Interface Design Assessment of Museum Permanent Exhibition at the National Museum of Malaysia

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Abstract:- **At a museum, the interface design between the visitor and the museum is devoted to the exhibition. In this sense, the exhibition works as a medium with an effective interface design for the museum collections and researches. Moreover, a visit to an exhibition counts as a good use of leisure time, however some exhibitions are almost overrun with visitors. Thus, this paper describes what is interface design meaning from the design perspectives and the museum professionals view. Consisting of four different types of interface design, this paper presents the results of a broad validation study on the literature, as well as Malaysian National Museum specific documents. The paper concludes with a discussion of what types of interface design currently be applied on the permanent exhibition at Malaysian National Museum and how the future interface design can be improve towards the presentation of museum-collections and future aims to strengthening and refining the quality of interface design for use by museum professionals.**

Key Words: **Interface Design, Museum Experience.**

I. INTRODUCTION

Public normally were recognized the museum as a place where old materials be stored. Nonetheless this traditional view has been increasingly changing as the UNESCO has prearranged a new definition for the museum. Thus, nowadays the museum is defined as a non-profit institution and it should always open to the public for the purpose of research and education. Within this, museum should museums prided themselves on the quality of the artefacts they housed and drawing visitors experience and knowledge from collections that were organized into fixed categories to add meaning.

Philosophically, museums have a dual role. From the perspective traditional, museum needs to be functional as a social learning centre. It is including an activity such as collecting, researching, translating, documenting, preserving, and exhibiting. Nevertheless, as technology rapidly changing, the role of the museum has changed considerably in this modern era. Moreover, museum concept also changed from Object Oriented that focusing more on services pleasure, to Information Delivery that concentrating more on enjoyment or edutainment of the visitors. Consequently, both functions are having the same goals where placing a great emphasis on communication and experience. This scenario moreover is something that public commonly have experienced as a museum visitor and is likely quite common. As stated by Weil (1999) the focus of contemporary museums is not so much on what they do, but for whom they do it. Hence, every museum visit must be meaningful and valuable for each visitor.

Conventionally, by visiting museum most visitors will be engaging with an exhibition and museum only allows their participants to engage with exhibition with limited constraints of time and space. In the digital domain nowadays, these constraints apply differently, and engagements can take place over a wider time frame (Alivizatou, 2012). Within this scenario, a communication process between visitors and the exhibition happen continually and the transformation of museum's collections content to visitors also becoming a key tool to looks in detail. Yet in this setting, it becomes a crucial to experiment with the front-end that offer experiential and emotional ways to create a relationship between visitors and artefacts.

Hence, this paper is describing clearly the background of the study on interface design types of the museum exhibitions. In specific, the study was involved in determining what interface design categories and types that currently presence on the permanent exhibition at The National Museum of Malaysia compared to what been establishing by International scholars. By discussing the interface design elements and characteristics used by the National Museum of Malaysia, the findings from the study would be beneficial not only for the Department of Museums Malaysia but also others academic institution that offered course on museum studies.

II. INTERFACE DESIGN AT THE MUSEUM

At a museum, the interface design between the visitor and the museum collections was called as an exhibition where museum exhibition must communicate to the visitors deep to their mind and feeling (Lord, G. Dexter and Mayrand, 2001). In this sense, the exhibition works can be demonstrated as a medium of presentation with an element of interface design for the collections and research works. The contemporary museum commonly has transformed the classical conception of the museum exhibition according to which museum directors and curators understood their task to be collecting and preserving objects of cultural history. Therefore, the museum nowadays tends to be a public forum that reaches a broad path of the visitor's population.

Communication between museum visitors and interfaces of exhibition panel has been widely discussed by scholars in the broad literature (Hyowon Hyun, Jungkun Park, Tianbao Ren, Hyunjin Kim, 2018; Castellani & Rossato, 2014; Heilig, Feuerhahn & Sikkenga, 2014). Similarly, many studies were suggested that effective production of exhibition can affected visitors experience of discovering meaning in the

museum exhibition. Therefore, a visit to an exhibition counts as a good use of leisure time, but some museum exhibitions are almost overrun with visitors and some are not be visited by any visitors. This moreover is due to the presentation of exhibition material (Lorenc, Skolnick and Berger, 2007) failed in bringing visitors' experience and knowledge. From this discussion, it explains clearly that effective interface design of the exhibition affects the visitors understanding and experiences towards their visit to museum.

Regarding this understanding of an exhibition as an interface design, there are be defined that 3 broad categories of interface design for museum namely Standard, Virtual and Augmented. In particular, Standard interface is referred to the use of standard interfaces like keyboards, mice, and computer monitors. While Virtual interface is when the interfaces block out the real world to create a reality. An Augmented interface category moreover is when the interfaces does not block out the real world and creates reality. Thus, as interface design be used as a means of communication tool in various domains, the interface design of exhibition has evolved from the object-based presentation (Edson & Dean, 1994) to the information-based presentation (Ansbacher, 1999). In which, as illustrated in Figure 1, the object-based presentation is referring to the display of art works in the museums or galleries while the information-based presentation is more to images or texts in museums halls, information kiosks, etc.
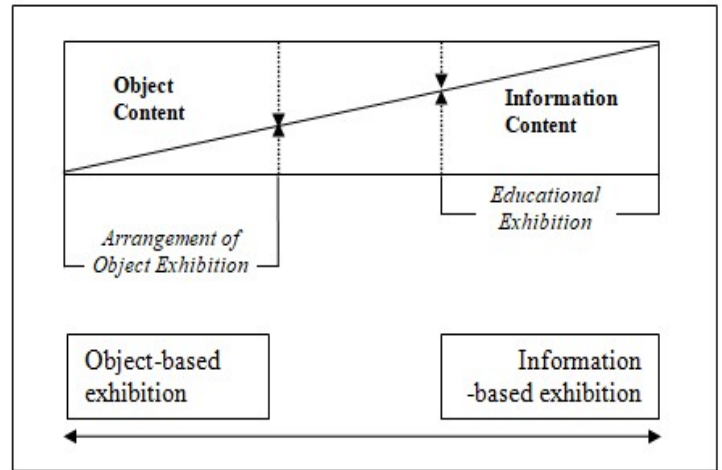

Figure 1: Exhibition content scale

III. METHODOLOGY

A Case Study methodology has been used in this study in determining the categories, types of interface design on the existing permanent exhibition structure and the specific elements and characteristics of the exhibition. A method of Contextual Document Review and Face to Face interview with Curators and Designers have been using throughout data collection stage.

3.1. A Contextual Documents Analysis

A set of documents on permanent exhibition of the National Museum of Malaysia has been reviewed through specific procedures of contextual document analysis. The detailed of the permanent exhibitions list as per shown in Table 1 below.

Table 1. List of Permanent Exhibition at the National Museum of Malaysia

Hall A:	Hall B:	Hall C:	Hall D:
Pre- history	*The Malay Kingdoms*	*Colonial Era*	*Malaysia Now*
Among the collections on display include various types of Neolithic pottery, jewellery items such as stone rings, shells earrings and beads that were used as trade items.	The gallery presents historical evidence of the Malay civilization through the establishment of the Malay kingdoms across the Archipelago with a focus on the Malay kingdoms that existed in the Malay Peninsula and Borneo. The focus of the gallery is the Melaka Sultanate, an important episode in the history of the country.	Highlights the history of the Malay states when it was under the grip of foreign powers including Portuguese, British and Japanese. Also included are the impact and the changes brought about and left behind by the colonial power in political, social and economic aspects.	Illustrates the transformation process and achievements gained since the independence of Malaya in 1957 through to the formation of Malaysia in 1963.

3.2. Interview

The Curators whom be involving with the previous exhibition was participated in the interview session. The interviews were conducted within 45 minutes for each session. The objectives of the interviews are to gain about curators' experience on preparing an exhibition towards effective interface design.

IV. INTERFACE DESIGN ANALYSIS ON PERMENANT EXHIBITIONS AT THE NATIONAL MUSEUM OF MALAYSIA

As we all know that the traditional function of a museum is collecting, researching, translating, and displaying material. nevertheless, museums also play other roles that changed over time. As per Hooper (2000) claimed in his book, by stated that museum of today is valid not just the valuable collections and striking exhibition but the pleasure enjoyment

that reach out to the community and touch the lives of many. Thus, whoever are planning to set up a new museum in future, they must understand that it is not just a museum's traditional function, but also needs to know the concept of exhibition which includes entertainment and enlightenment. Moreover, to understand the concept of exhibition, some basic questions need to be considered by the curator of exhibition. the basic question that needs to be answering are including: 1) why the exhibition should be held, 2) what the form of exhibition is and 3) how the exhibition to be display. In this regard, the question of why the exhibition is highly significant because the successful of any exhibition will be determining by what appropriate techniques to be using for an exhibition and how the exhibition will be display.

Analysis on the documents gathered from the Department of Museums Malaysia, it was revealed that they had a very simple guidelines for an exhibition which covered the basic of exhibition, the production process of exhibition, the exhibition techniques and installation of exhibition. For the basic of exhibition, it was explaining about planning, research, procurement of artefacts, documentation, production, installation and exhibition launching ceremony. Accordingly, for the production process of exhibition, the guidelines simply mentioned about structure, printing, poster design, 3D exhibit material (artefacts or specimen), lighting and finishing of final work.

In term of exhibition techniques therefore there are five techniques of exhibition established by the Department of Museums Malaysia including Static, Interactive, Audio-Visual, Demonstration and Multimedia. Consequently, if compared to the established literature categories, it shown that commonly the exhibition techniques applied by the Department of Museums Malaysia are closely comparable to the interface design types of international literature. In which the summary of the data gathered according to exhibition categories and interface design types as per shown in Table 2 below.

Table 2. Exhibition Categories and Interface Design Types by Department of Museums Malaysia

Categories	Interface Types	Standard	Virtual	Augmented
Object Oriented Exhibition	*Presentation*	Replica Model		
	Conversation			
	Navigation			
	Explanation	Text Label		
Information Based Exhibition	*Presentation*			Film projector
	Conversation		Working mechanics	Barco screen Multi-screen
	Navigation		Push button Sound and light	
	Explanation	Text Label		

In detail, by referring to the techniques of exhibition explained in the Department of Museums Malaysia documents, a brief summary of the five techniques are presenting in Table 3.

Table 3. The techniques of exhibition by the Department of Museums Malaysia

Techniques	Explanation of the techniques
Static	• Art exhibits, picture materials, replicas, statues, manuscripts, mural photos. • Equipped with explanatory text or caption
Interactive	• The use of computer screens to create a working mechanism • The use of push button, laser movement, sound and light, • Direct information delivery • Visitor interact directly with exhibition material
Audio-Visual	• The use of radio, TV, Hologram, Barco screen, CD interactive, Film projector • Visitors will have a bigger explanation on the exhibition
Demonstration	• Holding a live demonstration • Visitor can engage and participate
Multimedia	• The use of technology tool to enhancing the exhibition • Combining multiple techniques and constructing variations in exhibition

The contextual review on a few documents by the Department of Museums Malaysia and interviews also revealed some others interesting findings. It is including an exhibition layout and demonstration. For the layout, the important of exhibition layout is a way finding which can shows the direction of the route planned for visitors in an exhibition. A sample of layout of direction of the route as per shown in Figure 2. By expecting that each object can be exhibited in a special exhibition box, it may require a very high costs and may vary for each exhibition. The standard show box is usually made to be suitable for many exhibition materials. The size of the material or artefacts is the main factor that may be difficult for an exhibition. Figure 3 below show some sample of demonstration layout to be using in exhibition.
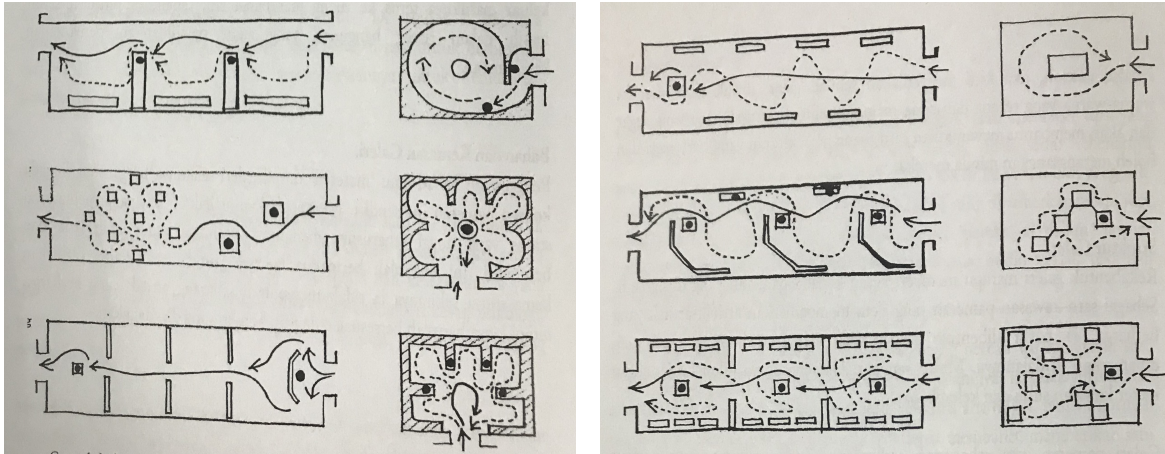

Figure 2. A few samples of direction of the route layout to be using in exhibition
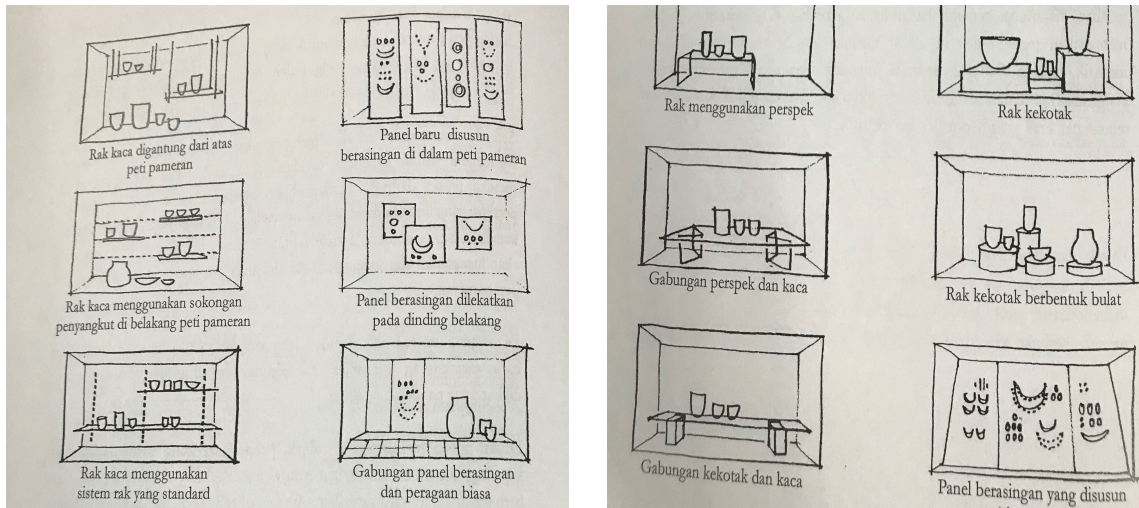

Figure 3. A few samples of demonstration layout to be using in exhibition

Primarily a design concept had to be created for the museum's exhibition design. Moreover, the museum exhibition design must have its own language (Erkmen, 2004). On this understanding, the analysis on the documents of the Department of Museums Malaysia and interviews with the curators confirmed that the curator is the one that responsible on preparing the exhibition concept at the National Museum of Malaysia. The curators also claimed that they must give an idea in indicating whether it is temporary or permanent exhibition and has to produce an exhibition that have a relationship with the materials, lighting and the design concept (Ismail, 2011).

According to the curators that be involved in the study, the view of the entry point is the first point that reflects the design language of the museum exhibition. Moreover, the principle of contrasts on the surface wall to strengthen the perception of visitors also giving an impact to visitors. For that reason, the interior surface of four permanent exhibition hall at the National Museum of Malaysia has used a bright colour backgrounds with darker typography (Figure 4) and side walls of the entrance have darker background with brighter typography.

Figure 4. Interior surface of permanent exhibition hall at the National Museum of Malaysia used a bright colour backgrounds with darker typography.

Previous studies on museum exhibition established that a good graphics visual can strengthen the text but cannot take the place of it. Analysis on the documents moreover defined that the Department of Museums Malaysia understand on this. The choices of the typefaces, the grammar and the content were prepared by art historians and an academician who are experienced with the content of exhibition. So, with that well-prepared text, the placement of graphic elements and appropriate typography are accepted within the permanent exhibition. As for that, it shown that the texts and type size are arranged and tested to an average body and eye-level height. With comfortable head movements the visitors would be able to read the texts (Figure 5).

Figure 5. the typefaces and type size are arranged and tested to an average body and eye-level height.

V. CONCLUSION

In order to achieve the museum objectives and to be such an impressive museum, the Department of Museums Malaysia should continuously strategize the types of exhibitions and interface design structure so that the message of the exhibition can be communicated successfully and give positive impact to the visitors. Thus, this study would help any other museums, policy maker, exhibition organizer, government, or any other parties that related to exhibition on the exhibition element which can help them to convey their intended message to the visitors successfully. In addition, the Department of Museums Malaysia would provide training on interface design for exhibition to facilitate better understanding and have positive impact to the visitors. Furthermore, this study can help the other local museums to come up with attractive presentations of artefacts or historical exhibits to draw more visitors in order to convince the visitors to appreciate what they should appreciate.

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