



Faculty of Computer Science and Information Technology

***HISTORY QUIZ MOBILE APPLICATION FOR YEAR FOUR
PRIMARY SCHOOL STUDENTS***

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PRIMARY SCHOOL STUDENTS

LOH CHIN YIN

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requirements for the degree of
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**APLIKASI KUIZ SEJARAH UNTUK PELAJAR SEKOLAH RENDAH TAHUN
EMPAT**

LOH CHIN YIN

Projek ini merupakan salah satu keperluan untuk
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ABSTRACT

History Quiz mobile application is an Android mobile application mainly for Year Four primary students in Sekolah Kebangsaan Satria Jaya at BDC, Kuching. This application is proposed to help the learning assessment of the students and inculcate the sense of patriotism among them. Since the History Subject will be implemented starting 2014, students will need more exercises to handle the subject. However, the Malaysia's History mobile learning applications are limited. Therefore, a History Quiz mobile application is proposed to help to test their understanding about the History. For example, the History Quiz can be used after each topic is taught by the teacher to make the students recall what they have learned.

ABSTRAK

History Quiz merupakan satu aplikasi mobil telefon Android terutamanya untuk pelajar tahun empat sekolah rendah di Sekolah Kebangsaan Satria Jaya BDC, Kuching. Tujuan mencadangkan aplikasi tersebut adalah untuk membantu pembelajaran pelajar dan memupuk semangat patriotisme di kalangan mereka. Disebabkan Sejarah Subjek akan dilaksanakan mulai 2014, pelajar tahun empat perlu lebih banyak latihan untuk membantu meningkatkan pembelajaran mereka. Walau bagaimanapun, aplikasi pembelajaran Sejarah Malaysia adalah terhad. Oleh itu, aplikasi History Quiz telah dicadangkan untuk menguji tahap kefahaman mereka tentang Sejarah. Contohnya, History Quiz boleh digunakan selepas setiap topik yang diajar oleh guru untuk mengingatkan pelajar apa yang telah diajar.

Chapter 1: Introduction

1.1 Introduction

Nowadays, history is very important to the younger generation, who will become leaders in the future. Therefore, they need to understand the history of the nation. Our government also aware of the importance of History subject and concerned over students' poor knowledge about the nation's history (Noorazam, 2013). Therefore, in coming year 2014, History subject will be added as a new subject to all Year Four students in primary school, which means that they have to attend two history classes in a week. The History subject will be tested in school examinations (Noorazam, 2013).

1.2 Problem Statement

In the coming year 2014, the History subject will be included in school-based assessment system in primary school. This subject will be made a single subject for year 4 students and taught 60 minutes a week (Noorazam, 2013). Besides, it was reported that the subject will focus on the social-cultural aspects of the nation's history (Noorazam, 2013). This move comes from the awareness of the importance of history to younger generations (Noorazam, 2013). However, students nowadays have poor knowledge of the country history (Noor, 2013). Therefore, when the history subject implemented, students will need more practices to handle the new subject. For example, they need to look for more extra exercises as learning from books is not enough. However, the Malaysia's History mobile learning applications are limited. Therefore, a History Quiz mobile application is proposed to help to test their understanding about the History. According to Kleeman (2010), the students who take quiz after studying a subject can get a better result compared to those who do not take the quiz.

This is because practice test can help them to retain more information (Kleeman, 2010). Therefore, there is a need to propose history quiz mobile application for primary school students to test their understanding about the nation's history and improve their learning assessment.

1.3 Objectives

The project focuses on the following objectives:

- I. To evaluate and investigate the suitability of quiz interfaces for primary school history quizzes mobile application.
- II. To design and develop a history quiz mobile application for primary school students.
- III. To investigate how multimedia elements can enhance the learning of Year Four primary school students.

1.4 Methodology

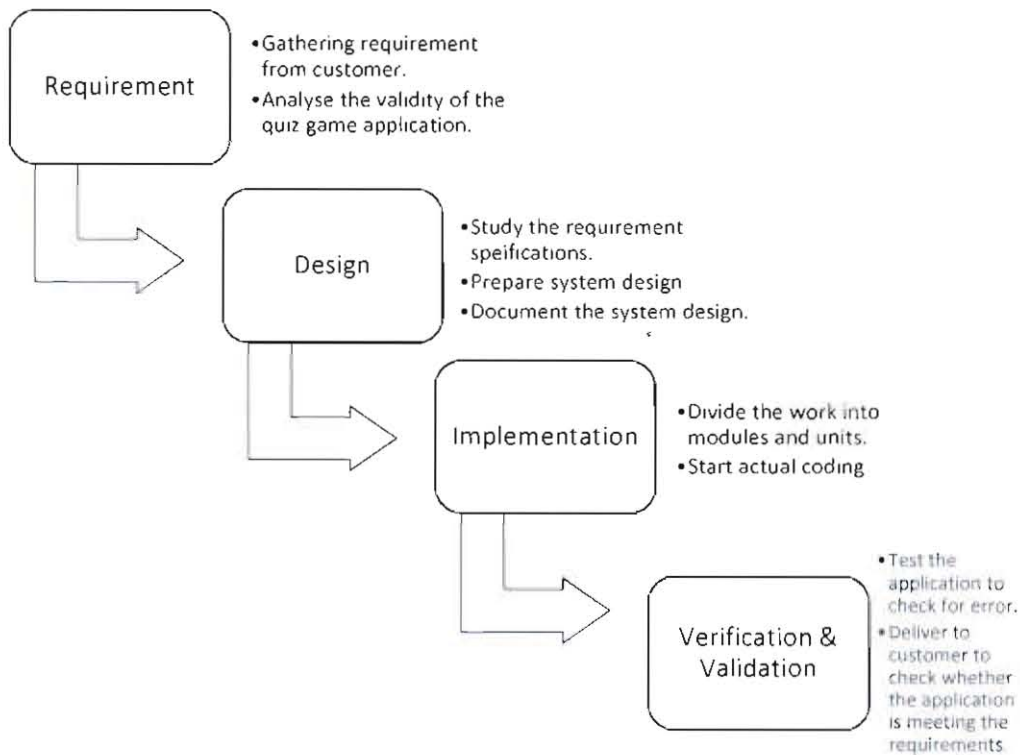


Figure 1.0: Waterfall Model of Proposed Application

The project will be developed based on the Waterfall model. In this model, the development of the History Quizzes mobile application is divided into four phases which are requirements phase, design phase, implementation phase, and verification and validation phase.

In requirement phase, the existing online quizzes and mobile application is reviewed and analyzed. After that, a comparison will be carried out to compare and find out the most suitable idea to develop the proposed mobile application. Besides that, an interview will be carried out at Sekolah Kebangsaan Satria Jaya at BDC, Kuching to understand the problem statements and user requirements.

In design phase, prototype of the mobile application is designed to show the flow of the application in detail using flow chart, use case and activity diagram for the next stage of implementation. Besides that, the interface of the application is also designed.

In implementation stage, the development of the mobile application is carried out based on the requirement of the target users and the design document which have been done previously in design phase. The mobile application will be developed by using Android platform. Besides, the Adobe Flash Professional cs6 and Actionscript 3.0 are used to design and develop the History Quiz Mobile Application.

During the verification and validation phase, the error of the application is tested again and again to detect and solve the coding error. Besides that, the prototype is delivered to the students and teacher in Sekolah Kebangsaan Satria Jaya to test whether the application meets their requirements.

1.5 Scope

This mobile application is developed using Android platform and mainly for the Sekolah Kebangsaan Satria Jaya Year Four primary school students. Besides, the topics of the quiz will follow the syllabus of History subject by Kementerian Pelajaran Malaysia.

1.6 Significance of Project

The significant of the mobile application is to help the learning assessment of the Year Four primary school students at the same time inculcate the sense of patriotism among them. Besides that, the mobile application will include the multimedia elements such as sound, graphic, video, and animation to make it attractive. In addition, the content of the application is closely related to the syllabus of History subject by Kementerian Pelajaran Malaysia.

Therefore, it is suitable to be used by the Year Four primary school students in Sekolah Kebangsaan Satria Jaya.

1.7 Expected Outcome

The outcome of this project is an Android mobile application known as History Quizzes for Year Four students which can be installed in any one of android-based smartphone.

1.8 Conclusion of Project Outline

This report consists of six chapters. Chapter one includes the introduction and problem statement of the project. This chapter also consists of clear objectives to be achieved. Besides, the methodology is also included. In the methodology part, the waterfall processes is chose as a guideline for developing the mobile application. The scope and the significant of project also included in this chapter. The last part of the chapter one is about the outline of the project which shows the relationship from chapters one to chapter six.

Chapter two focuses on the background study and literature review of the similar existing applications. In this chapter, the existing applications are reviewed and the strength and weakness of the existing systems are studied to find out the most suitable features to develop a good quiz mobile application. Besides that, the background of the education is also an important factor to study in this chapter. The literature review is the analysis of journals and articles, conference paper, research paper on the existing system. Based on the literature review, it can help to specify the requirements in the next chapter.

Chapter threc consists of the methodology, requirement analysis and application flow chart design and interface design. This chapter will focus on the requirements and specifications of the project. The user requirements are studied based on the literature review in previous chapter and the interview between the interviewer and teacher in Sekolah

Kebangsaan Satria Jaya. Besides, the flow of the project is designed in this chapter based on the requirements gathered.

Chapter four is about the implementation of the project. This chapter will focus on the development process of the application. All the works is divided into modules and units and the actual coding started in this chapter. The application is developed in Actionsript 3.0 hy using Adobe Flash Professional cs6 compiler and other software such as Adobe Photoshop and Adobe Illustrator.

Chapter five is about the testing of the prototype. After the prototype is developed, it is tested to check for error. After that, it is delivered to the teacher and students in Sekolah Kebangsaan Satria Jaya to check whether it meets the requirements. The comments from the target user will be used to improve the prototype and evaluate the prototype.

Chapter six consists of the conclusion and future work. In this chapter, the summary of the project is presented and the future enhancement is suggested. Besides that, the lesson learnt during the project is recorded with examples. In addition, the strength, weaknesses and the limitation is defined and is written in this chapter to enhance the current project in the future.

Chapter 2: Literature Review

2.1 Introduction

This chapter focuses on reviewing the existing history quiz mobile application. The literature review is done by collecting information of different quiz applications from websites. The review is about the evaluation of the suitability of quiz interfaces for the proposed mobile application. A few potential mobile applications are chosen from the websites and are analyzed according to the strength and weakness of the application.

2.2 Existing Applications

2.2.1 Quiz 1 Malaysia



Figure 2.0: Quiz 1 Malaysia. Reprinted from *AndroidPIT*. (Riki, 2013)

Quiz 1Malaysia is an Android mobile application that is about the basic knowledge of Malaysia. It is developed for Malaysian who wants to test their understanding about general knowledge of Malaysia. The application is developed in Malay language.

This application is developed using Android platform and the minimum Android version is 2.3.3. The features of the application are player can start the game, view the score, and quite the game. Besides, in version 1.4, player is also able to download the question and print screen from the application. The multimedia element used in the application is audio. For example, player can hear the buzzer sound when they answer the question correctly.

This application has a few strengths. According to Bhaskar, Prathap Naidu, Ravi Chandra Babu, and Govindarajlu (2011, p.45), simplicity is one the important characteristics to measure whether it is a good user interface. From the above screenshots, the interface design is very simple and clear. For example, the background is designed in a simple way so that the user is able to focus to the question easily without distraction.

Besides that, the interface is designed by using black and white colour to make a big contrast between the text and the background. For example, the designer used a dark picture as background with white text or white background with dark text. This can ensure the screen is readable and the user easily to concentrate playing the quiz without getting tired.

However, the application also contains weakness. For example, the interface does not provide the shortcut button for user to return to the main screen. This will minimize the user experience as user needs to finish all the questions in order to return to the main screen.

2.2.2 Malaysia State Flag Quiz



Figure 2.1: Malaysia State Flag Quiz. Reprinted from *Google Play* (k2studio, 2013)

Malaysia State Flag Quiz is another android mobile application that is related to the Malaysia's history. The quiz consists of three federal territories and 13 states flags. It consists of three difficulty level with 3, 6 and 9 answers to be chosen respectively. The target user of the application is student who is doing research or study about Malaysia's flag.

This application is an Android application. The strength of using Android platform is it is compatible with most of the smartphone worldwide. According to ABI Research Technology Market Intelligence (2013), 438 million handsets and 244 million smartphones are reported shipped during the 3rd quarter of 2013. Samsung sells more smartphones than Apple, Nokia, and BlackBerry combined. This means that developing the application using Android platform has the higher market value than other platforms.

The strength of the application is that the interface is organized in a structured way. For example, the answers are grouped by using small boxes to separate with the question. This can help to optimize the user experience when playing the game as they can differentiate the question and answer by looking to the interface.

However, the application has the weakness which is not user friendly. For example, the design of the interface does not provide shortcut for user to stop the game or return to the main screen unless he finishes all the questions.

2.2.3 Flag Quiz (Malaysia)

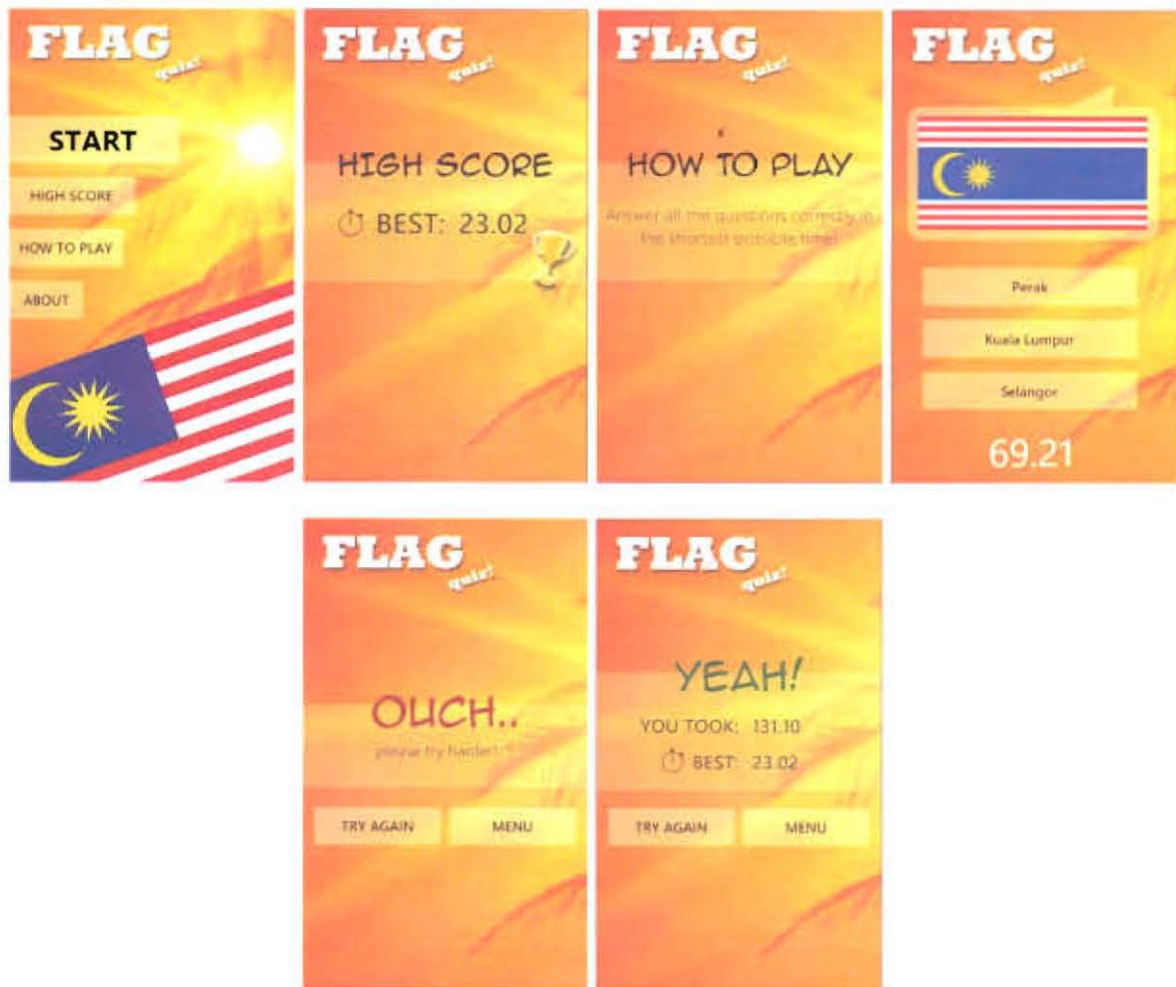


Figure 2.2: Flag Quiz Malaysia Reprinted from *Windows Phone* (MSP Malaysia, 2012)

Flag Quiz is a windows mobile application that is developed by MSP Malaysia – WPThree. This application is also about to learn the 13 states and three federal territories. This application is mainly for anyone who is interested to learn the flags or have already learnt them many years ago can try to take the challenge and answer all the questions correctly in

the shortest possible time. This application works with the Windows Phone 8 and 7.5. The application requirements are data services, HD720P (720x1280), WVGA (480x800), and WXGA (768x1280) whereas the supported language is in United States English.

The application has a few strengths. Firstly, the structure of the interface is very consistent. For example, the button of the application is grouped in an organized way. Besides, the help instruction is provided in the interface. With the help option, users are able to know how to use this application correctly. Besides that, the application includes the timer function in order to make the quiz game more challenging. For example, the user will obtain extra scores if he finishes the questions in the shortest time.

The weakness of the application is the use of background colour. For example, the interface the use of background colour is not appropriate in this case. Since the application is for user to answer quiz as fast as possible, therefore the background should not be too bright. This will cause the text are difficult to be read. In addition, the application also does not provide shortcut button for user to return to main screen. Furthermore, the instruction is not clear enough. For example, the number of questions is not stated in the application. As a result, user will not know when the quiz game is going to finish.

2.2.4 World History Quiz

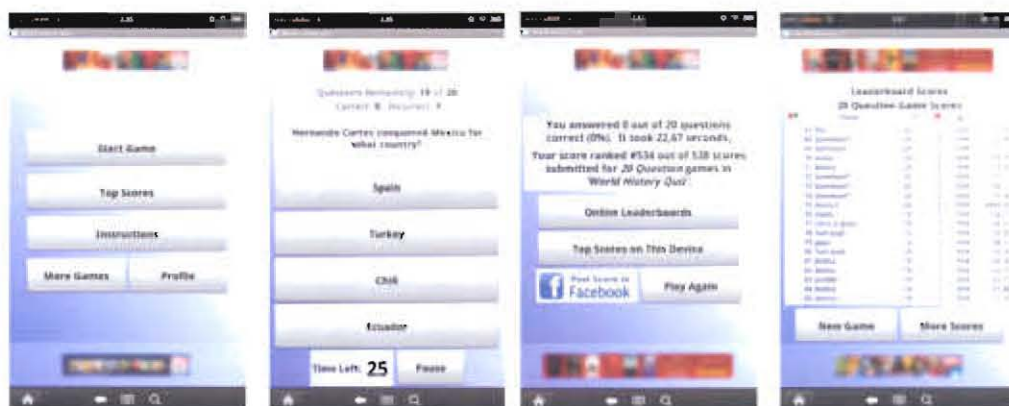


Figure 2.3: World History Quiz. Reprinted from *Google Play* (Brett Plummer, 2013)

This application is known as World History quiz. This is an android mobile application that is about the history of the world. The target users are those who want to challenge their knowledge about the important history events and people in the world since the last 1000 years.

The strength of the application is that the shortcut is provided in the interface. For example, during the game, user can return to the main screen by clicking the “home” icon. They can also choose to stop the game by clicking the “Pause” button. This is a good consideration during designing a good user experience interface as it allow player to take a rest and continue the game whenever they like. Besides that, the number of questions is also shown in the interface. Therefore, user is able to see the remaining question while playing.

The weakness of the application is the layout of the interface is not consistent. For example, the three different things which are the answers, the time remaining, and the pause button are arranged too close to each other. This may cause the user get confused when playing the quiz. Apart from that, the interface uses too many words to display the score of the user. This causes the user take a long time to get the information.

2.2.5 U.S. History Quiz 6th – 8th

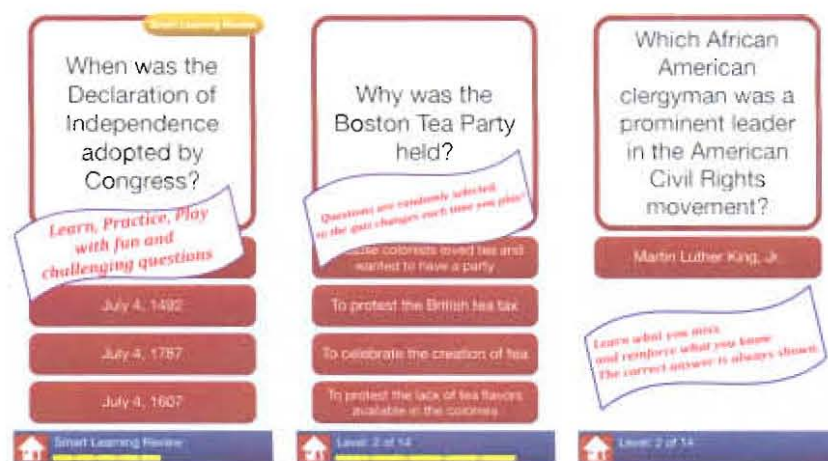


Figure 2.4: U.S. History Quiz 6th- 8th Reprinted from *iTunes* (Miaplaza Inc., 2013)