BORANG PENGESAHAN STATUS TESIS*

JUDUL: MOBILE LEARNING : SUPER PACMATH GAME

SESI PENGAJIAN: 1 - 2007/2008

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MOBILE LEARNING : SUPER PACMATH GAME

NUR MAZNI BT ABD RAZAK

This report is submitted in partial fulfillment of the requirements for the

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DECLARATION

I hereby declare that this project report entitled

MOBILE LEARNING : SUPER PACMATH GAME

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

STUDENT : _____ DATE : 23/6/2008

(NUR MAZNI BINTI ABD RAZAK)

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(DR. SAZILAH BINTI SALAM)

DEDICATIONS

Special dedicated to my beloved parents, family
and my supportive friends...

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ABSTRACT

Super PacMath Game for Kids (from 7 to 9 years old) is a mobile game that developed especially for kids. This game presents about learning the basic of Mathematics which are addition and subtraction. The main purpose of this game is to give some mathematics problem instead using a game. These students may play and at the same time, they will learn as what people called edutainment game. Students really interested to learn in interesting way, as plat game but not in a continuous lecture. It is develop in 2D cartooning environment and divided into 3 levels that presents easy, medium and high. In each level, there are three stages. In the first stage, the questions will about addition. For the second stage, the questions are about subtraction and for the third stage, the questions are in random. Before the player play a game, they will be given an instruction on how to play a game. It is like a training that is suitable for kids to learn more about the flow of the game. While they playing the game, they will be serve with a background music which is to avoid players to feel bored while playing. If player of game choose to give up, they automatically terminated from the game and this goes in the same way as others.

ABSTRAK

Super PacMath Game for Kids (from 7 to 9 years old) ialah permainan mobil yang dibina khas untuk kanak-kanak terutamanya pelajar-pelajar sekolah rendah. Permainan ini adalah mengenai asas dalam Matematik iaitu penambahan dan penolakan. Tujuan utama permainan ini adalah untuk untuk memberikan masalah matematik kepada pelajar dengan menggunakan permainan. Pelajar-pelajar dapat bermain dan dalam masa yang sama, mereka dapat belajar. Pelajar sangat berminat untuk belajar dalam keadaan yang menarik bukan hanya pembelajaran di dalam kelas. Permainan ini dibina di dalam persekitaran 2D dan dibahagikan kepada 3 bahagian yang mewakili mudah, pertengahan dan sukar. Di setiap bahagian, terdapat 3 peringkat. Di dalam peringkat pertama, semua soalan adalah mengenai penambahan. Di dalam peringkat kedua, semua soalan adalah mengenai penolakan dan untuk peringkat ketiga, soalan akan dipaparkan secara rawak iaitu operasi penambahan dan penolakan. Sebelum mereka memulakan permainan, arahan untuk bermain akan dipaparkan. Ia adalah seperti latihan awal untuk member pengenalan tentang tahap permainan. Semasa mereka bermain, mereka akan dihidangkan dengan muzik latarbelakang supaya pemain tidak merasa bosan semasa bermain. Jika mereka menyerah kalah, mereka boleh memilih butang *exit* dan permainan akan terus ditamatkan dan begitu juga sebaliknya.

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TITLE	ABBREVIATIONS
TV	Television
CD-ROM	Compact Disk Read Only Memory
MMS	Multimedia Messages System
ADDIE	Analyze, Design, Develop, Implement, Evaluate
PSM	Projek Sarjana Muda
GBL	Game Based Learning
HTML	HyperText Markup Language
PDA	Personal Digital Assistant
LMS	Leaning Management System
GPS	Global Positioning System
WLAN	Wireless Local Area Network

CHAPTER 1

INTRODUCTION

1.1 Project Background

Nowadays, mobile devices like mobile phone is more likely as needed more than accessories. It has a multiple uses as calling, play music or even play games. Games are a central element because games are fun especially for kids or definitely for students. Students are loved to have fun and ease to attract to an interesting thing among them.

"Whether the game format is educational, sponsor born or just plain wacky, the bottom line is that game must be fun (Matthew David, 2003)."

A project that will be developed is an interactive mobile game for students in range of 7 to 9 years old. This game is like an ordinary Pacman Game but it is about the Mathematics. The concept of the game is about learning the basic of Mathematics which is addition and subtraction. These students may play and at the same time as what people called edutainment game. Students really interested to learn in interesting way, as plat game but not in a continuous lecture.

1.2 Problem Statement

The problem that is addressed by this project is:

- **Students lack of exercise in Mathematics**

  Mathematics is an important subject that must be teached from the early age. However, many students are lack of exercises that they must do to make them more understanding about Mathematics.

1.3 Objectives

The objective of this project is:

- **To develop a mobile Mathematics games**

  Mobile Mathematics games can help students who are not interested and weak in Mathematics. This game can make students know the basic of Mathematics. It also can interact with the students and it is interesting too. It makes students become interested to learn more about Mathematics.

- **To integrate a Pacman game with the Mathematics quizzes**

  The Pacman is not only a game but it will help student to solve questions on additions and subtractions.

1.4 Scopes

This interactive mobile game is developed especially for students in the range of 7 to 9 years old. This game is an edutainment game. Means, it is a game where kids can play and learn at the same time. For the time being, this game is a standalone game, means it only can be play by one player at one time.

The development of the game modules is divided into three sections. First of all, characters are developed to help the player in playing the game. Then, the main interface and each interface of the game stage is developed. Also, the theme color of the game is decided so that the interface can attract the player to stay and play the game continuously and repeatedly.

Secondly, the action scripts coding is executed. It covers the interactivity of the game as button, movement picture and so on. All of these interactions must work properly. Here is where the challenge begins because the action script of every stage of game will be different. This would take a longer time than designing the game interface.

The last module is the score calculation. The player's score for each stage must be added each time until they have finished the whole game. The game must able to detect either the player's score reach the top ten lists. If yes, they will input their name. The player's name and score will be displayed in the hall of fame.

1.5 Project Significance

This Super PacMath Games may bring many benefits to students. For students that are weak and not interested in Mathematics, this game can afford to improve their interest about the basic of Mathematics which is addition and subtraction operations. It allows students to know the beauty of Mathematics.

The students also can learn while they play the mobile game. This games are develop to teach the students what is the important of Mathematics and also at the same time, the students can learn how to improve and solve the entire Mathematics problem in a given time.

Overall, the Super PacMath Game (7 to 9 years old) is used to improve the Mathematics skills among students. In this game, it applies two basic operations in Mathematics. The operation is addition and subtraction. The difficulty levels in this game are easy, medium and hard. In the easy level, students will be given a range digit from 1 to 99. For the medium level, students must solve the problem in the range number of 1 to 999 and for the hard level, students must solve problem from 1 to 1000.

This game contains three stages. The students must solve the Mathematics problem so that they can go to the next level until the end. Students must be able to answer 7 and above so that they can go to the next level

In stage one, addition operation will be occur while in the stages two, subtraction operation will be occur. In the last stage which is stage three, the

random of addition and subtraction operations will occur. In this game, it keeps scores. If the player score is qualified in the top score lists, their score will be listed in the score list. After all, parents can check whether their children are good or weak in Mathematics. It will be shown when the parents look at the score list.

1.6 Expected Output

This application will be designed for the mobile devices such as hand phone and PDA's. The output for this application will increase the interest of students to learn the basic of Mathematics. This application has user-friendly interfaces that can attract the students to play this game and in the same time they will learn about the basic of Mathematics. It is the new way to learn Mathematics and students will not boring while learning Mathematics. Students are not bored playing this game because it is full with interactive media such as text, simple animation and audio.

1.7 Conclusion

As a conclusion, this introduction chapter has briefed on what kind of game is developed and explains what kids play and learn in every stages and every difficulties. Also, this game rings a new perspective of a mobile computer game to parents because parents always worried about their children, what they will do with their hand phones or any mobile devices. After this, parents would not worry about their children when their children always play with their hand phones.

This application can help students to learn and get interested in Mathematics. It is another alternative way for students to learn it everywhere and every time the like to play with it.

Lastly, on the next chapter, literature review which involve in searching, collecting, analyzing and drawing conclusion in finding the significance of the game. It also has lists all kind of requirements needed to develop this mobile game and a Gantt chart to show the work flow of the game.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

Literature review are focusing on the others have written about the topic. It is a review the critical points of current knowledge from a body of text on a particular topic. The goal for literature review is to make readers to know all about the new current literature on a topic. It is also for a future research in the area.

In this chapter, it discusses about the comparison of existing system. This chapter also is used to analyze all about requirement analysis that had in this application. The requirement analyses are like need analysis, user analysis, technical analysis and resources analysis. Next, it will explain about software, hardware and other requirement that need in this application. The methodology that is used in this application is ADDIE. It guides the developer to develop the application in time followed the phase sequentially.