

MOBILE GAMIFICATION APPLICATION FOR ICT SUBJECT



UNIVERSITI TEKNIKAL MALAYSIA MELAKA

MOBILE GAMIFICATION APPLICATION FOR ICT SUBJECT

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**This report is submitted in partial fulfillment of the requirement for the
Bachelor of Computer Science (Media Interactive)**

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY

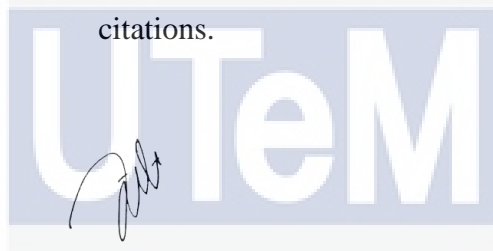
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DECLARATION

I hereby declare that this project report entitled

MOBILE APPLICATION: FOR ICT SUBJECT

Is written by me and is my own effort and that no part has been plagiarized without citations.



STUDENT : _____ Date: 16/8/2017
 (SITI HIDAYAH ABD RAHIM)

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I hereby declare that I have read this project report and found

This project report is sufficient in term of scope and quality for the award of

Bachelor of Computer Science (Interactive Media) With Honours.

SUPERVISOR **DR. SITI NURUL MAFUZAH MOHAMAD** Date: 16/8/2017

(DR NURUL MAFUZAH MOHAMAD)
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DEDICATION

This final project is dedicated to most important person in my life that is my parents and family for their support that never give up on me.

To all my friends that been helping me with developing this project.

To my supervisor who has guided and give me a lot of supports and never give up on me, Dr. Siti Nurul Mahfuzah (UTeM).

To my evaluator who gives a good advices and feedback on this project.

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Besides, I would like to give credit to my friends who helped me from the beginning until the end of this project. I appreciated all the things you did for me.

Thank you.

ABSTRACT

This project is about Mobile Gamification Application for ICT subject. This mobile application is develop to help student lean in more interactive ways. The target user of this project is Years 4 primary school. This mobile application will be built using Adobe Animate CC. This mobile application provide gamification elements to make the environment of the learning as in the game. Besides that, this mobile application will have multimedia element that can attract student to use it such as animation of moving image, video, quiz and other. By using this mobile application student can learn with fun and enjoyable.



ABSTRACT

Projek ini adalah mengenai Mobile Application for ICT subject. Aplikasi mudah alih ini dibina untuk membantu pelajar belajar dengan lebih interaktif. Pengguna utama projek ini adalah pelajar darjah empat sekolah rendah. Aplikasi ini akan dibina menggunakan Adobe Animate CC. Selain itu, aplikasi ini akan mengandungi elemen gamification untuk menjadikan suasana pembelajaran seperti game. Aplikasi ini juga mengandungi multimedia elemen yang akan membuat pelajar lebih tertarik menggunakannya seperti animasi gambar bergerak, video, kuiz dan lain-lain. Aplikasi ini juga akan membuat pelajar belajar dengan lebih menarik.

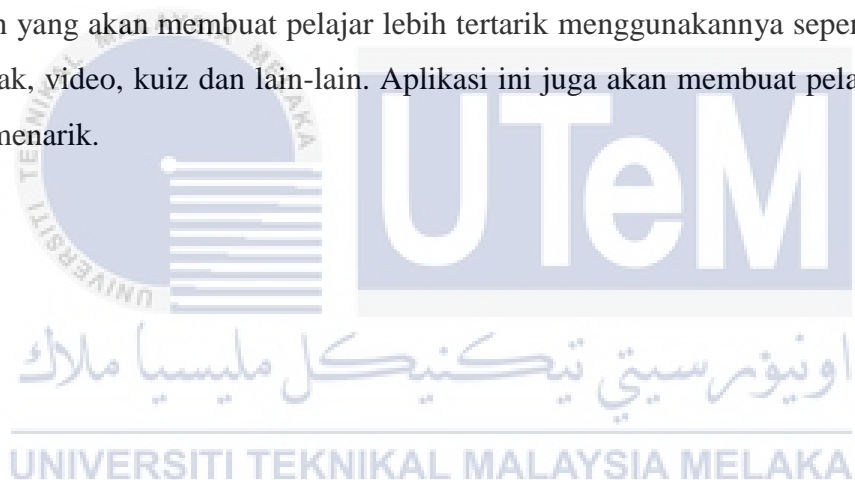


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CHAPTER I



1.1 Introduction

Mobile application is a powerful new strategy to influence and motivate groups of people. With the internet capabilities and applications that has now increase student can accessing information more easier (Dean, Forray. (2017)). The ICT subject is where the student can develop their motivation to stay on task and make them to produce high quality work. The student also can learn to be independently and explore more about the device or new technology. Also, the gamification is a powerful new strategy to influence and motivate groups of people. It improves the engagement of user by keeping score

of points earned through various activities on the application. Gamification is a movement to create effect in the non-game content by applying the game element and game thinking that makes it fun.(Park, Bae (2014)).With this mobile application student can learn more effectively and it contains activities that they can play with.

1.2 Problem Statement

Focusing have been difficult for student and have less interest to learn. Based on Hamari, Koivisto, Sarsa(2014),mobile application on has been a trending object and subject for user engagement and enchaning positive pattern in servive user.Based on Norjihhan (2009), teacher are still using the old method of teaching and the learning did not provide interactive element for this subject. There are many mobile application learning that has been develop but just a few of the mobile application using gamification as their theme interaction for the student Besides that, Vassileva (2012) said that gamification only make the user have a short motivation only but Nicholson(2012) change that by saying that gamification is integration of the user centered game design into non element game context. Applying gamification without knowing what is gamification can be hard, because of that understanding about gamification is needed and know how it can become benefit (Lee,J.J & Hammer,J. 2011). Other than that, gamification is designed for applying game element in learning but if it poorly design the student will feel hard to accept it (Lister C 2015). Also, to know what are game elements that can matched with the motivational mechanisms (Sailer, Hense, Mandl,Klevers 2013).

1.3 Objectives

The objectives of this project are:

- i. To analyse suitable game elements in mobile application
- ii. To develop mobile application for ICT subject for primary school
- iii. To test the effectiveness of using mobile application on learning ICT

1.4 Scope

This project is targeting all of the primary school student in years 4. The aim is to make the student learn in interactive environment and make them understand in easy way. Also, the student can also have fun while learning with this mobile application. This mobile application will contains notes from years 4 ICT subject and some quiz to answer.

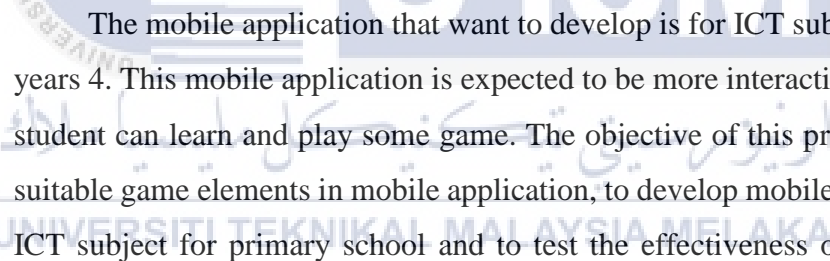
1.5 Project Significant

This project will implement a mobile application based learning. This mobile application is built to make the ICT subject more interactive and student can have engagement while using the application. Besides that, it also can show how the effective of using mobile application on learning ICT.

1.6 Expected Output

The expected output of this project is to make sure that mobile application that has been develop will fulfill the objective and achieved all the requirement. The mobile application will help student to study with more interactive and effective.

1.7 Conclusion



The mobile application that want to develop is for ICT subject for student years 4. This mobile application is expected to be more interactive learning that student can learn and play some game. The objective of this project is analyse suitable game elements in mobile application, to develop mobile application for ICT subject for primary school and to test the effectiveness of using mobile application on learning ICT. Next chapter will discuss about literature review, previous research on mobile application and project methodology. The next chapter will make a comparison about the existing system and the methodology that will be used.

CHAPTER II



2.1 Introduction

In this chapter the literature review and project methodology will be discussed for developing this mobile application. The literature review will discuss about other mobile applications that have been invented for learning for primary school. This ICT subject is introduced as early as years four to six. It focuses on knowledge about the hardware and the operating system. This ICT subject can make learning more creative and innovative.

Kids nowadays are more exposed to technology, gadgets and other media social. The mobile application can be a good learning way for them to make the learning more attractive. They are more interested in playing games

and use mobile application, because of that to make they engaged in their learning the gamification is being apply. The gamification can make them feel like they playing a game because it has win, challenges and rewards that can make the student eager to try earn the rewards (Khaddage F, Lattermann C, Diaz R 2014).

Mobile application is a must to people nowadays even for students.. This mobile application is develop with using gamification to help student learn ICT in more interactive way. Example of gamification that have been found is “Ezy UPSR” by Mohammad (2016) that available on Google Play Store (2). Other example that has been found in Google Play Store is “Latih Tubi” by Creative Online Solutions (2016).

Gamification elements that has been list by research paper Mohamad, Salam, Bakar.(2017) is twelve that is leader board, badge, point, level, awards, progress, challenge, actions, rules, feedback, quest, avatars. The most popular game mechanics that applied in learning and teaching is leader board that will show the rank, names and score. Second is badge that will awarded user after finish the task. Third is point that is the user mark. Fourth is the awards like the point can turn into prizes. Fifth is the level to maximize the sense of achievement and lastly avatar that student can select character to interact with the system.

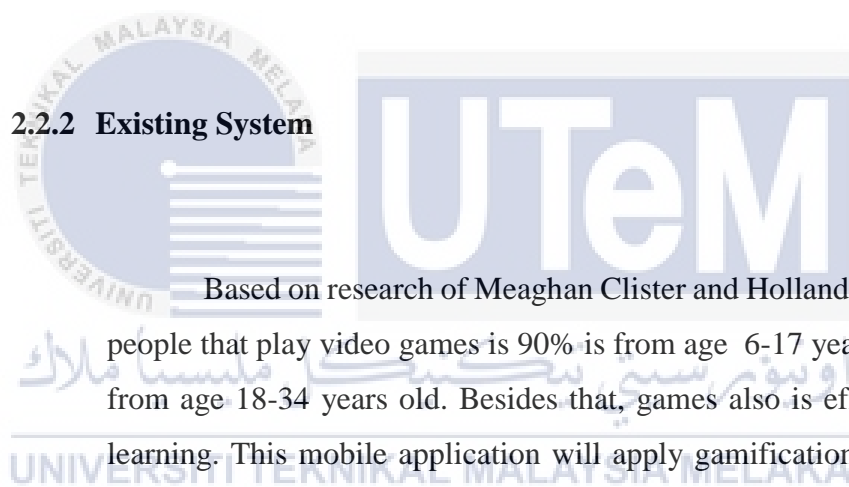
2.2 Fact and Finding

In this project development the facts and finding will include the process of how this mobile application will be develop and what are the technology that will be used.

2.2.1 Domain

This project domain is mobile application based learning. It will involve with education field that will teach years 4 student about ICT subject. The school provide learning in traditional way that no really interactive. But with using this mobile application it will make it more interactive and fun while learning. Student is expose with gadget like mobile phone, so learning with using mobile phone will make them more motivate to play and learn.

2.2.2 Existing System



Based on research of Meaghan Clister and Holland College (2015) people that play video games is 90% is from age 6-17 years old and 59% from age 18-34 years old. Besides that, games also is effective way for learning. This mobile application will apply gamification in it to attract the student to use and learn with it. Moreover, existing system of mobile application that has been develop for learning is many to make the learning more interactive. As example, of mobile application activities learning that have been found is “Ezy UPSR” by Mohammad (2016). Because of that, three comparison of existing system have been made to develop and improve a better mobile application for the student. “

I. Ezy UPSR

This mobile application is develop for UPSR student for Bahasa Malaysia subject. This mobile has a simple interface that easy to understand. It contains question that contains “kata nama am”, “kata nama khas”, “kata ganti nama diri”, and “kata Tanya”.



Figure 2.1 Ezy UPSR

II. Latih Tubi

This mobile application is develop by Creative Online Solutions. This application is for UPSR and PT3 student to make the learning easier. This mobile application has a simple design but contains with information from years 4 until 6 for primary school and form 1 until form 3 secondary school. But the subject this mobile application cover is to just a few such as Bahasa Malaysia and Bahasa Inggeris for primary school and Bahasa Malaysia, Bahasa Inggeris and Sejarah for the secondary school.



Figure 2.2 Latih Tubi

III. Pro Academy UPSR

Another mobile application that has been develop is from ProAcademy. It contains past year exam paper that cover Bahasa Melayu, Bahasa Inggeris, Matematik and Sains. .

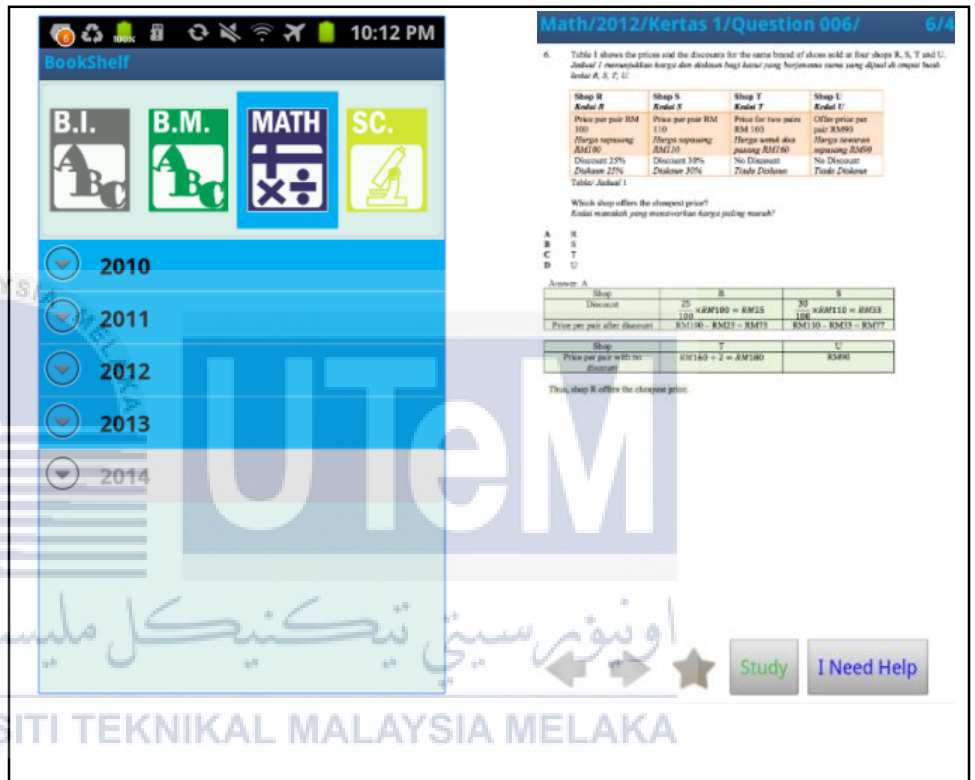


Figure 2.3 Pro Academy UPSR