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Augmented Reality Book for Preserving Malay Traditional Dances: A Case Study

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ARTICLE INFO	ABSTRACT
	Malaysia is known throughout the world for its multiculturalism. As a multiple ethnic country, many countries are looking on Malaysia as a great example of peaceful co-existence races and belief where all the ethnic groups in Malaysia live together in harmony and enrich the country's cultural lifestyle. Within that, Malaysia also consists of a collective blend of food, traditions, clothing and customs. Towards that, traditional dance is the treasure of art and culture. Therefore, with modern era and technology nowadays, it has led the younger generation care less about traditional dance. Beside, a printed media such as bunting, banners and pamphlets are less effective in promoting the traditional dance. By concerning this, this research study aims to preserving the traditional dance among young generation towards new media technology. In explaining the issues, a case study through quantitative approaches of questionnaires survey and interviews was used in studied the uniqueness of traditional Malay dance and further proposes a new approach for preserving the traditional Malay dance awareness among the young generation. The research significantly impacts the publics particularly on the new generation towards uniqueness of traditional dance in Malaysia. It is also contributes to the National Heritage Department and the National Arts and Culture Department where the documentation could be used as a collection of cultural and heritage books in the form of new media technology for young generation.

1. Introduction

Traditional dance is another aspect of many traditional Malaysian cultures that many would argue is rapidly changing in the face of globalization. Moreover, by looking for the traditional dance uniqueness in Malaysia, that is rarely perceived and unpopular among young generation in Malaysia. Each state has its own form of their traditional dance. Visual communication plays an important role in our daily lives. Furthermore, the present generation of Y and Z are more interested in picture messages rather than an old style message, which contains too many words and can bore them. If visual communication is used and applied in the right way, it will contribute to various benefits in countless angles. In the era of modernization, society gains and provides information in a limited amount of time so, visual communication helps to disseminate and broadcast information with quicker and even with better ideas.

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As the time passes by today, it makes some past event is forgotten and there is no means to retain it especially on the heritage history. Moreover, due to the today modern technology, the younger generation has not exposure and care about our heritage including traditional dances and it causes them unfamiliar with the history. Extensively, existing materials such as pamphlets and poster on promoting heritage history do not really attracting the young generation to know about the heritage and concern to preserving it. With this issue, one study was conducted among Public aims to preserving the traditional dance among young generation towards new media technology. In explaining the issues, two research objectives was formed in studied the uniqueness of traditional Malay dance and further proposes a new approach for preserving the traditional Malay dance awareness among the young generation. This research significantly impacts the publics particularly on the new generation towards uniqueness of traditional dance in Malaysia.

2. Exploratory Study on Augmented Reality Book for Preserving Malay Traditional Dances among Young Generation

2.1 Malay Traditional Dances in Malaysia

Each ethnic groups in Malaysia has its own dance forms, which can be characterizing by its culture and identifying with certain religious practices which are often performed in wedding ceremony, cultural shows, religious ceremonies or other public events. The dances of the 3 major racial groups in Malaysia are categories as Malay dances, Chinese dances and Indian dances.

Malay dances or also known as Tarian Melayu portrays the customs or adat resam and culture of the Malays. It depicts the true nature of the Malay people and their way of life. Generally, Malay dances are divided into two main categories, which are the "original" Malay dances and "adopted" Malay dances. The "original" Malay dances originally encompassing of Sumatra, the Malay Peninsular, Singapore, the Riau Archipelago and Borneo, and its origins can be traced back to the early Malay civilizations. While, the "adopted" Malay dances are influenced by foreign cultures due to political and historical events. The various forms or styles of Malay dance are further categorized by its beats (rentak) and rhythm (irama).

2.2 New Media and Technology Influences Traditional Dances Awareness

Taken in the retail industry for marketing purposes, "pop-up" book style has become a popular concept for products that want to attract the attention of the people[1]. Pop-up book moreover means a book with a page that appears when opened in three-dimensional form. The term pop-up has been used very easily to illustrate something used for the short term to get more exposure about a project or information because it is an economic model for social interaction with interested users. Therefore, a pop-up book is not just designed for children. Instead, these books containing an innovative tools for teaching anatomy, predicting, and telling the future[2]. Moreover, this pop-up book gives many different effects to readers[3].

When technology grow, television advertising or TV ads is a very influential medium as it is a major aspect of culture, news sources, education and entertainment to the public. Television also is a unique and dynamic advertising medium that offers stimulus to two senses, sight and sound. The fact that TV Ads takes place in real time and using both audio and visual communication channels simultaneously that has multiple effects on the audiences.

In contrast to today's age, most people are more likely to have gadgets to access advertisement released on television. According to Johnson (2011)[4], augmented reality has existed for more than three decades. Raphael[5] further explains that the purpose of augmented reality is to add a layer of information and meaning to a real place or object. Moreover, Kipper and Rampolla[6], reported that incensement of augmented reality takes digital information such as images, audio, video, or touch sensations and directs them into a realistic environment. While augmented reality can be used to improve all senses, the most common use is visual. Raphael[5] further noted that increasing uses of advanced gadgets with more internet access was enabled the augmented reality extended to be more accessible to the general public. Increased augmented reality also offered many opportunities for the future[7].

2.3 Principles and Elements to be use in Augmented Reality

In producing augmented reality product, a good designer needs to have a good eye in assessing a composition, can see the aesthetic and communicative potential of the subject in a picture. In this study, the technology medium used must include the photograph of human figures or characters that are dancing so that the message to be delivered becomes clearer. Other than that, typography is also placed on this new media as content that can help in delivering the message more clearly. This is because; texts show a positive impact on the time those readers spending on viewing an advertisement [8]. In addition to generating content, fonts are a very important thing to reveal the content is interesting and clear. Fonts can be divided into six main categories of serif, sans serif, script, black letter, novel, and dingbat[9]. In producing an augmented reality

book, the use of serif and sans serif combination are the most appropriate. Serif is a rectangular, sharp, straight, curved, thin, thick or stroke-shaped font on its tip[9]. The sans serif font does not have a pointed tip, it looks even and thick which is very suitable to the type of theme used to portray the new medium technology.

The choice of color in producing an augmented reality book is very important as the color can bring a person's mood to life, help users to see and choose what they like [10]. Viewers also are more interested and turn their eyes on the use of colors that they are rare and vibrant in delivering the ideas and emotions to the audience. Consequently, the color must have an important role in marketing and advertising [11]. According to Krauser[9], "when the eye takes note of a pattern built from duplication of a shape, it generally recognizes the design in search of meaning since patter is unlikely to contain anything other than identical shapes, over and over." Repetition patterns can attract and entertain the eyes of an individual because not too many different patterns are used, just the same pattern returned. These principles of design are suitable to put into the new media that will be produced.

2.4 ADDIE Model for Design Development

ADDIE model is a teaching design medium, which means Analysis, Design, Development, Implementation, and Evaluation of learning materials and activities. Firstly, the Analysis phase is the basis for all other teaching design phases. During this phase, the researcher can determine the problem, identify the source of the problem and determine the possible solution in the study. This phase may include specific research techniques such as requirement analysis and task analysis. The findings of this phase often involve the research objectives, and the task list to be directed. The results of this analysis will be the source for the design phase.

Second, the Design phase involved the use of findings from the analysis phase to designing strategies for developing the study. During this phase, the researcher creates outlines how to achieve the research goals determined during the phase analysis and further expands the basics of the study. Some design phase elements can be included such as writing descriptions, target populations, conducting learning analysis, writing aims and objectives, selecting the methodology system to use and composing the final work to be implemented. The results of the design phase will be the source of information for the development phase.

The Development stage is built upon the phase of analysis and design. The purpose of this phase is to produce a lesson plan and research materials. During this phase

the researcher will develop ideas, media to be used and supporting documentation to produce materials for the success of the study. It also involves media such as computers, gadgets and more.

After that, the Implementation phase refers to the presentation of planned ideas whether they are based on laboratory or computer-based. The purpose of this phase is the delivery of effective and efficient instructions. This level must be aligned with the researcher's understanding of the material produced, whether or not it is true. It must ensure the knowledge of the researcher from the research assignment towards the job.

Lastly is the evaluation phase. This phase measures the effectiveness and efficiency of the instruction. Evaluation should occur throughout the entire research design process - in phase, between phase, and after implementation. Evaluation may be Formative or Summative. Formative evaluation continues during and between phases. The purpose of this evaluation is to improve the material produced before the final version is implemented. Summative evaluation usually occurs after the final version of the instruction is implemented. This type of evaluation assesses the overall effectiveness of the instructions. Data from summative evaluation are often used to make decisions about the resulting material.

3. Methodology

Explanatory study is to explore an unknown area or to investigate the possibility of conducting a particular research study. In this study is to explore the authenticity and uniqueness of the Traditional Dances is still present or known to the public, especially to the young people. After coming into contact with the problem, researchers are looking for ways to maintain the uniqueness and distinctiveness of the dance and the attractive medium to develop in today's era. Explanatory studies are also conducted to develop, improve and test a medium whether it is effective or not.

3.1 Research Design

The researcher was conducted this research using quantitative method as a whole because the researcher solely conducted a survey using questionnaire set. A questionnaire survey was used to get information and feedback from respondents towards the issue. Previously, the researcher used interview method to find and get the problem statement for this study to strengthen the problem and process of doing this research.

The survey questionnaire is a research method that using the list of questions written, and the answers by the respondents are recorded. In other words, it also communicates with people but not through conversa-

tions, it uses paper and writing answers. The survey questionnaire is designed according to the researcher's creativity whether it is point or answer in writing. The question is broken into three parts so that questions are not fibrous and are systematically arranged and easy to understand step by step. The question is designed to get information, help in the study and get the opinion of the respondents.

In this study, researcher conducted surveys with public aged 13 to 27 years old representing a handful of age groups including generation Y and Z. Selecting the public as the samples because in the survey questionnaires there is a question of what kind of dance they know and do not know so, public is the best choice because of the weight both sides and fair and just. The research design and strategy for this study as shown in Figure 1.
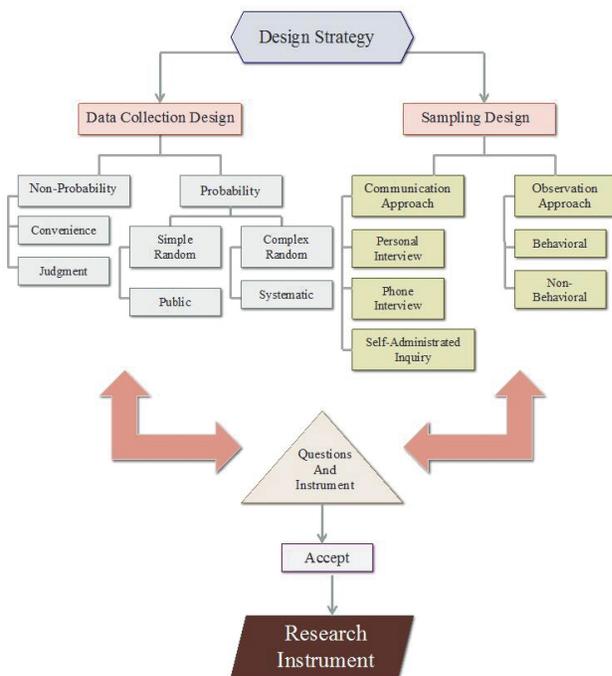

Figure 1. Research design

3.2 Data Collection and Analysis

The survey questionnaires were distributed by the researcher themselves to a sample of 100 participants. 50 people were selected around the Section 7 Commercial Center of Shah Alam and another 50 person were chosen at Seremban City. The respondents were targeted based on their residential status in that area which mainly consists of students and youths. Do not focus on the criteria of respondent as it is targeted to the public at large. The survey question was distributed and collected at the same time by the researcher within the selected area for five consecutive days, which is from Saturday to Wednesday.
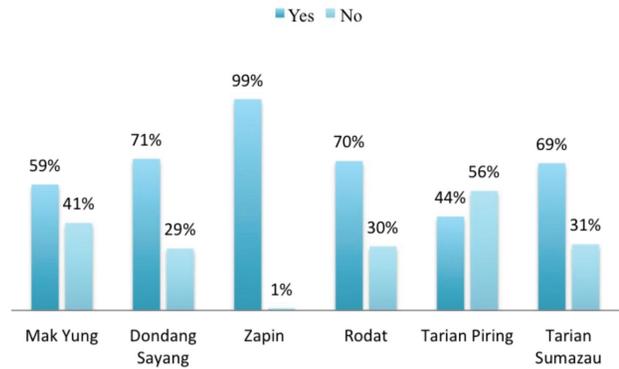

Figure 2. The type of traditional Malay dance

Based on the above charts and graphs, it is clear that the Zapin dance originating in Johor is the highest dance known to the respondents with 99% and 1% who do not know the Zapin dance. The second highest is Dondang Sayang from Melaka state as 71% respondents know it and only 29% do not know it. The third is Rodat from Terengganu, as much as 70% who know this dance and 30% do not know this dance. The fourth is Sumazau dance originating from Sabah, 69% respondents know this dance and 31% do not know this dance. The fifth is Mak Yung from Kelantan, there are 59% respondents who know this dance and 41% who do not know this dance. Sixth or even the lowest percentage is Tarian Piring originating from Negeri Sembilan as much as 44% who know about this dance and 56% do not know and this means most respondents do not know about this Tarian Piring.
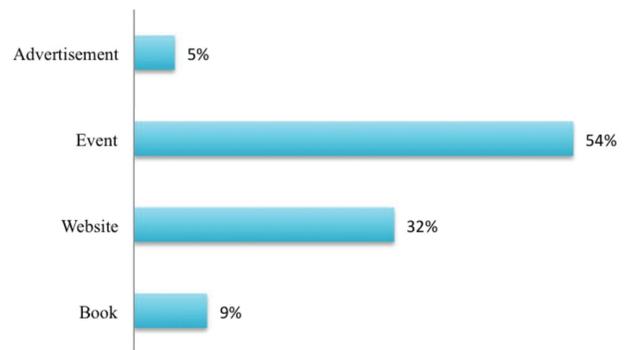

Figure 3. Medium to get information about traditional dances

In point of fact, the medium that is often used to obtain the information about traditional dance is through an event with the highest percentage of 54%. Website is the second most popular medium of information on the topic of traditional dances. Only 9% of the information is obtained through books and 5% through advertising. It indicates that traditional dances are popular found out through events which may consist of cultural nights and local fes-

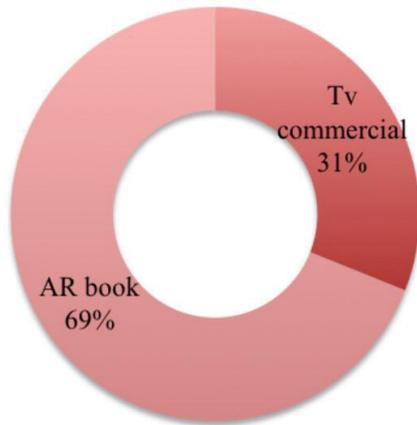tival rather than only leaflets and brochure advertisements distributed.

Figure 4. Demand for new media as a medium for maintaining traditional dances in Malaysia

A total of 69% of respondents chose the Augmented Reality Book as a new medium to protect and preserve traditional Malaysian dances. It demonstrates that the respondents are eager to see a new type of medium to sustain the traditional Malay dances .The other remaining 31% has chosen the common television commercial as a new medium in order to preserve the traditional dances.
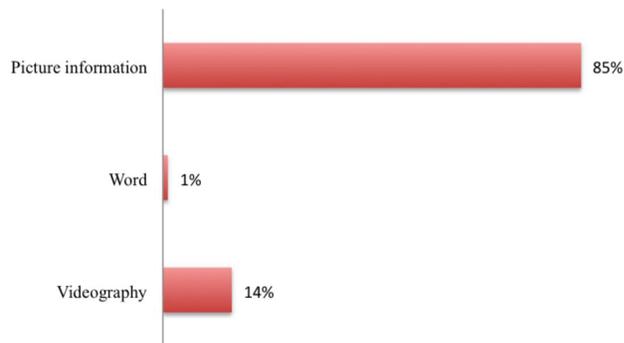

Figure 5. New media types to retain traditional dance in Malaysia

As much as 85% choose pictorial information as one way to put in new media to maintain traditional dance in Malaysia. 14% choose videography and only 1% chooses writing. This means that the respondents refuse to have a new media which contain too much text and words as compared to the pictures and images. They would prefer to have something more appealing to see and something interesting to read which can be full of imagery.

Significantly, a total of 74% of the participants choose the concepts with the use of something real to be applied in the new media to be produced. It shows that nowadays people are looking for something intrinsic yet realistic

concepts rather than caricatures or even made-up animations in order to appreciate the new media to retain the traditional dances in Malaysia. On the other hand, 15% respondents choose the concept of cartoon and a minority of 11% choose fantasy concept.
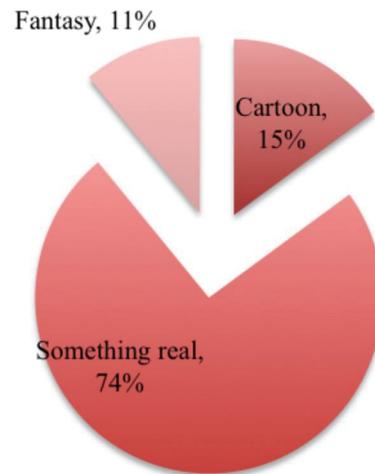

Figure 6. The concept of new media to retain traditional dance in Malaysia

4. Design Development

4.1 Design Development for a New Book

In the beginning, the researcher had searched and explored the size and shape of the existing book in market as a reference material. The process of searching this is conducted in libraries and bookstores. The final size of the product will be the result of the observations. From that, researcher also got an idea on how to produce a new Tarian Piring book form so that it looks more interesting. In researcher observation and it also an opinion from someone while doing a survey, size and shape play an important role because it gives a positive impact to the reader, if it is too small, it will cause readers to read and retrieve the information in the book and if it is too big, it will make it hard for readers to carry it and keep it. Suitability must be taken so that it is easy in all respects, example the size of the writing in the book, the size of the image used and the way to hold and carry the book.

4.2 Sketches

In creating whatever designs and drawings, sketches are the first steps that are so prevalent. From where the idea comes, the arrangement and the colors to be used. First of all, the researcher made a few sketches to get a random idea on how to make a Tarian Piring book. In a few sketches, the researcher also makes the layout of the writing in the book, the size of the picture and the shape of the picture to be placed and the suitability of the layout

in the book. In order to make the book systematic and organized, the partition of each chapter is very important to make it easier and more structured. Researcher also made the book look more exclusive.

4.3 Design in Adobe Illustrator

After making the first step that which is sketches, researchers have also come up with ideas and the next step is to create a digital design using Adobe Illustrator. Researchers re-create the sketches in Adobe Illustrator according to the sketches that have been produced. The suitability of using Adobe Illustrator is that it is easy to play with the colors and use the right colors on the spot. It is also a shadow of the book to be produced. If the sketches are not very clear and still difficult to get ideas, in digital form it can be easily and quickly generated. The resulting book size is 8inch x 8inch equivalent 20.5cm x 20.5cm. The size is not too big and not too small. Many books are also produced in these dimensions. The researcher still maintains a lot of writing because this book is a '2 in 1' book, which means a reference book that can be a reference material and a reading material to the public and at the same time applies the concept of Augmented Reality that modernizes the book according to contemporary circulation. A widely used article is to preserve the authenticity of the information and the history of the Tarian Piring itself so that it does not lose the deck of the ages and Augmented Reality is used as a tool to attract and double inform because it has a video that facilitates readers to continue to recognize Tarian Piring without searching information on Google or to browse YouTube.

4.4 Virtualization Technology

The books that have been produced and printed only then can proceed to the next step. As already stated, the researcher produced an Augmented Reality book that implements the video inside it when it is scanned on the resulting book. The researcher uses the HP Reveal application to generate Augmented Reality. This app can be downloaded for readers outside of here to scan this Tarian Piring book. This app needs to be signed in first using a research account to get Augmented Reality results in this Tarian Piring book. Below are steps with images in creating Augmented Reality.

4.5 Implementation Process

After producing an Augmented Reality's book on Tarian Piring, researcher further conducted an implementation process to determining the effectiveness of the book with the public. The implementation process questionnaires were distributed to 40 participants around Section 7 Commercial Center in Shah Alam. The respondents

were targeted based on their residential status in that area which mainly consists of students and youths. The result revealed as below:

Table1. Implementation process

	YES	NO
Liked the color of the book	92%	8%
The color suggested		Red
The color gives feeling	83%	17%
Appropriate size	95%	5%
Composition and layout is easy to read	93%	8%
Text are easy to read and understand	95%	5%
Function as promotional item	100%	
Book is a very informative	100%	
Increasingly advanced era of technology and modernization	100%	
Book can convey information	100%	
Video in the book can be entertaining	97%	3%

5. Conclusion and Recommendations

5.1 Conclusion

The result of this study indicates that the new media technology that has been selected by most of the respondent is the Augmented Reality book as compared to pop-up books and television commercial. The youths nowadays moreover only focus on the contemporary arts and preoccupied with gadgets day and night without trying to know their own traditional cultures. Furthermore, printed media such as banners, bunting and pamphlets only 10% are effective for promoting the traditional Malay dance. Finally, the matter can be summarized is that the uniqueness of Tarian Piring can be preserved through the creation of Augmented Reality book for the younger generation which tend to choose new media technology in this endless era of technology advancement. Other than promoting the traditional dance to the upcoming generations, but also can help to maintain a long lasting exquisite arts and cultural heritage in the future.

5.2 Recommendations Based on the Findings

1) In term of element of designs, the heavy content of words than pictures should be reduced to a suitable quantity so readers will not feel bored easily.
2) The content can be directly scanned to produce the Augmented Reality concept automatically rather than scanning on the yellow vector only.

3) The digital book should have more Augmented Reality concept in the book not only focuses on the Tarian Piring dance video but also the history or the dancing equipment. 4) The book can be produced in English in order to attracting foreign tourist to read as it can be read by many people not just Malaysians.

5.3 Recommendations for Future Research

As this study had only focused on Tarian Piring which is a traditional Malay dance of Negeri Sembilan Darul Khusus, it is recommended that further studies should be carried out on dances from another state whether traditional or contemporary to see whether there are many or fewer similarities in the findings. Besides that, this study is only conducted in the area of Seremban city and Section 7 Commercial Center of Shah Alam. It is also recommended that further studies should be in other province in Negeri Sembilan and other states too. Furthermore, future research could explore on the interest of other popular dances in Malaysia as what really attracts the people to admire it and how they do it. Lastly, although Tarian Piring is not that famous to our people, it might be a good idea to keep our cultural heritage to not be forgotten in the future.

Additionally, the existing books that have been produced are in Malay language. The next recommendation is that the book is produced in English as well as to facilitate tourists from abroad to understand this Tarian Piring book if this book is sold or marketed in the museum. Foreign tourists will also feel close to having a book that is easy to understand the language they speak English. At the same time they will be interested in buying and being used as a collection of dance books originating from Malaysia.

In addition, the results that have been found during the evaluation process are the renewable technology of the Hologram media. It is also comparable and in parallel with the time passage that progresses forward when using this Hologram method. It also achieves the research objective of maintaining and preserving the Tarian Piring by using up-to-date technology media. At the same time the increasingly advanced technology media captures the hearts of young people who are in disguise and progress and they are keen to know about this Tarian Piring.

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