

A FRAMEWORK OF INTEGRATED PARTICIPATORY TOOLS AND DIGITAL MEDIA FOR EFFECTIVE INTANGIBLE CULTURAL HERITAGE PRESERVATION IN MUSEUM

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Abstract:

Museum plays an important role in preservation of Intangible Cultural Heritage (ICH) to make it relevant to a culture and be regularly practiced and learned within communities and between generations. Digital media has become a very appropriate technique for presenting the content of ICH to new generations. Previous study argued that the digital contact networks enable the unique qualities of knowledge interchange. The 'real' object and the 'digital' object are disconnected without a supportive physical tool in a contact zone as an effective education in a museum. This research aims to study the potential supportive physical tools for digital media in enhancing the ICH education in museum. In context of ICH such as craft making, there are certain types of knowledge and manual skills are needed to hands-on study and practice because it is difficult to demonstrate on how to do-it. The participatory tools for digital media will engaged the museum's visitor not only in experiencing of museum's exhibits but also participate (doing) with the craft making process. Through this, museum visitors will more remember and appreciate heritage. This research covered three phases; interpretation, prototype, and evaluation. Throughout the contextual analysis of the literature review, this paper will discuss the conceptual framework in developing a prototype of integrated participatory tools and digital media for ICH preservation in museum.

Keywords: Participatory Design, Digital Media, Intangible Cultural Heritage, Museum

Introduction

Museum plays an important role in preservation of tangible or intangible cultural heritage. One of the methods in museum education process is through the use of digital media in the museum halls. Digitalization has become a practical necessity and reality with technological interventions to provide access to information resources, preservation and dissemination as required, anywhere and at any time (Singh, 2012). However, a study to determine the level of ICT (Information and Communication Technology) use by museums in Malaysia has been done in 2010 (Juliana, Puteri, Murni, 2010). The result of the study concluded that the level of ICT used in museum exhibition halls is very low and not encouraging. Malaysia museum sector is left far behind almost thirty years compared to other developed countries. Only for the past ten years, more Malaysian museums are shifting their roles to become modern museums by adopt some modern application with combining traditional culture and ICT elements together. In order to increase the use of digital media in Malaysian museum, several studies have been done locally such as:

- **E-Museum:** A web technology for traditional ethnic textile as an effort to preserve cultural heritage through knowledge management initiatives (Noor, Laila, Abdulah, Razali, Adnan, & Adilah, 2013).

- **Heuristic Evaluation for Virtual Museum on Smartphone:** A virtual museum that give user experience in visualizing the real museum (Tehrani, Zainuddin, & Takavar, 2014).
- **Taiping's Tempo and Urban Tempts:** A commercial oriented virtual living-street museum (Rahman, Zakaria , Noor, Yaakob, Kamarudin, Fuad, & Ismail, 2013)
- **Virtual Heritage :** An animated panoramic illustration of Kota Kuala Kedah (Jabbar, & Jusof, 2014)

Literature studies shows that most of the previous research towards the tangible heritage; folklore materials, monuments, and traditional structure. Documentation is a key aspect of modern technologies in preservation but an inventory that is not actively used and updated can lead to the death or abandoned of the practice (Alivizatou & Marilena, 2011). A different approach is needed to be done for ICH; drama, music, dance, folk games and rites, martial art, handicrafts and cuisines. In context of ICH, there are certain types of knowledge and manual skills are needed to hands-on study and practice because it is difficult to digitalize (Carrozzino, Scucces, Leonardi, Evangelista, & Bergamasco, 2011). The word 'Intangible' means artistic activity or technique that is formless. They are designated as cultural properties when represented by the people or the organization that have artistic or technical ability and the products becomes a witness to the performance of intangible activities (Rusalić, 2009) (Harun, 2011). In order to safeguard intangible cultural heritage, a different measures are needed and it must remain relevant to a culture and be regularly practiced and learned within communities and between generations (Alivizatou, 2012).

There is no doubt about the important use of digital media content because the information can be easily distributed and shared. Traditional museum only allows participants to engage with objects on the museum's terms and limited by constraints of time and place. In the digital domain these constraints apply differently, and engagements can take place over a wider time frame (Alivizatou, 2012). However, the use of digital media to represent the real ability of an objects in museum been argued by Hogsden and Poulter (2012). The collaborations between the digital and real object will give a participatory experiences to the museum visitors effectively. Participatory visual and digital methods are not a total solution, but are best combined with engaged ethnography and a focus on process (Gubrium, Harper, & Otañez, 2015). Nina Simon (2010), who is an adjunct professor of social technology in the University of Washington Museology program, she believed that the majority of museums will integrate participatory experiences as one of many types of experiences available to visitors in the next twenty years. The collaborations of digital and real object allow us to increase the concept of object-person contact, and to increase the range of knowledge. The real objects in museums and digital objects online can transform ideas and form new understandings and establish connections between people.

The studies of Hogsden and Poulter (2012) recommended that research is necessary to push the boundaries of what objects, both physical and digital, can do. Moreover, new networked collaborations around both physical and digital representations of objects are needed to change the infrastructure of the digital contact network and to test how the theory relates to the practice.

Based on the previous literature study, the researcher found that the museum cannot rely solely on the use of digital media in educating the visitors on authentic knowledge and skill for ICH. Jesper Simonsen and Toni Robertson (2012) emphasized that effective design should involve a co-evolution of artefacts with practice because of the close relation between work and technology. In order to preserve the ICH effectively, a supportive physical tool for authentic experience is need to be develop urgently.

Participatory Culture towards Participatory Design

According to Jenkins (2006), participatory culture is not compulsory for every member to contribute, but all must believe that they are free to contribute when ready and that what they contribute will be appropriately valued. This culture has put a low barriers to public creative expression and public engagement, strong support for creating and sharing the creation with others, and frameworks for formal and informal mentorship to the beginners. Participatory culture is not just about producing or consuming user-generated content, but it is also showed through diverse forms of relationship, expression, collaboration, and distribution (Giaccardi, 2012).

In a museum exhibit, digitization and accessibility of content has become a top priority in participatory museum (Simon, 2012). In order to manage participation in an institution, it is very important to have design experiences that invite continuing audience participation sustainably. Jenkins (2006) emphasized that the new participatory culture is taking shape at the connection between three trends which is new tools and technologies, Do-It-Yourself (DIY) media production, and the integrated media across multiple media channels. All these three trends have changed the way media consumers relate to each other.

Understanding practice is the fundamental for participatory design because it is driven by a consistent socio-technical approach that enhances the context between process and practice in technology use (Simonsen & Robertson, 2012). Participatory design is a concept where anyone can contribute, and it is viewed as important to consider and evaluate all ideas equally (Roussou, Pujol, Katifori, Chrysanthi, Perry, & Vayanou, 2016). Simon (2010) mentioned that the effective participatory design for museum should involve institution, participants and audience. The best participatory projects create new value for the institution, participants, and non-participating audience members.

Based on the participatory trends stated by Jenkins (2006) and the characteristics of effective participatory design by Simon (2010), the researchers adopted the participatory culture concept to enhance the visitor experience through the integrated use of multiple media in museum exhibit instead of rely solely on the digital content itself. In this research, integrated participatory tools and digital media also can be understood as a process of media interactivity and contribution between the digital media, physical tools, the museum institution and the visitors to enable the experience of craft making process.

Digital Media in Museum Exhibit

After a more recent critique has argued on museum as a temple of collections of object, ICH has arisen as framework for reimagining the museum collections and role as a public institution (Alivizatou, 2012). Between the 1950's until present, lot of experimentation and research in exhibit museum design has been done to educate the museum visitors. Touchable objects, interactive exhibits, video and computer units, larger print and more readable label script have all been tried with varying success (Nichols, 2016).

Digital Media is the variety of materials: text, database, audio, film, image. It is used in various ways for the purpose such as medical records, DVD movies, multimedia art presentation, data collection on consumer behaviour, scientific databases, and museum catalogue (Lusenet, 2002). The digital technology provides a wider way to improve and extend traditional museum exhibit through the digital content. This content introduced interactions between visitors to museums and delivers the information that is impossible to be presented by traditional museum exhibition (Rizvic, Pletinckx, & Okanović, 2015)

Nowadays, tangible and intangible cultural heritage presentation and preservation is significantly enhanced using information and communication technologies (ICT) whether inside or outside the museum, particularly computer graphics and multimedia. A variety of technologies can be integrated to create a digital presentation of tangible artefacts like

sculptures, buildings, and cities or intangible artefacts like, dance, handicraft, music and folklore, depending on the heritage to be digitized (Adabala, Datha, Joy, Kulkarni, Manchepalli, Sankar, & Walton, 2010). This new technologies offer exciting opportunities for individuals, groups, and organizations to store, process, and produce information (Rada, 1995). However, Intangible cultural heritage must remain attentive to the broader significance of information, including the practical, political, and moral impact of its proposed regulation (Brown, 2005).

Why Use Participatory Tools and Digital Media In Museum To Preserve ICH?

The current situation in Malaysian museum was called more researchers for further study in enhancing the use of digital media in museum exhibit. Previous research has proved that the use of digital media able to help the museum to keep the authenticity of heritage knowledge through documentation, preservation and accessible to the present and to future generations in long terms. A co-evolution of artefacts with practice also needs to emphasize in producing an effective participatory design (Simonsen & Robertson, 2012).

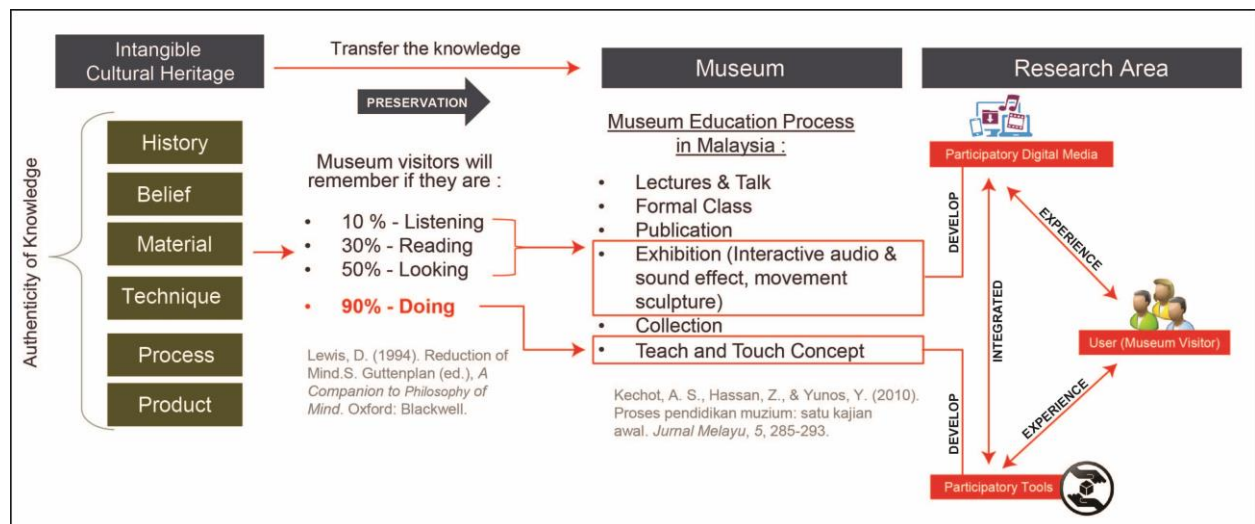


Figure 1 : Research Overview

The museum plays a role in maintaining the authenticity of knowledge about the history, beliefs, material, technical, process, and types of products of ICH continuously. Those knowledges presented to museum visitors through the museum education process. According to a local previous research, museum education process in Malaysia conducted through six methods which are by lectures and talk, formal class, publication, exhibition, collection, and teach and touch concept. (Kechot, Hassan, & Yunos, 2010). The theory philosophy of mind by Lewis (1994) mentioned that the museum visitors will capture and remember the information from musium; 90% by doing, 50% by looking, 30% by reading, and only 10% by listening. Based on Lewis theory and museum education method in Malaysia, this paper found that the highest impact in education process are from the exhibition and teach and touch concept. The exhibition through interactive audio and movement sculpture contributed in listening,reading and looking, while the teach and touch concept contributed in participation of visitors by doing.

This research overview explained the needs of improvement on presented digital media content into participatory digital media, and the improvement of teach and touch concept into a participatory tool. The participatory concept will allow the education process happen in between the integration of digital media and physical tool, and museum visitors in

a better way. The museum visitors will able to get fully access and memorize all the knowledge from museum exhibit effectively and indirectly preserve the authenticity knowledge of ICH.

A Framework of Participatory Tools and Digital Media for ICH

This paper will describe on the potential framework of participatory tools and digital media through three phases. Each phase comes with different methods for different research objectives.

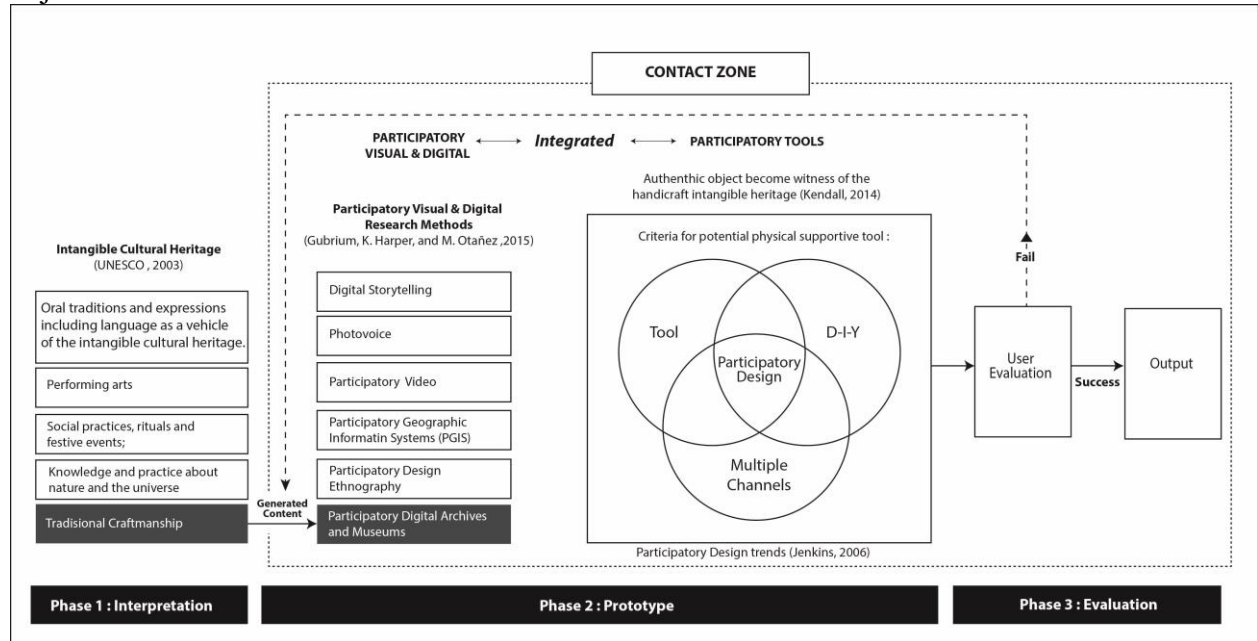


Figure 2: A Framework of Participatory Tools and Digital Media for ICH

Phase 1: Interpretation

Based on the categories of ICH, traditional craftsmanship was chosen to be applied on this framework because of the valuable knowledge on theories and skills. The researcher interprets the identification, characteristics, vocabularies, and skills of craftsmanship to generate the knowledge into digital content. Experience with narratively, observation, and in-depth interview with the craft producer were part of interpretation phase to get the depth understanding and the authenticity of the knowledge.

Phase 2: Prototype

There are various methods in producing digital media for heritage. Previous related research shows that audio recordings are most suitable for capturing music or spoken language (Robin Letellier, Rand Eppich, 2015), rituals and dances are best captured in videos (Papangelis, Chamberlain, & Liang, 2016); physical artefacts are best captured by 3D modelling, 3D scanning, or photography, and computer animation (Rizvic, 2014). Recently, Gubrium, Harper, and Otañez (2015) introduced six types of participatory visual and digital methods in heritage preservation which is:

1. Digital storytelling

Digital storytelling is a workshop-based process in which researcher create autobiographical narratives about an important moment in their lives and then use digital editing software to create their narrative with digital images, video, text, and sound/track to create an interesting short video.

2. *Photo voice*

Photo voice is a participatory method in which researcher take photos in relation to themes, participate in generative conversations around selected photos, and then display and discussion session around the photos in an open forum setting (Wang, Caroline, 1999).

3. *Film and video*

The video making is a group effort approach in capture the movement, audio and sequel narrative. Video making can be highly collaborative and reflecting social concerns.

4. *Participatory Geographic Information Systems (PGIS)*

PGIS method requires more resources that other kinds of participatory digital research because it involves the social production of geographic knowledge and the use of cartographic tools to make maps (Gubrium & Harper, 2013).

5. *Participatory design ethnography*

Participatory design ethnography method is a mode that interconnected between social science, art, and user-focused technology. Users will get a better understanding on certain culture through multimedia materials. A website designed to present and the real situation on the real field of an occasion or festival. The user encouraged to adopt the perspective of the performer of the culture and ethnographer within the digital environment (Gubrium, Harper, & Otañez, 2015).

6. *Participatory digital archives and museums*

Participatory digital archives and exhibitions are created when a group work together to create a web-based interface where users may access a multimedia collection of visual, audio, and text files (Gubrium & Harper, 2013). This method begins with a collection image of objects for display in digital, followed by a design and interpretative team, a process for making decisions about how material will be presented, and finally approach a target audience of users. Digital archives require some technical skills to create and maintaining the online interface.

Based on those participatory digital and visual methods, this research adopted and focussing to the participatory digital achieve and museums method as a guide to develop the framework. The method is directly for participatory museum purpose and the process is applicable for ICH than the others. The prototyping process went through the methods of system overview, storyboard and implementation.

The participatory digital integrated with the use of participatory tool to enhance the hands-on learning skill. The prototype of participatory tools developed by referring to the characteristics trends of participatory design which is (Jenkins, 2006) :

1- *Tools*

The participatory tool has to come with new tools and technologies to enable the users to store, interpret, suitable, and recirculate with the content.

2- *Do-It-Yourself (DIY)*

The participatory tools with DIY concept will train the users to deploy with the technology effectively.

3- *Multiple Channels*

The participatory tools have to be able to integrate with multiple channels but affordable to the user or institutions.

Phase 3: Evaluation

The result of the framework based on the user experience feedback towards the use of the integrated tool and digital media. A group test survey conducted with different participants at a selected museum in Malaysia. The evaluation of this research emphasis on the knowledge

legitimacy adopted from the “framework to evaluate participatory research” (Blackstock, Kelly, & Horsey, 2007). This category of evaluation referring to the influence of local knowledge on the outcome of the research.

The evaluation of this research conducted in qualitative. Blackstock et.al (2007) stated in their framework that evaluating participatory research of participant perception, learning and interaction, the evaluation must be informed by the voices of the participants themselves.

Conclusion

Malaysian museum sectors are finding ways to preserve our Intangible Culture Heritage especially for traditional craftsmanship. Museum sector in Malaysia are moving at a slow phase but it is seen increased drastically over the last ten years. Various researches have been done in order to increase the use of digital media in museums but it is found that a different method are needed to strengthen the intangible skills and knowledge among new generation. The combination use of supportive physical tools and digital media is seen an effective ways in attract interest and educate the new generations. The participatory tools will engaged the museum visitor not only in experiencing of museum exhibits but also participate (doing) with the craft making process. Through this, museum visitors will more remember and appreciate heritage. Thus, this framework could potentially be used in enhancing Malaysian museum sector and indirectly preserve our ICH continuously.

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