Study of Memorable Tourism Experience (MTE) through the Virtual Tour of the Indonesian National Museum

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Abstract. The National Museum of Indonesia presents innovation by providing virtual visits via the Virtual Tour platform on the official website. It becomes a digital asset heritage with a dual concept, combining physical and virtual space. Virtual Tours offer an alternative tourism experience, although they have limitations as a human-made medium. The problem is that museums are trying to maintain visitor interest by providing a virtual experience that is close to reality, however, it needs to be researched further whether it can provide an unforgettable tourist experience. This research aims to determine the efforts of the Virtual Tour technology User Interface in narrating the National Museum collection and determine the memorable tourism experience felt by users when interacting with the Virtual Tour. Qualitative research with a phenomenological approach explores User Interface efforts and user experiences when interacting with the National Museum Virtual Tour. From the discussion analysis, it is known that the Indonesian National Museum Virtual Tour user interface presents a narrative that traps users as if they were in a physical museum. This approach is visible from the initial wizard to the user interface elements designed to provide an intuitive interface. Understanding memorable tourism experiences involves seven main components, but not all of them are always realized in the six-point User Experience description, which includes perception, interaction, evaluation, emotions, relationships, and accessibility. The conclusion of this research is that the user interface provides an authentic narrative, creates an atmosphere like visiting a physical museum, and provides a feeling of immersion when exploring the collection virtually. The presence or absence of a memorable tourism experience in the User Experience becomes dynamic and varies depending on the interaction and interrelation between the User Experience description points and the seven components of the memorable tourism experience.

Keywords: Memorable tourism experience,Tourism, Virtual tour.

1   Introduction

The National Museum of Indonesia innovates by offering virtual visits through its official website in the form of a Virtual Tour platform. This media serves as a kind of digital asset legacy for the National Museum, where it will have dual functions, with the physical museum existing in the real world and a virtual space accessible through online connectivity. Despite the differences, the management of the national museum must, of course, take care of activities that support museum visits, especially virtual visits, to ensure that visitors feel comfortable. This, in turn, encourages visitors to return for both physical and virtual museum visits, keeping the museum up to date in the application of contemporary technology.

The presence of Virtual Tours as an alternative for visitors offered by the museum undoubtedly provides a different tourism experience. Museums naturally want to continually attract visitors. However, virtual access through a Virtual Tour is, of course, different from direct access in the real world. Additionally, Virtual Tours are a human-made virtual medium that, despite offering interaction, has its limitations. Nevertheless, the interactions experienced by users during a Virtual Tour can still be understood as a visit with sensations that closely approximate reality [1]. Nevertheless, since this Virtual Tour serves as a connecting medium to support tourism, it is worth investigating further whether the Virtual Tour of the National Museum of Indonesia (Fig.1) can provide a memorable travel experience for visitors.
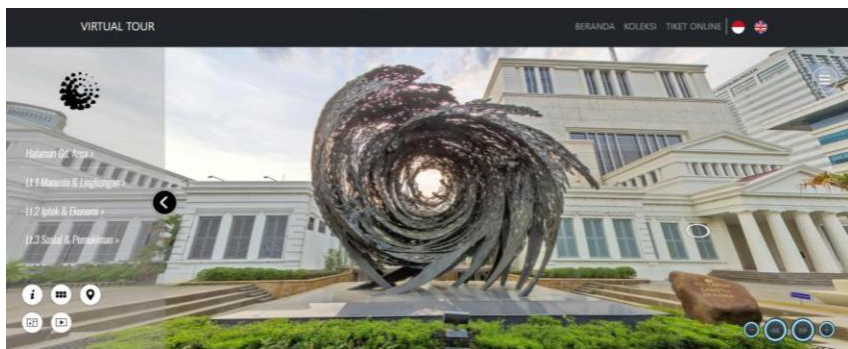

Fig. 1. Virtual Tour of the National Museum of Indonesia [2]

The experience of touring in the real world and virtual reality is, of course, different. To make tourism activities memorable for tourists, the presence of a Virtual Tour is not just a container; it's also about the impression it leaves on tourists, like what is experienced in the real world. For example, in a cross-cultural study involving Taiwanese tourists, it successfully validated a 10-dimensional scale [3]. "Memorable Tourism Experience" or MTE is used to test its impact on behavioral intentions. A memorable tourist experience is related to satisfaction and is a subjective condition perceived by the tourist. Therefore, tourists are willing to come again in the future due to the lasting impression created by such experiences [4]. When connected to a Virtual Tour, there arises a curiosity about whether the Virtual Tour of the National Museum of Indonesia

can provide an experience like that of the physical space or if it will offer a unique experience of its own, creating a memorable impression for visitors. The acceleration of digital cultural transformation in the era of Industry 4.0 and Society 5.0 has led to a proliferation of activities across various parts of the world. The rapid growth of digital technology has significantly impacted the tourism industry. The alignment of technology in the industry 4.0 and Society 5.0 era has also manifested in efforts to develop virtual platforms for tourism attractions, including museums in Indonesia. The development of virtual platforms represents a turning point in how people traditionally visit museums. Instead of physically going to the museum, individuals can now explore these spaces from anywhere. This virtual concept has been widely adopted by museums globally, and an example is the Imperial Cathedral Museum in Königslutter, Germany [5].

The spatial transition that occurred during the pandemic, coupled with the persistence of certain societal activities in the virtual realm, has expedited the transformation process of society in the industry 4.0 era. This has given rise to a new culture in the lives of contemporary society, situated in the virtual space due to the spatial transition, shifting from the physical realm to the virtual space [6]. The technologies facilitating these activities constitute innovations that align with big data, IoT (Internet of Things), artificial intelligence, robots, drones, sensors, 3D printing, public key infrastructure (PKI), sharing on demand, mobile, edge computing, cloud computing, 5G, Virtual Reality (VR), augmented reality (AR), and mixed reality [7].

This medium serves as a kind of legacy of future digital assets for the national museum, where it will have a dual character, existing both in the physical space of the real world and the virtual space accessed through online connectivity. Despite the differences, museum management must take care of activities supporting museum visits, especially virtual visits, to ensure visitor comfort. This encourages visitors to return for both physical and virtual visits, keeping the museum up to date in applying contemporary technology for digital asset legacy [8].

Based on the background above, the research questions can be formulated as follows: 1) How does the User Interface of Virtual Tour technology narrate each collection of the National Museum? 2)What is the memorable tourism experience formed in the User Experience when interacting with the Virtual Tour of the National Museum?

2 User Interface Design in Digital Virtual Tour Products

User interface design is the process of creating a user interface that facilitates interaction between the user and a computer system or product. User interface design involves arranging visual elements, layout structures, controls, and interactions that enable users to communicate with the system effectively. Understanding the user interface relies on five aspects [9], including:

1. Usability, The User Interface should be easy for users to use. The design should be intuitive and minimize user errors. Principles such as clear layouts, easily understandable navigation systems, and the use of known conventions are crucial in creating a good user experience.

2. Responsiveness, The User Interface should respond promptly to user actions. Users should feel that the system responds quickly and appropriately to their actions. Slow response times or unresponsive events can diminish the user experience.

3. Consistency, The User Interface should be consistent in terms of design, layout, the use of symbols, and behavior. Consistency helps users to understand and predict how to interact with the system more easily. It also minimizes user confusion and errors.

4. Feedback, The User Interface should provide clear feedback to users. Users should receive confirmation of their actions and relevant information as they interact with the system. Good feedback helps users understand what is happening and correct errors if they occur.

5. Aesthetics, The User Interface should be visually appealing. Attractive visual design can enhance users' positive impressions of the system and create a pleasant experience.

3   User Experience (UX)

The development of digital products has an integrative model that includes three essential aspects: Usability, User Experience, and accessibility. User Experience, which is a part of the three crucial aspects in an integrative model, is described as follows [10]:

1. Perception: Users gather information about the digital product through visual elements and textual information, focusing on factors like visual quality, consistency, and clarity.

2. Interaction: Users engage with the digital product through physical interactions, assessing factors like response speed, accuracy, and user-friendliness using tools like a mouse or keyboard.

3. Evaluation: After interacting with the product, users evaluate its effectiveness in helping them achieve goals, considering factors such as performance, usability, and trust.

4. Emotion: Users experience feelings like satisfaction, joy, or frustration during product use, influencing their perception and shaping preferences for future use.

5. Relationship: Social interactions and user engagement, including trust in developers, community support, and the potential for interaction with others, are key factors in the user's relationship with the digital product.

6. Accessibility: Factors affecting the user's ability to use the digital product, including access to information or tools and considerations for physical or cognitive limitations.

4 Memorable Tourism Experience (MTE)

The conceptualization of the MTE framework is defined as a meaningful and positively memorable experience for tourists after they undergo the experience. It is selectively built based on individual assessments of the experience [11]. The components of the holistic tourism experience that enable benefits and visitor memories within the proposed framework include:

1. The first component, labelled hedonism, consists of four items: "thrill," "indulgement," "enjoyment," and "excitement."
2. The second component includes three items highlighting involvement (personal relevance): "visiting places I really want to visit," "participating in activities I really want to do," and "participating in activities that match my interests."
3. The third component, novelty, contains four items: "once-in-a-lifetime experience," "unique," "different from previous experiences," and "experiencing something new."
4. The fourth component represents local culture and consists of three items: "positive impression of the local community," "experiencing local culture up close," and "local community in a destination being friendly."
5. The fifth component contains four items measuring refreshment: "liberating," "enjoying the sense of freedom," "refreshing," and "revitalized."
6. The sixth component consists of three items highlighting knowledge: "exploration," "knowledge gained," and "learning new cultures."
7. The last component represents meaningfulness and includes three items: "I did something meaningful during this trip," "I did something important during this trip," and "I learned about myself from this journey."

5 Method

Qualitative approach is one of the research methods aimed at understanding complex phenomena within their natural contexts [12]. The qualitative approach is descriptive in nature, seeking to comprehend complex phenomena within their natural contexts and generate detailed descriptions of those phenomena.

The researcher will gather necessary data, including direct survey findings (photo documentation inside the National Museum of Indonesia), and information from the museum's website and virtual tour screenshots. After thorough review, the researcher applies coding to identify settings, categories, and themes. The data will then be analysed using the user interface theory (usability, responsiveness, consistency, feedback, and aesthetics) discussed in the digital product user interface design chapter. The results will be presented concisely in a narrative report with interpretations.

The researcher utilizes phenomenology to analyse the memorable tourism experience in user interactions with the National Museum's virtual tour [13]. The methodology involves:

1. Comprehensive description of the experienced phenomenon.

2. Identification of statements from interviews, assigning equal value, and developing details without repetition.

3. Grouping statements into meaningful units with detailed textual explanations and relevant examples.

4. Reflection on thoughts using imaginative variations, exploring meanings from different perspectives, considering the reference framework, and forming an understanding of the experienced phenomenon.

5. Compilation of a comprehensive explanation of the meaning and essence of the researched experience.

6. Reporting research results, indicating unity of meaning based on all informants' experiences.

This phenomenological approach will be applied to analyse Memorable Tourism Experience (MTE) Formed in User Experience When Interacting with the Virtual Tour of the Indonesian National Museum, incorporating participant interview data for a comprehensive interpretation of the memorable tourism experience in the user's virtual tour interaction with the National Museum.

6   Result and Discussion

6.1   Analysis of the User Interface of Virtual Tour Technology in Narrating Each National Museum Collection

Analysis of the user interface of virtual tour technology in narrating each collection of the National Museum aims to address the first research question, which is how the user interface of virtual tour technology narrates each collection of the National Museum. Understanding the user interface relies on 5 aspects [9]. The explanation shown in Fig.2.
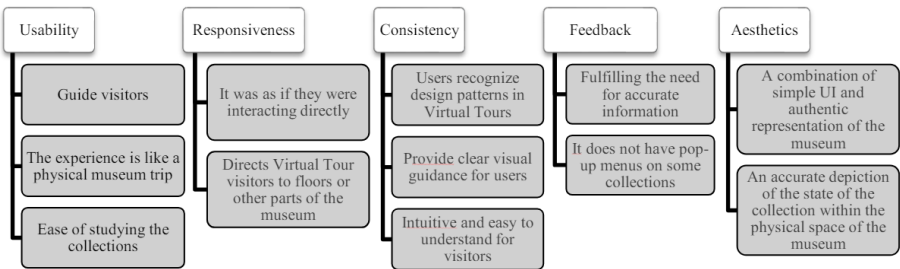

Fig. 2. Graphic of the User Interface of Virtual Tour Technology in Narrating Each National Museum Collection

In terms of usability, the Virtual Tour guides both first-time and experienced museum visitors, controlling their direction and providing guidance through visual cues, offering a physical museum journey in a digital format. In terms of responsiveness, the

Virtual Tour at the National Museum of Indonesia goes beyond visuals, emphasizing interaction, information, and responses to create a profound and satisfying experience, bridging the physical and digital aspects of a museum visit. Regarding consistency, the virtual tour's primary goal is to invite visitors to explore the museum virtually, using hidden icons and minimal information to maintain focus. This journey plays a crucial role in engaging visitors' curiosity and exploration. Concerning feedback, the virtual tour tailor's information to users' preferences, providing relevant details at each step. The essence lies in fulfilling visitors' information needs and curiosity with quick, accurate responses. In terms of aesthetics, the National Museum of Indonesia's Virtual Tour combines a simple interface with authentic representations, inviting visitors to focus on the experience's essence and creating a sensation of truly being present in the museum's indoor and outdoor environments.

6.2   Analysis of Memorable Tourism Experience (MTE) Formed in User Experience When Interacting with the Virtual Tour of the Indonesian National Museum

The table 1 below explains the memorable tourism experience (MTE) formed in the User Experience when interacting using the Indonesian National Museum Virtual Tour.

Table 1. Memorable Tourism Experience (MTE) Formed in the User Experience (UX)

MTE \ UX	Hedonism	Refreshment	Novelty	Local Interaction and Culture	Knowledge	Meaningful-ness	Involvement
Perception	-	-	✓	-	-	-	✓
Interaction	-	✓	-	✓	✓	-	✓
Evaluation	-	-	✓	-	✓	-	✓
Emotion	✓	✓	-	-	-	✓	✓
Relationship	-	-	-	✓	-	-	✓
Accessibility	-	-	-	-	-	-	✓

Understanding a memorable tourism experience involves a deep understanding of seven main components: hedonism, refreshment, novelty, social and local cultural interaction, knowledge, meaningfulness, and involvement. However, not every component will always manifest in the six points describing user experience, including perception, interaction, evaluation, emotion, relationship, and accessibility. The presence or absence of these components in the user experience descriptions depends on the unique nature of each description point. In this context, each user experience description point has the potential to shape one, two, or even more components of an unforgettable travel experience. Therefore, the interaction and interrelation between user experience description points and the seven components of a memorable tourism experience are dynamic and varied. This emphasizes that each experience will be a unique combination of elements that manifest based on the interaction between user experience description points and memorable tourism experience components. For example, in the UX perception description, the emerging MTE component is novelty. This occurs because users gain a new experience when interacting with the Virtual Tour platform.

Another example is in the UX description, specifically interaction. The MTE component that arises in this description is refreshment because users enjoy interacting with the Virtual Tour. Then, the local interaction and culture component emerges as users interact with the collections in the museum. Lastly, the knowledge component appears, where users gain information that becomes new knowledge. It is noteworthy that the involvement component always appears in every UX description.

7   Conclusion

The User Interface (UI) of the Virtual Tour Museum Nasional Indonesia seamlessly incorporates museum-like narratives, providing users with a guided and comfortable exploration experience. This is evident in the UI's emphasis on user-friendliness, responsiveness, consistency, feedback, and aesthetics, mirroring the feel of navigating a physical museum. Users are not left feeling confused during their Virtual Tour, thanks to the intuitive design that echoes the directional guidance found in a traditional museum. The overall approach aims to create an authentic museum experience, successfully immersing users in the ambiance of a physical museum as they explore virtual collections and exhibition spaces. Then, understanding memorable tourism experiences involves grasping seven key components: hedonism, refreshment, novelty, social and local cultural interaction, knowledge, meaningfulness, and engagement. However, these components may not always manifest in the six User Experience description points, depending on the unique nature of each description point. Each User Experience point has the potential to shape one or more components of an unforgettable travel experience, showcasing the dynamic relationship between User Experience points and the seven components of memorable tourism experiences.

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