Universiti Teknologi MARA

GEOGRAPHY BASED ANDROID GAME

Muhammad Alif Shazwan Bin Hasmi

Thesis submitted in fulfillment of the requirements for
Bachelor of Science (Hons)
(Multimedia Computing)
Faculty of Computer and Mathematical Science

July 2012

ACKNOWLEDGEMENT

First and foremost, I would like to thank Allah S.W.T for giving me the opportunity to carry out this project, along with the strength in order to complete it, with success.

Among the many people that have been very helpful in the preparation of this project, I would like to sincerely thank my supervisor, Dr. Fakhrul Hazman bin Yusoff for providing me with guidance and support throughout this entire process of completing my project.

I would like to extend my gratitude to my parents for the endless support and doa for my success. Sometimes the simplest advice given by them can lift my spirit and motivate to be a better person.

Besides that, I also would like to thank to Mr. Mohd Yunus Mohd Yusof that always give us tips, guides, explanations and many more in the class. Without him, who am I to complete this project

Lastly, a special thanks to all of my friends especially for their consideration, motivation, and knowledge that has helped me to have a better understanding on this study. Before completing this study, I had less exposure regarding the annual reports but with the help of various friends, I am able to reach an improved comprehension on the project.

TABLE OF CONTENTS

DECLARATION ..... **iii**
APPROVAL ..... **iv**
ACKNOWLEDGEMENT ..... **v**
TABLE OF CONTENTS ..... **vi**
LIST OF FIGURES ..... **ix**
ABSTRACT ..... **xii**
CHAPTER 1 ..... **1**
INTRODUCTION **1**
1.1 Project Background 1
1.2 Problem Statement 2
1.3 Project Objectives 2
1.4 Project Scope 2
1.5 Project Significance 2
CHAPTER 2 ..... **3**
LITERATURE REVDEW **3**
2.1 Overview of Mobile Devices 3
2.2 Overview of Mobile Gaming 6
2.3 Overview of Educational Games 9
2.4 Overview of Android 14
2.4.1 Android Architecture 15
2.5 Overview of Game Maker 18
CHAPTER3 ..... **20**
METHODOLOGY **20**
3.1 Introduction 20
3.2 Research Framework 20
3.2.1 Project Planning 22
3.2.2System Analysis 22
3.2.3System Design 22
3.2.4 Implementation 26

3.2.5 Testing 28
CHAPTER 4 29
DESIGN **AND** IMPLEMENTATION 29
4.1 Introduction 29
4.2 Conceptional Design 29
4.3 Design and Development Flow Diagram 31
4.4 Interface Design Using Game Maker 32
4.5 Creating Behavior using Game Maker 37
4.5.1 Link Behavior 39
4.5.2 Touch Behavior 41
4.5.3 Moving Behavior 43
4.5.4 Colliding Behavior 45
4.5.5 Countdown Timer Behavior 47
4.5.6 Score Behavior 50
4.5.7 Draw Behavior 51
CHAPTER 5 52
TESTING AND IMPLEMENTATION 52
5.1 Testing 52
5.1.1 Payability Question 54
5.1.2 Aesthetic Question 55
5.1.3 Platform Question 57
5.1.4 Touch Screen Question 58
5.1.5 Local Element Question 60
5.1.5 Geography Element Question 61
5.2 Conclusion of the Results 63
CHAPTER 6 64
RESULT AND CONCLUSION 64
6.1 Result 64
6.2 Conclusion 68
6.2.1 Application Strength 68
6.2.2 Application Weakness 69
6.2.3 Future Enhancement 69

ABSTRACT

The emergence of technologies gives a good impact to educational area as they are getting more popular as a new learning tools which is known as Mobile Learning. This paper does a research on what must be done in order to design a good mobile education games that teach users about geography knowledge on Android platform. In order to complete this research, SDLC model will be used.