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M-Learning History of Malacca by Using Animated Video for Primary School Standard Curriculum (KSSR)

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ABSTRACT

M-Learning History of Malacca by using animated video for KSSR was developed with the aim to facilitate the users, especially students in Standard four (4) of Primary School Standard Curriculum (KSSR) who study the history of Malacca. The students will easily recognize and understand the history of Malacca and the administrative and trading system that took place during the Malacca Malay Sultanate. Development of animated application methodology is based on Multimedia Content Development (MCD) which is there are have five (5) phase: application idea creation phase, structure analysis phase, process design phase, development main function phase, and testing phase. It also uses Adobe Flash CS6 as a platform for developing the animation applications. The respondents involved in the development of this animated app consist of five (5) specialists in History subject and Information Technology (IT) professionals. The user respondents were three (3) students of the *Sekolah Kebangsaan Seri Puleh, Parit Raja, Batu Pahat Johor*. Using mobile phone technology, M-Learning History of Malacca can also provide facilities for students to learn anywhere and anytime. The evaluation of this application was carried out using questionnaires and interview session. It is expected that the M-Learning History of Malacca for KSSR is developed for the benefit of users, especially students and teachers of KSSR.

Key words: M-Learning, Malacca, Primary School Standard Curriculum (KSSR)

1. INTRODUCTION

The advancement of information and communication technology today is a stepping stone to educational progress. The rapidly expanding digital technology is making a positive impact on the world of education as it is transferable and easily accessible. Advanced developments that save time and energy use even facilitate the transfer and transformation of this information and take place in an unmanned cyber or virtual space, which is increasingly becoming a reality in the education world in Malaysia [1].

In applying the knowledge of history to the present generation, teachers play an important role in teaching together for the present generation especially the students. Studies conducted by [2], show that teacher effectiveness is closely related to teacher behavior that promotes student achievement. A teacher needs to play a very important role because the teacher is a role model to the students. If teachers teach using simple methods that help the students remember the history of Malacca, the students will be more interested in understanding the history of Malacca [3].

This study describes a mobile application on the history of the Malacca Malay Sultanate in 2D animation for the Android platform. The application displays the storytelling of Malacca's historical times in 2D animation. 2D animation method is applied in the application with the aim to attract students' interest in studying the history of Malacca. History should be understood, memorized and not memorized or memorized. Studying the history of the nation is at the heart of the formation of identity and the foundation of patriotism and love of the nation [4].

2. PROBLEM STATEMENT

History subject is a subject that conveys a lot of information about events happened in the past such as the history of the Malacca Malay Sultanate and many others. According to [5], every event or history that has occurred has important facts. However, most students find it difficult to remember the historical facts presented by the teachers at the school. Students think History is a difficult subject.

In addition, most students have stated that they have difficulty understanding the history presented by teachers during the teaching and learning sessions. This is because the level of student acceptance also varies by people and causes weak students to be left behind if they do not understand clearly and do not accept the input they have been given. In fact, other approaches used such as note modules and 'practice drill' exercise do not help students to recall historical facts.

The objectives of the research are as follows:

i. Design m-learning history of Malacca KSSR
ii. Develop m-learning history of Malacca KSSR to access the android platform-based design MMCD (Mobile

Multimedia Content Development)

iii. Assessing usefulness of m-learning history of Malacca KSSR in helping the students' understanding.

3. METHODOLOGY

The study conducted was descriptive, whereby the data analyzed were obtained from the questionnaire form distributed to the respondents. This method was used because it is easy to collect, effective, economical and practical data which can save cost, energy and time [6].

3.1. Sample and Population

According to [7], a sample represents the sum taken from all selected objects and is considered to represent the whole population. The study samples involved in this study were randomly selected for the purpose of testing the functionality and evaluating the design of the developed application interface. The study respondents consisted of three (3) standard four (4) primary school students and five (5) specialists consisting of experts in the field of History subject and Information Technology specialists.

3.2. Instrument of Study

A research instrument is a set of questions that contains several measurable items. There are two types of questionnaires used, namely, experts and students. All selected intrusions will be implemented based on the objectives set. The purpose of the survey instrument is to obtain user authentication and needs once the user has tested the application. The expert questionnaire is used to get the confirmation and feedback from the experts on the application being developed.

3.3. Student

The choice to use the interview method in obtaining preliminary information is due to its advantages. The advantages of implementing this interview method are that it is flexible and easy to get complete data at one time. In a study conducted by [8], there are three types of interview techniques, namely structured interviews, semi-structured interviews and unstructured interviews. Interviews were conducted with three (3) Standard 4 KSSR students to obtain feedback for the purpose of developing this animated application for user needs.

3.4. Expert

Expert verification form was used to obtain confirmation from a specialist in the development of M-Learning History of Malacca. Developers used the form to be given to expert for verification in the expert assessment of instruments. This expert verification form is divided into five (5) sections as shown in Table 1 below.

Table 1: Experts Questionnaire

Section	Aspect	Item
A	Respondent's information	6
B	Content design	6
C	Interaction design	6
D	Interface design	6
E	Comments and suggestion	1

3.5. Application Development

According to [9], the choice of systematic instruction design model is very important as it is a framework that can assist developers in designing and developing multimedia software more systematically. The MMCD methodology is a method for developing multimedia mobile applications and is specially developed to facilitate the development of mobile applications. This methodology has been designed based on Flash Light technology. There are five (5) main phases: Application Idea Creation Phase, Structure Analysis Phase, Process Design Phase, Development Main Function Phase, and Testing Phase. Figure 1 shows the phases contained in the MMCD methodology.

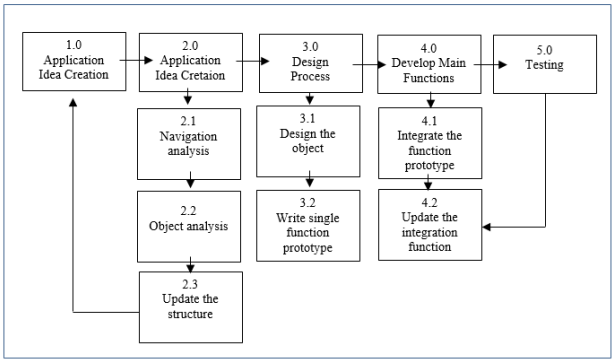
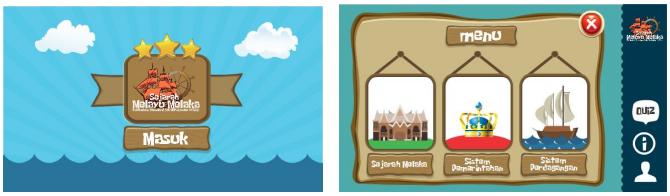
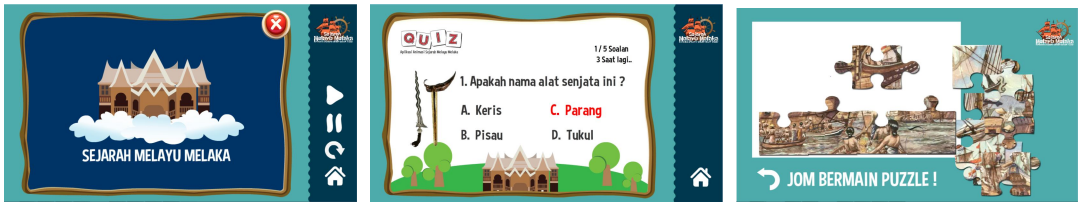


Figure 1: Phase of Multimedia Mobile Content Development (MMCD). Source [10].

One of the reasons for choosing this MMCD methodology is that application development can be completed in a short time and even optimized in terms of processing, data space and user acceptance. Second, by using the methodology, problems can be minimized during the application development process so developers do not have to develop the application again. Moreover, at the beginning of this phase of methodology, the focus on navigation and application design is one of the key elements of the application development. Figure 2 shows the full content of M-Learning History of Malacca for KSSR.



(a) Montage (b) Menu Option



(c) Mallaca History (d) Quiz (e) Puzzles

Figure 2: Partially Content the Application of M-Learning History of Malacca

4. RESULT AND DISCUSSION

Descriptive statistical methods were used by researchers to describe the information obtained from the respondents and will be processed, analyzed and evaluated by the percentage and frequency of the method used. The data obtained were analyzed using the Statistical Package for the Social Sciences (SPSS) version 22.0 software.

4.1. Content Design Analysis

Assessment experts and students have been asked to assess the application that has been developed. Content expert assessments are made of lecturers who are the experts in Information Technology and teachers who teach the subject of History for KSSR. Content design evaluation is done to determine the accuracy of the content included in this animation application. 90.0% of experts agreed that the application can help to attract students and animation video information displayed is a brief history of Malacca. This is supported by [11] who says that animated videos can be used as a learning tool that can be used at any time to convey specific learning goals.

However, 20% of experts disagreed with the question that the application can improve the understanding of the history of Malacca. This is because the experts consider the information in this animation application insufficient and suggest adding additional notes for reference. Furthermore, the expert disagreed with the application's functionality questions that it is without error and suggested re-testing all button functions and reviewing the voice of the narrator because the sound was not clear. Table 2 shows the expert ratings for content design analysis.

Table 2: Content Design Analysis of Experts

No.	Item	Disagree		Agree	
		(F)	(%)	(F)	(%)
1.	Will this application help to attract students?	5	0	0	100
2.	Can this application improve understanding on the history of Malacca?	4	20	1	80
3.	Does this application display less information?	5	0	0	100
4.	Does this application work without errors?	3	40	2	60
5.	Will this application be of interest to children?	5	0	0	100
6.	Does the animation video display brief information about the history of Malacca?	5	0	0	100
Total average		**0.17**	**10**	**60.0**	**90**

4.2. Interaction Design Analysis

The data obtained is the result of a checklist in the interaction design section. The experts assessed the m-learning applications of Malacca history with the item provided. In this section, there are six (6) questions. As part of this emphasis on interaction design in respect of navigation buttons, menus, icons, colors used in the development of M-Learning History of Malacca. 99.3% of experts agreed that the icons used are appropriate and facilitate the application icon of the M-Learning History of Malacca. Furthermore, the experts agreed that the menu displays a clear description, easy-to-see colors and animated animation within the story. This is

supported by the study by [12], which stated that this interactive multimedia application software has increased students' interest in their studies and has motivated them to learn.

However, 6.6% of the experts has questioned the functionality of the navigation button's design. The experts have found that the icons do not function as fully as the icons in Malacca factors as trade centers. Icons need to be positioned consistently so that users do not have to guess what to do next or use the mouse to click in hope that they can find a way to proceed [13]. The experts have recommended changing the icon to make it easier for users to press the icon. Table 3 shows the expert ratings for interaction design analysis.

Table 3. Interaction Design Analysis of Experts

No.	Item	Disagree		Agree	
		(F)	(%)	(F)	(%)
1.	Is the icon used appropriate?	0	0	5	100
2.	Is the menu display clear to students?	0	0	5	100
3.	Does the exit icon make it easy for students to exit this application?	0	0	5	100
4.	Is the navigation button design easy to understand?	2	40	3	60
5.	Is the selected color easy to see?	0	0	5	100
6.	Is the animation duration appropriate?	0	0	5	100
Total average		**0.33**	**6.6**	**4.6**	**93.3**

4.3. Interface Design Analysis

Based on the data obtained from the expert checklist in the design section of the presentation, 96.66% of the experts agreed that the title and font size of the application title are appropriate. In addition, the display size of this application is suitable for children under 12 years old and especially for 4th year students. In addition, the background music of this animated application are suitable to use within the application. It is supported by [14] that every individual has a different interest and there are no individuals in this world who share one hundred percent similarity. Therefore, there are experts who disagreed with the options available in the application of M-Learning History of Malacca for KSSR. This is because, there is a back button that is difficult to press and affects how the user see the text in the display. Table 4 shows the expert ratings for presentation design analysis.

Table 4: Interface Design Analysis of Experts

No.	Item	Disagree		Agree	
		(F)	(%)	(F)	(%)
1.	Is the title font size in this animation application appropriate?	0	0	5	100
2.	Is the display size of the application appropriate?	0	0	5	100
3.	Is the use of background color with the text of the animation application appropriate?	0	0	5	100
4.	Is the music in the background of this animation application appropriate?	0	0	5	60
5.	Does the button on this animation application work properly?	1	20	4	100
6.	Is the font type on the selection button suitable?	0	0	5	100
Total average		**0.2**	**3.3**	**4.8**	**96.6**

4.4. Respondents' Interviews

The assessment of the users is based on the interview session for KSSR students, especially the 4th year students at Sekolah Kebangsaan Seri Puleh, Parit Raja, Batu Pahat Johor. This assessment is carried out so that the students can understand better the history of Malacca in the subject of History of Primary School Standard Curriculum (KSSR). In this interview, the researchers asked the consumers regarding the need for the development of M-Learning History of Malacca, whether or not they have used this animation application and the problems faced when studying History especially for the topic of history of Malacca. Table 5 shows the results of the respondents' interviews.

Table 5: Results of the Respondents' Interviews.

No.	Question
1.	**Is M-Learning History of Malacca can be beneficial to you as a student?** S1*: "… Yes teacher, my application is very useful to me. Glad I want to remember the history of the Malacca. As I play I can see this. Two in one.. "* S2*: "That's right, benefit from this application. I want to remember the history of Malacca later "* S3*: "..Yes teacher, I love this app. And benefit me*

	and my best friend .. "
2.	**Like the teacher if not for the M-Learning History of Malacca?** S1*: "… I love teachers! because this application caught the attention of my friends and friends. There are animated gestures, cartoons, quizzes and puzzle games… "* S2*: ".I Like it teacher!, this teacher's application is beautiful. I want to use this teacher's animated app"* S3*: "I like it, this app is interesting"*
3.	**If M-Learning History of Malacca is uploaded in Play Store, do you want to download the application to enhance your comprehension skills on your own?** S1*: "Yes ... I and my school friends will be download application Melaka Malay history, I'm going to download this kind? I can't wait to use it ... "* S2*: "..I must download this application teacher .."* S3*: ".. my teacher must download .."*
4.	**Pleased do not want to remember that the history of the Malacca to M-Learning History of Malacca this?** S1*: "… Nice to meet you too. Because in this application all the information is available. There is a history of the Malay Malacca, ship trading center, there is a system of government. If I don't open my history book, I can see my teacher's application. It's fun .."* S2*: "..I'm happy teacher,"* S3*: "..It's fun for you because I have this animated app that's easy to remember about history."*
5.	**What are the problems that arise if you Kat, want to learn the history of the Malacca Malay Sultanate?** S1*: "..I am lazy to memorize my teacher's historical facts, because they are so many"* S2*: ".. Honestly, I have no interest in history, it's hard to remember all the facts of history."* S3*: "… Hmmm I'm not interested in my teacher's history, because I get bored quickly. It's important to remember that important names are like Parameswara. Hmm teachers teach me sometimes even I blur teacher. There are so many facts. I've always liked to play. So if my friends and I use this app, it's best. Because there are cartoons tell us about the history of the Melaka Malay… "*

5. CONCLUSION

In conclusion, the results derived from the study and analysis carried out found that m-learning of the history of Malacca for Malay Primary School Standard Curriculum (KSSR) has kept the characteristics of the researcher's needs. It assesses the level of usefulness of M-Learning History of Malacca based on the design in terms of content, interaction design and presentation design of the evaluation experts. Thus, the m-learning of the history of the Malacca Malay Sultanate helps in enhancing the knowledge and understanding of users, especially the students in four of the analysis carried out. Therefore, the objectives stated in this study are met.

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