Design for Experiences beyond the Museum: Classical Paintings as an Introduction to Modern Culture

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ABSTRACT
One of the current trends in the functioning of museums is the change from a focus on single museums to one on connected museums, or museums as part of large institutional ecosystems. In terms of designing for experiences this trend implies that one no longer only designs for visitors’ experiences before, during and after museum visits, but that one should think in a more holistic way. We explore possible implications of the above trend, based on a case of designing a mobile application (an app) for the Mauritshuis aimed at providing its visitors with a more engaging way of appreciating the classical Dutch paintings, at the same time, raising interest for and connecting visitors to modern Dutch culture. In this paper we will discuss challenges we encountered in, and reflect on implications of designing for museum experiences that extend to beyond the individual museum visiting experience.

Author Keywords
User experience, museum experience, design

INTRODUCTION
One of the current trends in the functioning of museums is the change from a focus on single museums to one on connected museums, or museums as part of large institutional ecosystems [1]. In terms of designing for experiences this trend implies that one no longer only designs for visitors’ experiences before, during and after museum visits, but that one should think in a more holistic way, about experiences of people that engage with the system of connected institutes as a whole, as well as about the role of individual museums within such ecosystem [1].

In this paper we explore possible implications of the above trend, based on a case of designing a mobile application (an app) for the Mauritshuis, a Dutch museum famous for its rich collections of Dutch Golden Age paintings. The design of the app is aimed at providing visitors of the Mauritshuis with a more engaging way of appreciating the classical Dutch paintings, at the same time raising interest for and connecting visitors to modern Dutch culture. We will briefly summarize the process towards the design of the app and will then explain how the designed app connects appreciating Dutch classical paintings to modern local culture that young adult visitors can then experience. We will discuss challenges we encountered, and reflect on implications of designing for museum experiences that extend to beyond the individual museum visiting experience.

Background of the Design Case Study
This study was conducted as the second author’s Master Graduation project at the Faculty of Industrial Design Engineering (TU Delft) in collaboration with The Mauritshuis1 and museum design agency Kiss the Frog2. The Mauritshuis is a Dutch art museum, in the center of The Hague, mainly exhibiting paintings from the Dutch Golden Age period (17th century), including Rembrandt and Vermeer. Many of its visitors not only visit the museum for its paintings, but also for its historic building, and its elegant, romantic and cozy atmosphere. According to a Needscope study conducted by TNS-NIPO 3 for the Mauritshuis, it is considered a museum for fulfilling visitor needs such as enrichment (providing visitors with in-depth information about the Golden Age paintings) and reflection (stimulated by its relaxing atmosphere).

A study by the Dutch Museum Association in 2010 showed that the museum sector in the Netherlands would meet at least three challenges in the near future: cuts in subsidies, an increase of the number of international tourists and the rise of the digital generation [2]. These challenges motivated the Mauritshuis to look for new potential visitors. One of these are the young adult travelers. A first attempt in improving the experience of the Mauritshuis was the

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release of an app following the renovation of the Mauritshuis in 2014. The app contained two main functions: (1) a search function (visitors could type the number of the artwork to hear an audio recording about it) and (2) an artwork function (listing all paintings of a similar theme, such as Highlights or Golden Age, and giving different recommendations to the visitors based on their interests). Additionally, there was a special, Dutch language function called Art Quiz, providing Dutch kids with a quiz about art.

An exploratory study conducted by the second author of the present paper [3] showed that of 16 young adult travelers that were interviewed at the Mauritshuis, only three had used the app. One of the main reasons for not using the app was the lack of motivation for doing so. Apparently, it did not fit the needs of the young adult travelers. Thus, a new design challenge was formulated: ‘attracting young adult travelers and providing them with an engaging experience’.

**DESIGNING AN APP FOR THE MAURITSHUIS**

An experience design approach was taken, starting from identifying the needs of young adult travelers. In this paper we will mainly focus on relating the Mauritshuis experience to experiencing modern Dutch culture outside of the Mauritshuis.

The design process consisted of three main phases: 1) identifying the needs of the young adult travelers, through interviews and contextmapping [4] sessions; 2) developing a variety of design ideas and converging towards one conceptual solution (this included two types of brainstorm sessions); 3) developing the solution in more detail and evaluating it with users in the Mauritshuis. Figure 1 presents an overview of the design process.

### Identifying Needs of Young Adults Travelers

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**Figure 1. Phases in the design process**

**Identifying the Needs of Young Adult Travelers.**

Starting point for identifying the needs of young adult travelers was that a broader perspective would be taken than that of visiting the Mauritshuis: visits were taken as a part of the more comprehensive travel experience of young adult travelers. Needs of young adult travelers and visitors to the Mauritshuis were identified in two different studies.

In the first study, 16 young adults from various cultural backgrounds visiting the Mauritshuis were interviewed, to learn what aspects of the museum lead to positive experiences, and to observe and discuss how they behaved as individuals as well as in groups when going through the Mauritshuis.

A contextmapping study [4] was conducted as the second study involving young adult travelers (non-visitors of the Mauritshuis). The contextmapping study consisted of two phases: sensitizing booklet and follow-up interview session. Aim of this study was to learn about the values and interests of young adult travelers when traveling abroad, as well as understanding how these values and interests influence museum experiences. For the contextmapping study seven participants (young adults: three Taiwanese, one Chinese, one German, one Spanish and one Turkish) were asked to use a sensitizing booklet for a few days, to bring back memories of travel experiences of a trip they had made in their recent past, as a way of making them reflect on the topic before having an interview. The booklet was meant to explore their travel purposes, their interests, their travel schedules, their social interactions, and how they explored local life during their trip. This was done by providing them with tasks such as mapping a timeline of a day on their trip, mapping their social network during the trip, asking them to describe their best or most impressive moments, their personal way of exploring local life, as well as thinking of an imaginary, desired way of exploring the local culture.

In the follow-up interview session, participants shared, explained and discussed the information in the booklets, and were then asked to elaborate on the timeline made in their booklet by making a visual collage of it. The collages were shared and discussed among participants.

The combined results of the two studies led to four personas (high art seekers, hipsters, famous attraction seekers, and outgoers), who could be clustered around two typical museum journeys (individual foreign explorers: high art seekers and hipsters; foreign experience seekers in groups: famous attraction seekers and outgoers). However, the conclusion was also that all personas would like to talk to locals to learn more about the country, and to get specific information that would be useful for traveling, whilst hipsters, high art seekers, and outgoers would even be willing to travel along with locals. Things all personas would like to explore are local food, local events, local places undiscovered by the majority of the tourists, local scenic views, common history and unique attractions (Figure 2). Relative preferences for these things could differ, but recommendations from a travel app or locals were considered valuable by all of them, even by the hipsters, who indicated they perhaps would rarely use those. A detailed description of the personas and associated needs and behavioral patterns can be found in [3].
Figure 2. Six things that the young adult travelers were interested in to explore when traveling.

**Designing the App: Generating Ideas, Converging towards a Solution.**

Based on the needs of the young adult travelers, a more concrete design goal was formulated: “Design a product service combination to be combined with the current Mauritshuis app, that can improve the art appreciation of the young adult travelers and that motivates and facilitates exploring the local culture”. Initial ideas were generated through two brainstorm sessions. A first brainstorm session focused on generating ideas with personas that were developed in the preceding phase. This brainstorm was held in the office of museum design agency Kiss the Frog with three museum exhibition designers as participants and focused on how to engage young adult travelers in the art exhibition.

Another brainstorm session focused on generating ideas inspired by positive emotions that could be related to museum engagement. Five Industrial Design students from TU Delft joined the session. An important part of the session dealt with how to engage young adult travelers in the museum and focused on design questions around issues such as: *anticipation* of the tour experience, *social sharing* of experiences, *awakening interest* for exploring the exhibition, *playfulness* in going through the art exhibition (to make it *fun*), and making the museum tour *meaningful*.

The sessions led to seven ideas that were then merged into two conceptual designs that were evaluated with users. Conceptual design 1 was called the *treasure hunting app*, and aimed to evoke the young adult travelers’ positive emotions “interest”, “joy” and “fun” by encouraging them to interact with the paintings in a game-like manner and by listening to audio fragments about specific elements of the painting. Conceptual design 2 was called *my inspiring travel app*. In this design the app would be used to scan the painting the visitor would like to explore. The app would then give an overview of the topics that could be explored within the painting. The visitor could choose topics of his/her interest, listen to an audio fragment about them, and get recommendations for other paintings, as well as for what to further explore after the Mauritshuis visit.

A concept evaluation session was conducted with seven participants (two popular attraction seekers, and five hipsters) who were invited to participate in role-playing the use of the conceptual designs in a simulated museum environment with paper prototypes (see Figure 3).

It was concluded that the final design would be based on the treasure hunt app, would include elements of the other app, and that it would need to have the following characteristics (formulated as design intentions); it should 1) *motivate the young adult travelers to look into the details of the paintings*; 2) *awaken young adult travelers’ interests in the paintings*; 3) *make the young adult traveler’s museum experience joyful and fun*; 4) *evolve the young adult travelers’ interests in the Dutch local culture by connecting the traditional culture to the current culture*; and 5) *motivate the young adult travelers to explore the local culture after leaving the museum*.

**Detailed Design: the Treasure Hunt App**

The final design is a treasure hunting museum app that also contains the function of giving travel tips to the young adult travelers for exploring the Hague. The treasures to be found are elements in famous as well as less famous paintings that connect to stories that are interesting for the young adult travelers.

A short movie when starting the app would briefly introduce the treasure hunting game. Visitors would then select a room to go to. When entering the room they would engage in a ‘find the painting’ game based on hints. For example a hint such as ‘light and shadow’ could refer to Ruben’s painting ‘Old Woman and Boy with Candles’.

Having found the painting, the app would depict it, but in the depicted painting a few details would be different from the real painting. The player of the game could indicate in the app, the location of the difference and would then be provided with the opportunity of listening to an audio fragment about or related to that detail, narrated by a young

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adult, local to the city of The Hague. Typically in the audio fragment the story would start by explaining the painting and the depicted aspects of traditional Dutch culture, and would then connect the story to modern Dutch culture. After having identified five ‘treasures’ (stories related to identified differences) travel tips related to the modern Dutch culture topics would be unlocked. For example, in the app version of the painting Still Life with Cheeses, Almonds and Pretzels the color of the beer bottle would be changed from brown to green, referring to the color of the modern Dutch beer brand Heineken, and one of the breads would be changed into a bread roll with a Dutch ‘kroket’ (popular meat snack) with the travel tip explaining where to get such a snack.

Figure 4. Example screens from the app. From left to right: (top row) select room to visit, find the painting with the treasure, explanation of finding a treasure, (bottom row) audio fragment after finding a treasure, overview of treasures found in painting, travel tips.

Evaluating the Design
The app was tested with nine visitors to the Mauritshuis (age 18-34 years old) from various countries. Participants fitted the profiles of the personas of ‘hipsters’ and ‘popular attraction seekers’. Five visitors participated in an individual test, and the other four did so in pairs (as hipsters typically visit museums alone, and popular attraction seekers do so in groups). Aim of the test was to evaluate the extent to which the design would fulfill the five design intentions. Each design intention was re-formulated into one or more research questions. For example, for design intention 4 (evoking the young adult travelers’ interests in the Dutch local culture by connecting the traditional culture to the current culture) research questions were formulated about the travelers’ appreciation of the way of exploring the local culture, as provided by the app, as well as about whether they thought the use of the app had enhanced their interest in the local culture. For the test a partly functional prototype of the app was used, which allowed playing the game, but was limited to five treasures (instead of fifteen in the real design), and participants had to search for them in a pre-defined order. Participants were interviewed and were asked to rate certain aspects on a scale from 1 to 5 (for example: to which degree do you feel you would want to explore the local culture with the app after you leave the Mauritshuis?).

The test results showed that the treasure hunting game triggered participants to interact with the paintings, and had increased their interests to explore the paintings and listen to the audio stories. Participants appreciated the audio stories about the local culture, but would also have liked to get some more information about the artwork itself. The travel tips, categorized by different topics (such as Food & Drink, Landscapes, History) were considered very useful by the young adult travelers for filtering what they would want to do in the city of the Hague. However, they emphasized that the travel tips indeed should be unique and recommended by the locals. Overall, participants very much liked the idea of introducing the local culture through the visit to the Mauritshuis, and then further exploring it in the city. Further, the test led to some recommendations for improving some details of the app (such as its graphical layout).

REFLECTING ON DESIGNING FOR CULTURAL ECOCLOGIES
In the Introduction section we noted that in terms of designing for experiences the current trend of designing for museum systems and institutional ecologies instead of for individual museums only [1] implies that one no longer only designs for visitor’s experiences before, during and after a museum visit, but that one should think in a more holistic way about experiences of people that engage with the system of connected institutes as a whole, as well as about a museum’s role within such ecosystem. Based on the design of an app for a new audience for the Mauritshuis we explore some of the implications of this trend for museum experience design.

IDENTIFYING NEEDS FROM A BROADER PERSPECTIVE
Experience design usually starts with identifying the needs, values (etc.) of the users one will design for [e.g., see 6, 7].

This is very much in line with what Falk & Dierking suggest about museum visitor experiences, namely that the public seeks leisure experiences that meet specific identity-related needs and values [8]. Thus, when designing for museum visitor experiences one should focus on museum visitor’s identity-related needs and values, for which Falk & Dierking identified seven categories of motivations for visiting the museum. In our design case we took a broader perspective: not only focusing on motivations for visiting a museum, but also on motivations and interests for the travel in which the museum visit will be embedded. Based on this wider travel focus, personas were developed as a substitute for the categories Falk & Dierking suggested. Indeed, for connecting the museum experience to the local, modern culture the context-mapping study that focused on travel rather than on a visit to the Mauritshuis provided us with more inspiration than the interviews about actual visits to the Mauritshuis, enabling us to envision how the museum experience could contribute to enriching the travel experiences.

We conclude that for a more holistic design that sees a museum as part of an embedding culture, the focus of a need identification study at the start of a design process should also take a broader perspective on the needs of the visitors, in this case: seeing them as travelers, rather than as museum visitors only.

Balancing the Focus

One of the challenges we experienced when designing the app was that of balancing what the focus of the app should be at each moment, as well as overall. When visiting a museum of classical art, much of the visitor’s focus of attention should be on experiencing that art. On the other hand, the aim was also to raise interest in local culture around the museum, and to later provide concrete help in exploring that local culture. Gradually raising that interest during the visit requires drawing attention to it, and thus away from the art works themselves. The answers of the participants in the final user tests indicated how difficult it is to deal with this challenge. We recorded answers such as: “the information about the local culture takes me a bit away from the museum, maybe it should be less, but the intention of it is good” and “I did not expect to get information not directly related to the painting. The information is good, but not what I expected”. On the other hand, other participants said: “I really found the story about how tall the Dutch are, is interesting because I found it myself on the street that the people here are really, really tall ... It is really interesting information” and “it is a good way to start exploring the city because you jump start to the culture thing at the beginning. Usually when you visit an other country, you don’t have that. It is quite difficult sometimes to find a local when you travel”.

We conclude that when designing for some museum experience that also connects to outside the museum, balancing the focus of the experience is something that requires explicit attention, and may require explicit testing.

Networks of Design Solutions

In this project the second author had initiated the idea of the design assignment herself, only after which collaboration with the Mauritshuis started. From that point on, the Mauritshuis was seen as the client, hence the focus on the Mauritshuis. One could argue that for a truly holistic experience design approach one should start from the local culture (in this case in the Hague) instead of from the Mauritshuis. An interesting experiment would be to re-do the design project using that as a starting point. How would the design be different? Most likely it would have focused on a ‘the Hague travel experience’. We imagine that such a design would start from overviews of possible experiences in The Hague. However, such overviews would then lead to people visiting places to have the desired experiences, and it is very likely that specific designs would be designed for those as well. The approach we took was a bottom-up approach starting from a specific local museum and extending to outside, the alternative approach we just sketched is more like a top-down approach narrowing down to inside. Instead of trying to build something (e.g., an app) that would allow for both, it is more likely that realistic solutions may be found in networks of design solutions: a focused Mauritshuis app that via its travel tips would then smoothly connect to the The Hague app providing more concrete information about the tips and other related experiences, in turn smoothly connecting to some design relating to yet another way of experiencing The Hague.

Building such networks of designs not only requires that participating institutions (organization, etc.) are networked digitally through their offerings, but also that they continuously keep each other up to date about their offerings, actively looking for how their offerings can be connected to other offerings in the network. We imagine this would require much collaboration between partners in the The Hague network, probably including also technological and procedural standardization. Next to this, such an approach would also require participatory design approaches or co-creation approaches in which users, along with various stakeholders would participate, for identifying the needs of the stakeholders involved in the project, and to ensure mutual benefits and avoid unwanted effects of design solutions on stakeholders.

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