BORANG PENGESAHAN STATUS TESIS*

JUDUL: THE IMPLEMENTATION OF GAMIFICATION IN HEALTH AWARENESS

SESI PENGAJIAN: 2012 / 2013

Saya ADIL MUIZZ BIN AZHAR

(HURUF BESAR)

mengaku membenarkan tesis (PSM/Sarjana/Doktor Falsafah) ini disimpan di Perpustakaan.
Fakulti Teknologi Maklumat dan Komunikasi dengan syarat-syarat kegunaan seperti berikut:

1. Tesis dan projek adalah hak milik Universiti Teknikal Malaysia Melaka.

2. Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dibenarkan membuat salinan untuk tujuan pengajian sahaja.

3. Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dibenarkan membuat salinan tesis ini sebagai bahan pertukaran antara institusi pengajian tinggi.

4. ** Sila tandakan (/)

_____	SULIT	(Mengandungi maklumat yang berdarjah keselamatan atau kepentingan Malaysia seperti yang termaktub di dalam AKTA RAHSIA RASMI 1972)
_____	TERHAD	(Mengandungi maklumat TERHAD yang telah ditentukan oleh organisasi/badan di mana penyelidikan dijalankan)
✓	TIDAK TERHAD	

_____
(TANDATANGAN PENULIS)

Alamat tetap: NO 2, LORONG
2/7 TAMAN DESA DAHLIA
70450 SEREMBAN, NEGERI
SEMBILAN

Tarikh: 2 / 9 / 2015

_____
(TANDATANGAN PENYELIA)

Dr. Ahmad Naim Che Pee

Nama Penyelia

Tarikh: 02 / 09 / 15

CATATAN: *Tesis dimaksudkan sebagai Laporan Akhir Projek Sarjana Muda(PSM)
** Jika tesis ini SULIT atau TERHAD, sila lampirkan surat daripada pihak berkuasa.

THE IMPLEMENTATION OF GAMIFICATION

IN HEALTH AWARENESS

ADIL MUIZZ BIN AZHAR

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY

UNIVERSITY TEKNIKAL MALAYSIA MELAKA

2015

THE IMPLEMENTATION OF GAMIFICATION

IN HEALTH AWARENESS

ADIL MUIZZ BIN AZHAR

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

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITY TEKNIKAL MALAYSIA MELAKA

2015

DECLARATION

I here by declare that this project report entitled

THE IMPLEMENTATION OF GAMIFICATION

IN HEALTH AWARENESS

Is written by me and is my own effort and that no part has been plagiarized

without citations.

STUDENT   : _____ DATE : 1 / 9 /2015

(ADIL MUIZZ BIN AZHAR)

SUPERVISOR :_____ DATE : 01/09/15

(DR. AHMAD NAIM BIN CHE PEE @ CHE HANAPI)

DEDICATION

Specially dedicated to my beloved parents and my family member

For my supervisor, DR. AHMAD NAIM BIN CHE PEE @ CHE HANAPI

SENIOR LECTURER MEDIA INTERACTIVE

(UTeM)

For my evaluators, EN MUHAMMAD HELMY BIN EMRAN

HEAD OF DEPARTMENT MEDIA INTERACTIVE

(UTeM)

And lastly to my beloved friends and who have encourage, guided and inspired me throughout my journey in education.

ACKNOWLEDGEMENT

Firstly,in performing our Final Year Project, I would like to thankful to Allah for blessing me to complete this project. I had to take the motivate and ideas of some respected persons, especially for my supervisor Dr. Ahmad Naim Bin Che Pee @ Che Hanpi. He always give support, teaching and helping me to settle this project.

Moreover, I also thank you to my family that always support moral to me and gave words of encouragement never give up until the end. Lastly, I would like to thank you to many people, especially our classmates and our team members supervisor because they have made valuable comment suggestions on this project which gave us an inspiration to improve my project. Thank you all the people for their help directly and indirectly to complete our Final Year Project.

THANK YOU

ABSTRACT

The Implementation of Gamification in Health Awareness was developed to provide greater knowledge to users about proper health through a balanced diet and not take the banned substance. Many consumers, particularly children nowadays do not understand about measures to tackle cardiovascular disease from spreading. As we all know, heart disease is the number one killer in Malaysia and the main opposition in medicine nowadays. Ministry of Health Malaysia has demonstrated a prohibition notice on how to handle a heart attack, but this does not give little effect on consumers because they do not like to read the notice as compared to reading online. The game is online and can be built in this game to collect the food that can benefit the human heart and the marks will be reduced if the wrong choices of food and the things forbidden to the human heart. The game is developed using 3D animation that allows users to understand more clearly what exactly the importance of heart health through food to us. Unity 3D software also helps in moving this animation to see how it's more fun and give input to the user to understand its importance. In conclusion, the proposed game can have a profound impact on consumers in understanding the health of a heart attack in which there is an icon in this game.

ABSTRAK

The Implementation of Gamification in Health Awareness dibangunkan adalah untuk memberi pengetahuan yang lebih luas kepada pengguna mengenai kesihatan diri yang betul melalui pemakanan yang seimbang dan tidak mengambil bahan yang terlarang. Ramai pengguna terutamanya kanak-kanak pada masa kini tidak paham mengenai langkah-langkah untuk menangani serangan sakit jantung daripada menular. Seperti yang kita sedia maklum, sakit jantung merupakan pembunuh nombor 1 di Malaysia dan musuh utama di dalam perubatan pada masa kini. Kementerian Kesihatan Malaysia telah mempamerkan notis larangan mengenai kaedah menangani serangan sakit jantung tetapi perkara ini tidak memberi sedikit kesan kepada pengguna kerana tidak gemar membaca notis tersebut berbanding membaca secara online. Permainan ini dibina secara *online* dan boleh digunakan dimana-mana sahaja. Permainan ini mengumpul ikon makanan yang boleh memberikan manfaat kepada jantung manusia dan markah akan berkurang jika tersalah memilih makanan dan mengambil bahan yang terlarang kepada jantung manusia. Permainan ini dibangunkan menggunakan animasi 3D yang membolehkan pengguna untuk memahami dengan lebih jelas apa sebenarnya kepentingan kesihatan melalui makanan yang seimbang dan tidak mengambil bahan yang terlarang terhadap jantung kita. Penggunaan perisian Unity 3D juga membantu dalam mengerakkan animasi ini supaya melihat keadaan itu lebih seronok bermain dan memberi input kepada pengguna untuk memahami kepentingannya. Kesimpulannya,permainan yang dicadangkan ini mampu memberi kesan yang mendalam kepada pengguna dalam memahami kesihatan diri yang betul dari terkena serangan sakit jantung melalui ikon yang terdapat di dalam permainan ini.

TABLE OF CONTENTS

CHAPTER V   IMPLIMENTATION

CHAPTER VI   TESTING

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

PSM	-	Project Sarjana Muda
Mp3	-	MPEG Layer 3
3D	-	Three Dimension
CD-ROM	-	Compact Disc – Read Or Write
CPU	-	Central Processing Unit
RAM	-	Random Access Memory
GB	-	Gigabyte

CHAPTER I

INTRODUCTION

1.1   Project Background

Ministry of Health was established to assist the individual to achieve and maintain health status in order to carry out economic and social life that is productive. This can be achieved by fitting service provides the promotion, prevention, treatment and rehabilitation efficient, appropriate and effective, with emphasis on those in less fortunate.

Furthermore in accordance with the modernization of the country at present, the government has created a website for users to get information and find info related to prevention measures for prioritizing a healthy lifestyle. However, its use is still not able to give satisfaction to the user in detail the information. In the studies that have been made, most people nowadays prefer to use the internet to find information and spend time in online games.

Therefore, the existence of the game is to give knowledge to people about proper health care. Health care is very important to people to continue to live with perfect and free from infection. There are several methods in health care right through the game application.

Furthermore, users can learn a little bit about the ways and methods of treating heart attack. Perfect health is coming from a balanced diet and a healthy lifestyle priority.

1.2   Problem Statements

Many children often have problems in understanding the root causes of heart disease through diet and handle make categorical limits for the human body. Basic knowledge learned in primary school for students taking Pendidikan Jasmani subject.

There among consumers, especially children, more use game application that does not benefit in the course of everyday life. Users among children who want to get information on the internet and reference materials are very difficult because you need a lot of research in advance to obtain additional information.

Search information in the internet there are many resources and make it difficult for users kids get the detailed information. with the application of this game, has given a new approach to consumers, especially children, in managing their health right from a heart attack.

1.3   Objectives

This project embarks on the following objectives :

- To understand the ways and methods in the process of proper nutrition and personal care in our daily lives.

- To develop game applications that can provide knowledge to users in health care to avoid a heart attack.

- To review the knowledge gained by users when using this game application to perfect my health care through proper nutrition and identify prohibited items.

1.4 Scope

The project scope involves the target consumer and healthcare themed game content yourself and take things forbidden to handle the human heart. Specialization age level for use of the game is for students who take the Pendidikan Jasmani subject as there are few topics in which the election of a balanced diet. In addition, users especially children, aged from 7 years old to 11 years old who are still studying in primary school.

1.5 Project Significance

This project is devoted to primary school children studying the subject of Pendidikan Jasmani to understand the root cause of the occurrence of coronary heart disease from spreading. It is important that children have the basic knowledge to deal with in terms of nutrition and the prevention of illicit do things for human health.

1.6 Expected Output

This game was developed to explain to children about heart disease faced by the people of Malaysia through a healthy diet and the handle of doing things forbidden. It is also expected to increase the knowledge of primary school students who take the subject of Pendidikan Jasmani more widely in addressing and preventing heart attacks faced by Malaysian.

1.7 Conclusion

This chapter is the introduction of 3D animation games using software Unity 3D to avoid heart attacks through a balanced diet and address of doing things that are forbidden. It describes and explains the project background, problem statement, objectives, scope of the project, an important project and expected output. This chapter provides an understanding of the whole project and the importance of it.

In conclusion, these projects are developed using 3D animation application or game to understand the root causes of heart disease through food and objects forbidden. The main focus of this project is to develop a 3D animated game. The next chapter is literature review, it is about area of study of the project, current system or tools or output of the project and the comparison of the existing systems. The literature review is necessary to determine the appropriate methods to be used in the process of application development game.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1   Introduction

The literature review is representing a number of projects, reports, theses, and research that have been published to be used as a reference to link them to certain conditions, subject, or topic in this study. This chapter describes the methods that will be used to develop this project. To ensure that the project proceeded as planned in the development of this project in accordance with the project schedule Gantt charts.

The main objective of this project was to investigate the comparative study process can be fixed with using the game of learning to the student and not a requirement for students to recite books to know the true concept of health need to someone. This project will use the learning technique using 3D animation that will teach students to deal with problems of heart disease and are aware of the prohibited items can damage the heart. Formal elements of games from a game of this nature evacuator single player or can only be played by one

person in the collect points which will bring an exciting feeling to the concept of improving health in their interest to learn new things through the game.

2.2 Domain

The domain for this project is gaming education. The rapid penetration of increasingly sophisticated technologies into every facet of society is causing significant shifts in how, when, and where we work, how individuals, companies, and even nations understand and organize themselves, and how educational systems should be structured to prepare students effectively for life in the 21st century. School-aged children worldwide are growing up immersed in a media-rich, ubiquitous, "always connected" world.

Nowadays, education is usually used in the game of life aspects such as entertainment and games. Domain edutainment project is the combination of education and entertainment. This can be serve as an interesting viewers feel while learning in the same periods.

2.3 Existing System

There are many views on the potential of new technologies in changing education for the better, but not entirely without merit. Digital games have a high impact and a bold claim. In this lesson, we will examine five charges against theoretical and empirical namely :

i. Games are built on sound learning principles

The most important element for the development of children to be healthy were included in the learning development of the Play. Digital games are very important for learning and intellectual development in the opportunity to use play through simulation environments without disruption of learning. Although a player's actions may demonstrate learning within the game environment, less is known about whether such learning can be applied or transferred to a different context. For example, describes how the game *World of Warcraft* reflects key 21st century skills such as individual specialization within cross-functional teams working collaboratively to meet goals.

ii. Games provide personalized learning opportunities

Personalized learning is described as the way that schools "tailor education to ensure that every pupil achieves the highest standard possible". There are five personal learning process in every school to propose the report are :

i) Knowing the strengths and weaknesses of students
ii) Developing teaching and learning strategies based on student needs
iii) Engaging curriculum choices
iv) Supportive school organization
v) Community, local institution, and social service support.

Debriefing is critical to using games in education as it provides the connection between learning in the game and applying those skills to other contexts. Teachers can facilitate the transfer of skills by leading pre and post-game discussions which connect the game with other things students are learning in class.

iii. Games provide more engagement for the learner.

Traditional schooling has often been labelled as boring for many students. In fact, nearly half of high school dropouts said a major reason for dropping out was that

the classes weren't interesting, and 70% said they were not motivated or inspired to work hard. Perhaps the unique value of the engagement factor within digital games is the ability to sustain engagement and motivation across time, particularly with more challenging learning tasks and without the teacher needing to be a "superstar". Although motivation clearly seems to be important, there is not clear agreement on what makes a game or learning task motivating. Dickey (2005) argued that the three main elements of engaged learning are clear goals and tasks, reinforcing feedback, and increasing challenge.

iv. **Games teach 21st century skills.**

Game designers and scholars argue that games capture the player's attention and engage them in complex thinking and problem solving. Games are frequently cited as important mechanisms for teaching 21st century skills because they can accommodate a wide variety of learning styles within a complex decision-making context. According to Gee (2007), high quality immersive games require players to think systemically and consider relationships instead of isolated events or facts. The abundance of options and possible decision points within games forces players to not only apply their knowledge but to adapt their knowledge to varying situations. Although games can provide learning of these important 21st century skills, teachers may be less interested in using them in the classroom because those skills are not currently tested or explicitly valued in educational systems.

v. **Games provide an environment for authentic and relevant assessment.**

It is important to note that by definition, games are inherently assessments. Games and traditional assessments share underlying characteristics that provide a means for quantifying knowledge and abilities. The two environments use complimentary technologies that can combine to create more accurate models of student knowledge, skills, and behaviours. For example, games provide opportunities for authentic and appropriate knowledge representation of complex ideas, many of which seem under-represented in traditional assessments. Nevertheless, in order to update the competency model and the "score" observations in using analytical tools. Steinkueler & Chmiel (2006) analyzed *World of Warcraft* postings and translated