

**BORANG PENGESAHAN STATUS TESIS\***

JUDUL: THE DEVELOPMENT OF A MOBILE ARABIC EDUCATIONAL GAME

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**THE DEVELOPMENT OF A MOBILE ARABIC EDUCATIONAL GAME**

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

**FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY  
UNIVERSITI TEKNIKAL MALAYSIA MELAKA  
2008**

## DECLARATION

I hereby declare that this project report entitled  
**THE DEVELOPMENT OF A MOBILE ARABIC EDUCATIONAL GAME**

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

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## **DEDICATION**

To my beloved parents, siblings, supervisor and friends.

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**Bismillahirrahmanirrahim**

**Alhamdulillah, thanks to God for giving me a good health and opportunity for finishing this Projek Sarjana Muda 2 (PSM 2). Thanks also for giving me some extra ability and helping me during this PSM 2.**

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## **ABSTRACT**

Arabic Game is an edutainment game that is developed especially for kids and for those who are beginning to learn Arabic language. This game presents multi genre game and an indirect lesson, Arabic language in which teaching the kids about some basic Arabic language. The main purpose of the game is to make study Arabic easier and in a more exciting way for pupils by using mobile phones anywhere they want and game chosen as the platform to deliver the message because of game is fun and kids also like something fun. It is developed in 2D cartooning environment and divided into three levels game that presents different kind of game genre for each level. The first interface is the montage interface, followed by introduction of the game interface before they can go to the main menu to play the game. Before the player plays a game in each level, there are instructions on how to play the game. The first game is to memorize and match the same Arabic alphabet, numbers and words. The second game is the addition and subtraction of Arabic numbers. The third game is select and matches suitable pictures and words. While they are playing the game, sound and voices are accompanied to avoid players to feel bored while playing.

## ABSTRAK

*Arabic Game* ialah permainan komputer yang berkonsepkan *edutainment* yang dibina khas untuk kanak-kanak dan kepada sesiapa yang ingin mengenali bahasa Arab. Permainan komputer ini mempunyai pelbagai jenis permainan dan pembelajaran tidak langsung, yakni bahasa Arab, untuk mengajar kanak-kanak tentang sedikit asas bahasa Arab. Tujuan utama permainan ini dibina ialah untuk menjadikan pembelajaran bahasa Arab lebih menarik untuk kanak-kanak dengan menggunakan telefon mudah alih di mana sahaja yang diinginkan dan permainan dipilih untuk menjadi platform untuk sesi pengajaran kerana permainan adalah sesuatu yang menyeronokkan dan kanak-kanak menggemari sesuatu yang menyeronokkan. Ia dibina di dalam persekitaran 2D dan dibahagikan kepada tiga bahagian dan setiap bahagian akan dihidangkan dengan genre permainan yang berlainan. Antaramuka yang pertama ialah montaj permainan, diikuti dengan menu pengenalan permainan sebelum mereka masuk ke menu utama yang memaparkan pilihan permainan. Sebelum mereka memulakan permainan, arahan untuk bermain akan dipaparkan setiap fasa yang ada. Permainan pertama ialah mengingat dan padankan huruf Arab, nombor Arab dan perkataan Arab yang sama. Permainan yang kedua adalah operasi tambah dan tolak nombor-nombor Arab. Permainan yang ketiga pula ialah pilih dan padankan imej yang sesuai dengan perkataan Arab yang diberikan. Semasa mereka bermain, beberapa bunyi atau suara akan kedengaran supaya pemain tidak merasa bosan semasa bermain.

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## LIST OF ABBREVIATIONS

ADDIE	-	Analysis, Design, Develop, Implement and Evaluate
APIs	-	Application Programming Interface
B	-	Bit
BMP	-	Bitmap
BREW	-	Binary Runtime Environment for Wireless
HCI	-	Human Computer Interaction
ICT	-	Information and Communication Technology
IDE	-	integrated development environment
J2ME	-	Java 2 Micro Edition
JAVA ME	-	Java Micro Edition
GB	-	Gigabyte
GIF	-	Graphic Interchange Format
GPS	-	Global Positioning System
GUI	-	Graphic User Interface
JPEG	-	Joint Photographic Expert Group
OS	-	Operating System
MB	-	Megabyte
MHZ	-	Megahertz
MMS	-	Multimedia Messaging
MP3	-	MPEG-1 Audio Layer 3
PC	-	Personal Computer
PDA	-	Personal digital assistant
PNG	-	Portable Network Graphics
PSD	-	Adobe Photoshop format
RAM	-	Random Access Memory
RGB	-	Red Green Blue



US	-	United State
VS	-	Versus
WORA	-	Write once, run anywhere
2D	-	2-Dimension
3D	-	3-Dimension
3GSM	-	3 Global System for Mobile
*.EXE	-	Execution

# **CHAPTER I**

## **INTRODUCTION**

### **1.1 Project Background**

According to Harman K. (2007), information technologies have helped less dependent on the educational institution in term of time and place. Mobile learning brings yet a new dimension to technology enhanced education by giving learners expedient, immediate, reusable, persistent, personalized and situated learning experiences anchored in their real surroundings.

Arabic language is a mother tongue in Arabian countries such as Madinah and Mecca. Arabic Language becomes one of important international languages. According to Ab. Gani B. Jalil (2000), Arabic language is a second language or learned as a foreign language in most country where the majority people is Islam. The language also has been approved as a formal language in United Nation.

The project is to develop a mobile game. The title of this project is Arabic Game. The target users are primary school students aged 10 years old. The main purpose of the game is to make study Arabic easier and in a more exciting way for pupils by using mobile phones anywhere they want. This game perhaps will enable pupils to learn the basic introduction to communication in Arabic.

## **1.2 Problem Statements**

According to The Star (2006), a survey conducted in 1996 showed that Malaysians read an average of two books a year. ... The results of a survey in 2005 show that things have not improved at all – many still read only two books a year. About 98% of 10 years old read only two books a year, with 60.4% citing other interests and 28.7% lack of time as the reason.

This shows that the level of interest in reading book for some students nowadays is low. Nowadays there are various television games, computer games and mobile games in market but there are no Arabic learning games in mobile phone is produced in Malaysia. We can use this kind of method by applying this Arabic edutainment in mobile phone. This game is not a substitute to the traditional learning method but is to be built as compliment that supports the traditional method.

## **1.3 Objective**

This mobile learning application is developed to fulfill the objectives, which are:

1. To design a game in mobile phone application.  
To develop a simple and interactive game application that can be used at anytime and anywhere using mobile device.
- ii. To develop a suitable Arabic language game application.  
To develop a mobile Arabic game that applies multimedia elements to help users understand Arabic language easier.
- iii. To test the mobile Arabic games.  
To increase student' interest learning Arabic Language in a new way they want to learn.

## **1.4 Scope**

This project will only focus about game application. The aim is to publish the game in mobile phone that supports Flash Lite 2.0 and the target users for this application.

### **1.4.1 Specific User**

The target users of this project are primary school students aged 10, standard four students and for the beginner who want to know Arabic language.

### **1.4.2 Specific Platform**

In Malaysia, two leading mobile phone manufacturers, Nokia and Sony Ericsson have been integrating Flash Lite into some of their devices. Many Nokia and Sony Ericsson mobile phones support Flash Lite 2.0. In this project, Nokia mobile phone is chosen because many of their devices support Flash Lite compare to Sony Ericsson. In term of price, Sony Ericsson mobile phone with Flash Lite pre-installed is quite expensive compare to Nokia. Table 1.1 shows example of Nokia mobile phones that support Flash Lite 2.0.

**Table 1.1: Example of Nokia mobile phone that support Flash Lite 2.0**

<b>Model</b>	<b>Screen Size</b>	<b>Supports</b>
Nokia 3230	176 x 208 pixels	Flash Lite 2.0
Nokia 3250	176 x 208 pixels	Flash Lite 1.1
Nokia 5200	128 x 160 pixels	Flash Lite 2.0
Nokia 5300	240 x 320 pixels	Flash Lite 2.0
Nokia 5500	208 x 208 pixels	Flash Lite 1.1
Nokia 6085	-	Flash Lite 2.0
Nokia 6125	128 x 160 pixels	Flash Lite 1.1
Nokia 6126	-	Flash Lite 1.1
Nokia 6131	240 x 320 pixels	Flash Lite 1.1
Nokia 6136	128 x 160 pixels	Flash Lite 1.1
Nokia 6151	128 x 160 pixels	Flash Lite 1.1
Nokia 6233	240 x 320 pixels	Flash Lite 1.1
Nokia 6260	176 x 208 pixels	Flash Lite 2.0
Nokia 6300	320 x 240 pixels	Flash Lite 2.0
Nokia 6620	176 x 208 pixels	Flash Lite 2.0
Nokia 6630	176 x 208 pixels	Flash Lite 2.0
Nokia 6670	176 x 208 pixels	Flash Lite 2.0
Nokia 6680	176 x 208 pixels	Flash Lite 2.0
Nokia 6681	176 x 208 pixels	Flash Lite 2.0
Nokia 6682	176 x 208 pixels	Flash Lite 2.0
Nokia 7373	-	Flash Lite 1.1
Nokia 7390	240 x 320 pixels	Flash Lite 1.1
Nokia 7610	176 x 208 pixels	Flash Lite 2.0
Nokia E50	240 x 320 pixels	Flash Lite 1.1
Nokia E60	352x416 pixels	Flash Lite 1.1
Nokia E61	320 x 240 pixels	Flash Lite 1.1
Nokia E62	-	Flash Lite 1.1
Nokia E70	352 x 416 pixels	Flash Lite 1.1
Nokia N70	176 x 208 pixels	Flash Lite 1.1
Nokia N71	240 x 320 pixels	Flash Lite 1.1
Nokia N72	176 x 208 pixels	Flash Lite 1.1
Nokia N73	240 x 320 pixels	Flash Lite 1.1
Nokia N75	-	Flash Lite 1.1
Nokia N80	352 x 416 pixels	Flash Lite 1.1
Nokia N70	176 x 208 pixels	Flash Lite 2.0
Nokia N90	352 x 416 pixels	Flash Lite 2.0
Nokia N93	240 x 320 pixels	Flash Lite 1.1
Nokia N95	240 x 320 pixels	Flash Lite 2.0

References: [http://www.adobe.com/mobile/supported\\_devices/handsets](http://www.adobe.com/mobile/supported_devices/handsets)

### 1.4.3 Specific Functionality

Table below shows the modules that will be covered in the project.

**Table 1.2: Games in the project**

No.	Games	Description
1	Memory	Introduction of Arabic alphabet, numbers and words. Users have to memorize and match the same Arabic alphabet, numbers and words.
3	Count	There are two choices of math calculation. The addition and subtraction of Arabic numbers.
4	Match	Select and match suitable pictures and words.

### 1.5 Project Significance

The power of games as educational tools is rapidly gaining recognition. Educational games are designed to teach people about a certain subject, expand concepts, reinforce development, understand an historical event or culture, or assist them in learning a skill as they play. Arabic Game can be used as a support mechanism for learning Arabic language.

This game can be used to motivate students and help them enjoy playing and learning. Games can teach. Arabic Game is where students are learning through games. Students are playing games but at the same time, they are learning Arabic language. It makes learning Arabic language very interesting and students do not get bored.

The most important is, Arabic Game makes Arabic learning fun, meaningful and useful. The best way is to choose something that really interesting them. While students enjoy playing the games, they will get improvements in the following skills - reading, listening, speaking and fast decision-making. This game is easy to play and able to promote reading ability, listening ability, mental calculation, fast decision making,

## **1.6 Conclusion**

As the conclusion, this chapter discusses about the background, problem statement, objective, scope, project significance and expected output of the project. The main reason why this game is developed because there is still no Arabic game in mobile phone is developed in Malaysia. This game mobile application can be considered as an alternative learning for pupils where they can use this application at anytime and anywhere they like it.

Limitations and problems that occur during development process are defined and can be solve early. Any problems relate with project planning such as time and budgeting can be solved easily. For the next chapter, literature review and project methodology will be covered and from that, some idea will be generated for the next task.

## **CHAPTER II**

### **LITERATURE REVIEW AND PROJECT METHODOLOGY**

#### **2.1 Introduction**

Literature Review is the phase where all the processes happen such as searching, collecting, analyzing that has been published by researches. All the processes can be completed through relevant sources such as books, journal, technical report, proceeding conferences, anonymous references, web pages and others. The purpose of this literature review is to convey readers what knowledge and ideas have been established on a topic, and what are their strengths and weaknesses. In this literature review, it will describe all the analysis and findings which are related research, case study and other findings that are related to this project.

Project Methodology is a way to use all available approaches, technique and tools used to achieve predetermined objectives. In that phase it will actually describe the activities that may do in every stage of works. Instructional design is the approach that will be used for the project.

In this chapter also it will discuss about the hardware and software that is used in this project. This topic is under the Project Requirements. The discussion will brief all the hardware and software used.