art per se, but might enhance the overall visit (e.g. by leading to fun or empathy), have a place in an art museum. A more informative approach is valuable for many reasons, for example in assuring that artistic intentions are being sustained. Fostering practices that encourage visitors to pay less attention to the curatorial work is certainly controversial from a museum perspective. On the other hand, art museum visitors today are already being social, personal and playful. One example is the large percentage of visitors taking so called ‘arties’, in other words, selfies taken with the artworks [50]. Some museums have chosen to accept this behaviour and even encourage it in the form of the ‘Museum Selfie Day’ [16]. Other museums persist in banning any photography. The implications of these decisions will, no doubt, have an effect on the general development of museums in the future.

Allowing for Play

Participants would often use ‘Never let me go’ to play and make internal jokes, using the artworks as props in their personal narratives. As P12 puts it, *“if I can't connect emotionally with the art, then I can have fun with it”*. There may be ethical implications in supporting this kind of playful behaviour in an art museum. Play is often defined as uncertain and unproductive [9,35]. It can be used for

educational purposes [30], but it is in essence an appropriative behaviour [31]. Taking over spaces and pushing social boundaries are part of play and therefore, as Sicart argues, it exists in tension between creation and destruction. It can be mocking and trivializing or it can make things deadly serious [47]. Allowing for play means losing a certain amount of control over visitors. ‘Never let me go’ gave participants an alibi to do things they wouldn’t normally do when visiting an art museum. They laughed, put themselves in awkward bodily postures, followed strangers, hid from each other, and went looking for things they could touch. Many of the players reported feeling a sense of freedom; however, they also described how they were being completely aware at all times of both the social and legal boundaries of the museum. They would push each other to do things, but always making sure not to disturb other visitors or to get into trouble with the guards. In this sense, it became clear that the players knew exactly where the lines were between acceptable and non-acceptable behaviour. One could therefore argue that, when it comes to the average adult art museum visitor, encouraging playful behaviour is not putting the museum at risk (in terms of inappropriate behaviour, vandalism etc.). Instead, it enables visitors to find new, more embodied, perhaps unexpected, ways to encounter the art.

Impromptu Experience Design

What makes ‘Never let me go’ different from other similar projects which explore the creation of personal interactions in a museum context (e.g. [21,51]) is the strategy of using, what is here referred to as ‘impromptu experience design’. This means that users cannot plan ahead, but have to act on the spur of the moment. This strategy offers some clear benefits, as well as, some challenges. First of all, with spontaneous and improvised creation there is no need for preparation, leaving out the potentially off-putting notion of having to do work before the experience can be consumed. The challenge, of course, being the loss of control and the difficulty then of making an experience that is perceived as meaningful and cohesive (a designed experience rather than a random one). In the case of ‘Never let me go’, this left some Controllers feeling thrilled and others quite stressed. As P16 puts it, *“It's a lot of responsibility, I think, to be in charge of the other person's experience. I want to have everything prepared. I want you to start here and then I want you to go here, because I want to give you this specific experience, and not this emerging experience”*.

Serendipity

Another advantage of the impromptu approach is the possibility for creators to adapt to and use whatever is happening in the present moment. This is vital for play to happen. When it works at its best, though, it can also lead to emotional experiences where the conditions seem to fall perfectly into place in a surprising, almost magical, way. This is what can be called *serendipity* [38]. Players of ‘Never let me go’ reported several occasions where this happened. P11 expresses it in this way: *“The command helped me connect with what I was seeing, with the title and with the feeling of*

the artwork at the same time. It was like I was adding a piece of the puzzle. I think that was a lucky coincidence though. It was like the missing piece to let the picture have its effect on me. And that was really nice. I actually didn't experience that before. Ever”.

The importance of timing

An important key to getting it right, in general, was timing. The users would often complain of the difficulty in getting the timing right. Sometimes this would lead to unintentional humour, as prompts intended for one artwork were being interpreted in relation to another. At other times, badly timed prompts would simply lead to confusion. One problem with getting the timing right was related to the app's interface, which, according to users, was easy to understand but lacked in efficiency. This points to the need for further work in relation to interfaces for impromptu experience design. Models and inspiration could come from interface design for video games, where efficient real time control is often a key aspect of the entertainment value. Using techniques from the field of Adaptive User Interfaces (AUI) could also provide solutions on how to make the interface more efficient and enjoyable [1]. Even gamification techniques could perhaps be implemented for a smoother learning curve [24].

CONCLUSION

What has been described here is an exploration of both social and introspective aspects of an art museum visit. The attempt was to combine these two, essentially different, dynamics into something that would feel meaningful for friends or partners visiting the museum together. The results show that both introspective experiences and social play could be facilitated by users spontaneously prompting each other to reflect, sense and act in specific ways whilst exploring the art. Instead of having curators or artists orchestrating or guiding the encounters with the art, more control could potentially be given to the visitors. In this case, enabling introspection and social play led to deeply personal and embodied art experiences, even moments of serendipity, as well as lots of laughter and fun. This opens up for wider discussions about the future role of museums as well as the ethical implications of playing with cultural heritage. More concretely, the results point to the need for further research into how to design tools for non-designers to create meaningful impromptu experiences for each other.

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