Experience Design Analysis: the Derivation Process of Customized Experience Design
A Shanghai Museum Perspective

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Abstract: As places to provide knowledge, leisure and edutainment with visitors, museums are intended to connect with user experience. However, accompanied with the development of high technology, with which experience of human being, especially emotional one, are gradually disjointed. What's more, museums which belong to same type are going to isolate with each other. Nowadays, out of the seriously losing of visitors, promoting more interactive cultural activities and fulfilling the imagination and the feeling of abundance in cultural institutions are more essential. Therefore, researchers take Shanghai Museum(SHM) and Cleveland Museum of Art(CMA) as objects of study, in order to find out the shared experience between two museums, researchers investigated and studied daily behaviors of visitors in SHM. The methodologies used in this research procedure are phenomenological observation, Issue Mapping, antithetical couplet study and referring literatures. In discussion part, this paper mainly focuses on the customized experience study based on Issue Mapping. The researchers have reached the conclusion that the museum is not offering customized tools which can satisfied the multiple needs of visitors: time availability, knowledge background, expectations, space identification and narration are factors influencing the visitors' engagement, which are not being considered yet.

Keywords: **Museum Experience Design, Phenomenological observations, Shared Experience, Customized Experience**

Introduction

As a museum of ancient Chinese art, Shanghai Museum possesses a collection of over 1,000,000 objects, about 120,000 of which are precious national-graded works of art. Its rich and high-quality collection of ancient Chinese bronze, ceramics, painting and calligraphy is specially celebrated in the world. In concept, the Shanghai Museum is a space which facilitates experiences and tells stories in order to stir curiosity, emotions and memories. In order to be one of the world's most exclusive museum and Ohio's significant cultural institution, Cleveland Museum of Art continues to bring edutainment and great art works to the public in accordance with high aesthetic, intellectual, and professional standards since its establishment in 1913. This paper is going to explore how customized experience can be generated. Then the paper presents the processes of discussion and conclusion during the observation research and analysis of Shanghai Museum. Phenomenological Observation, an experience design observation tool, is thus engaged in this project. In conclusion, researchers found that the museum is not offering customized tools that address the variety of needs that visitors have.

Literature Review

Chieh-Wen Sheng and Ming-Chia Chen(2010)[1] proposed an argument that visitor studies compromising studies of experience and expectations of visitors are crucial for museums in terms of development, management and nurturing. The purpose of their paper was intend to analyze the experience expectations of museum audience. The main research method of the paper was using texts analysis of comments edited by visitors. Experience expectations questionnaires of museum audience were also used to analyze and develop research results. Five kinds of experience expectations were extracted by analyzing factors after collecting 425 valid returns of a survey, which involved easiness and fun, cultural entertainment, personal identification, historical reminiscences and escapism. In addition, this paper analyzed the audience's preferences for visiting museums according to questionnaire results. At the end of the paper, the authors have proposed some suggestions based on research results. In general, the writers's purpose is clear and the process of thinking is deep and exclusive. However, the types of methodology used in this research are limited. Though demographic analysis was used to explain the results, it is hard to cover most situation occurs in museums. Because the experience expectation is a changing process during visiting a certain exhibition, researchers should trace this kind of changeable situation to receive more real-time evidence but static ones. Furthermore, interview should be added into the research process.

John McCarthy and Luigina Ciolfi (2008)[2] argued that a dialogical approach to place, people and technology in museums can help renovate engagement between visitors and physical environment. This access has been adapted and developed in response to for a focus on locative experience in interaction design field. In the authors' perspective, this kind of approach emphasizes the key role played by a wide range of relationships in experience and suggests a set of dimensions of experience that help in their interpretations of museum experience: open, relational, narrative, sense making and spatio-temporal.

Marcello Carrozzino and Massimo Bergamasco (2009)[3] put forward the idea that contemporary museums are much more than places which are devoted to being a space of exhibition of collection and artworks; however, they have transported their figures into a remixed placement considered as a privileged means for interaction and playing a central role in making academic meaning more accessible to mass ordinary audience. Then, they presented the idea that eye-catching interaction paradigms and updated technology may help when exhibitors are going to make visitors engaged with their exhibition. Immersive Virtual Reality is probably one of the most appealing and potentially effective technologies to serve this purpose, yet, according to the writers' observation and investigation, immersive installations in museums are still quite uncommon to find nowadays. The authors raised a classification of VR installations based on their 10 years' experience in this field, and following an in-depth survey about these technologies and their use in cultural contexts, particularly pointed to cultural heritage applications, based on their features in terms of immersion and interaction. On the basis of this kind of classification, aiming to offer a tool for framing VR systems which would hopefully suggest indications related to expenditure, usability and quality of the sensorial experience,

[1] Chieh-Wen Sheng and Ming-Chia Chen, "A study of experience expectations of museum visitors," *Tourism Management* 33, (2012): 53.

[2] John McCarthy and Luigina Ciolfi, "Place as Dialogue: Understanding and Supporting the Museum Experience," *International Journal of Heritage Studies* 14:3, (2008): 247.

[3] Marcello Carrozzino and Massimo Bergamasco, "Beyond virtual museums: Experiencing immersive virtual reality in real museums," *Journal of Cultural Heritage* 11, (2008): 452.

they analyzed a series of live examples, in which they pointed strengths and weak points. In the last part of the paper, writers summarized the current state and the trend of this domain in the near future, identifying the major issues that prevent these technologies from being actually widespread, and also outlined suggestions and proposals for a more pervasive and effective use of Immersive VR for cultural purposes.

In Behavior in Public Places(1963)[4], Erving Goffman focuses on daily public interactions of people, especially between strangers. Episode 10 mainly explains the writer's idea of civic inattention, the structure of face engagements, accessibility and leave-taking rights. As well as this, three procedures, initiation, maintenance and leave taking, existed no matter where you visit, and during these procedures interaction between people to people appears differently. The separated details of our daily inattention consist of our whole experience during engagement in a certain placement.

Every time we have an encounter with a special person or situation, we are always accompanied by three kinds of experience according to John Dewey(1934)[5], aesthetic experience, intellectual experience and practical experience. Aesthetic experience reflects senses of smell, hearing, haptic and so on, it is related to our emotions; intellectual experience matches our ideas and goals in mind, it is connected with signs and symbols; and practical experience is something like pure action, also overt doings.

Discussion
Method Introduction
Observation Background
The Phenomenological observations at Shanghai Museum took 18 hours, divided into 5 observers on different days and at different times. The Observation was proceeded at April 8th for 7 hours, April 11th for 8 hours and April 4th for 5 hours which covered different weather, events, activities, weekdays and weekends as well. In order to maintain objective research, the observers finished the observation without any subjective judgment. The data and detail was carefully and completely recorded in text, sound and videos. Here the observers used Issue Mapping as an observation and induction tool.

Introduction of Issue Mapping
The Issue Mapping starts with pure record from observers. The complete Issue Mapping process includes 5 steps: Description, Interpretation, Analysis, Conclusion and Issue. Description are the pure data cleared up from observers, screened and classified with the Observation Purpose. The researcher used Interpretation Step to interpret pure data and add imagination on data. In Analysis Step, the researcher should analysis the reason and the logic in Interpretation Step. The analysis should combine environment, people and objects. The Conclusion comes after the analysis. It combines the elements from analysis and gives out a positive statement. The Issue Step is the key point of Issue Mapping process. It is the end of Observation.

Purpose
Concept Statement
In this project, the concept of museum was the first to be put forward . A concept map was used to help for the primary brain storm. The museum was divided into different layers based on Environment,

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4 Erving Goffman, *Behavior in Public Places*, (New York: Free Press, 1966): 138-140.
5 John Dewey, *Art as Experience*, (New York: TarcherPerigee, 2005): 41-45.

Objects and Human. It is combined with visual environment, physical environment, people and communication(different kinds of interactions).

In conclusion, the museum is a space that facilitates experiences and tells stories in order to stir curiosity, emotions and memories. The space is combined with the Physical Environment and Virtual Environment. The experiences facilitated by the museum can be Aesthetic, Practical and Intellectual as well. The museum will stir different experiences in different periods: curiosity before the visit, emotions during the visit and memories after the visit.

Observation Purpose

The purpose of observation is to understand the original motivation of people and the potential desires behind conscious behaviors. Based on the museum concept, the observation expectation is focused on interaction.

Observation and Issue Mapping Process
Information Quality and Quantity
The first conclusion of observation is about information quality and quantity. Descriptions such as the following sentences are observed:
1. A man is using the touch screen at basement floor near to the stairs.
2. Visitors spending more time reading the short description (Name, period, date) than looking at the object itself.

We can found that the man using touch screen seems confused because the language of computer system is Chinese. Non-Chinese visitors do not understand what was written on that. Also, the introductory text is either not totally read or ignored. It is because people will visit the exhibition without having proper or complete context on what is shown, meaning they would not be able to follow the storyline and their experience will be superficial. In conclusion, aesthetic quality and quantity of the information is inadequate for the different needs of the visitors (time availability, knowledge background and expectations).

Children's Perspective
The second conclusion comes from the observation of children's perspective. Descriptions such as the following sentences are observed:
1. A boy is watching the other people's phone screens.
2. Kid is playing with the audio guide, dropping it to the floor and dragging it. He is not looking at the artifacts: when standing in front of them he can only see a wall.

From the above descriptions we can found the boy was not interested with the content in the screen. The boy prefers watching his mother's phone than looking around the museum because this space is boring for him. The museum is lacking attraction and entertainment activities for children. The artifacts are displayed at an adult point of view, making impossible for kids to view the artifacts from their own point of view (only when they are carried on the arms of an adult). Kids are therefore not interested and try to amuse themselves with the most attracting objects they have access to. In conclusion, the museum is not providing a customized experience for kids. It might turn them into not-museum-fan adults since they are the visitors of future.

Digital Tools

The third conclusion is focused on the digital tools layer. Descriptions such as the following sentences are observed:

1. At the courtyard next to the information stand are two panels. Some visitors (Chinese and foreigners) are standing in front of the screen reading the content. On the left side is a wooden panel with information regarding the floors. The title reads "Shanghai Museum" and some Chinese visitors are taking pictures with the sign.

2. Multiple groups of people from different ages listening to the audio guide are seen on the first floors. On the last floors, visitors are holding their audio guide devices on their hands or letting them hang from their arms and shoulders without using them.

In the first observations, people feel more attracted to the screen than to the analogue information panel. That is because digital is more attractive than analogue nowadays. However, people will quickly lose attention if content is not relevant or overwhelming. The audio guide offers valuable information, but is not able to maintain the attention of the users during the whole museum visit. In conclusion, the digital tools in museum are almost useless: 3 touch screens are placed around the museum. This is not enough for the large amount of visitors. Besides, the content is not engaging and not interactive enough.

Conclusion

Based on the three parts of conclusions, Shanghai Museum is lacking customized visitor experience. The museum is not offering customized tools that address the variety of needs that visitors have: time availability, knowledge background and expectations are factors influencing the visitors' engagement, that are not being considered by the museum. Based on the experience and expectation research from Chieh-Wen Sheng and Ming-Chia Chen(2010), the dialogical approach study from John McCarty and Luigina Ciolfi (2008), Immersive Virtual Reality research from Marcello Carrozzino and Massimo Bergamasco (2009), the Shanghai Museum should increase multiple high-technology access ways to engage different visitors by providing customized visiting experience including easiness and fun, cultural entertainment, personal identification, historical reminiscence and escapism.

Solution

Solution Statement

Offering customized experience to visitors from virtual and realistic aspects is the main concept of solution. The design option connects visitors, museum environment and virtual activities, creating a strong connection between Shanghai Museum and Cleveland Museum. Creating a new system with exhibition layer, communal facility layer and virtual interactive layer between two museums, which can not only satisfy the needs of visitors' customized experience and also enhance the relationship between visitors of two cities, is the solution of this case based on the analysis and research.

Concept

The name of design is called The Sleeping Keeper. '睡佛长睡，睡千年，长睡不醒；问者永问，问百世，永问难明'（The sleeping Buddha is in his long sleep for thousands years and never wake up. The questioning person is forever asking for hundreds of centuries but never know the answers.）is the intention concept of design. It is picked from an ancient Chinese couplet. The couplet described an obscure philosophically conception of the behaviors from the

questioner and the Buddha, which is a metaphor of relationship between seekers and life. We found this interesting literary expression shows unique imagination of two opposite roles, which is god and ordinary people, has a great reference value for designers dealing with the relationship between two museums.

Strategy
Fundamental Environment
To the Shanghai Museum, for example, in our illusion system, the areas will separate in museum with matrix arrangement like points. These points can be divided into three levels, which is existing collections, activity areas and the virtual reality areas displaying the information from Cleveland Museum. There is homogeneity and heterogeneity between points and points.

Connect the points there are different visiting circulations, which are easily be designed as customized visiting experience or participatory games. Of course, the communal facilities and functional spaces will also be designed as points settled in this system. These points are the controller of visiting experiences.

Interactive Customized Activities
Between the two museums, we hope to connect the visitors to Shanghai and Cleveland through a gameplay. For example, we designed a treasure hunting game with two teams of participants at Cleveland Museum which has two different themes. The participants will leave game score histories after they finished the games competing with the visitors in Cleveland. During the game process, the participants will firstly use the IPAD-like interactive device to obtain maps and exhibition information. If they choose the game mode, the system will keep asking questions. To answer these questions, the visitors have to find the information of exhibits while following the customized circulation. When they finish the game, they will not only leave their score but also gain the information of the player in the other museum (if they left) and have the chance to become friends with each other. After the final completion of the game, the winner will get a little gift, encourage them for next visiting.

In this process, due to the 12 hours-time difference between Shanghai and Cleveland, the Cleveland Museum has been closed when the Shanghai Museum of Art is opened just as the sleeping Buddha in concept couplet. The visitors in Shanghai Museum gain the information unilaterally from Cleveland Museum by game playing and virtual reality displaying, which is similar with the seekers in the couplet. When sun rises in Cleveland, the Shanghai Museum also fall in asleep, making a subtle balance between two cities and stimulating a strong imagination for visitors.

Conclusion
Customized Expierence Design is an indispensable part in the whole process of building and operating a museum. It had to be considered not only in the architecting procedures but also in the managing ones. It can also exist in different types of museums. Customized Experience design thinking should have vitality and resilience, enable to be changed by time, environment

and people. In this case, the imagination and abundance of visitors are enhanced by Customized Experience Design, with which futuristic museums will serve the communities better.

Appendix

1. Chieh-Wen Sheng and Ming-Chia Chen, "A study of experience expectations of museum visitors," Tourism Management 33, (2012): 53.
2. John McCarthy and Luigina Ciolfi, "Place as Dialogue: Understanding and Supporting the Museum Experience," International Journal of Heritage Studies 14:3, (2008): 247.
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4. Erving Goffman, Behavior in Public Places, (New York: Free Press, 1966): 138-140.
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