MOBILE APPLICATION BASED LEARNING: MARI BELAJAR SOLAT

NOR HAIZATUL AKMA BT MOHD YUSOF

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

BORANG PENGESAHAN STATUS TESIS*

JUDUL: MOBILE APPLICATION BASED LEARNING: MARI BELAJAR SOLAT

SESI PENGAJIAN : 2013/2014

Saya NOR HAIZATUL AKMA BT MOHD YUSOF

mengaku membenarkan tesis Projek Sarjana Muda ini disimpan di Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dengan syarat-syarat kegunaan seperti berikut:

- 1. Tesis dan projek adalah hakmilik 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 TE	RHAD

(TANDATANGAN PENULIS)

(TANDATANGAN PENYELIA)

Mohd Lutfi Bin Dohalit

Alamat tetap: <u>Block D-4-20</u> Jln 2/23D, Tamana Danau Kota

Setapak, 53300 Kuala Lumpur

Tarikh: 02/09/2013

Nama Penyelia

Tarikh: 02/09/2013

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

C Universiti Teknikal Malaysia Melaka

MOBILE APPLICATION BASED LEARNING: MARI BELAJAR SOLAT

NOR HAIZATUL AKMA BT MOHD YUSOF

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

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY UNIVERSITI TEKNIKAL MALAYSIA MELAKA 2013

C Universiti Teknikal Malaysia Melaka

DECLARATION

I hereby declare that this project report entitled MOBILE APPLICATION BASED LEARNING: MARI BELAJAR SOLAT

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

STUDENT	:	Date:	02-SEP-2013
	(NOR HAIZATUL AKMA BT MOHI	D YUSC	DF)
SUPERVISOR	:	Date:	02-SEP-2013
	(EN MOHD LUTFI BIN DOHALIT)		

ii

DEDICATION

Specially dedicated to my beloved parents and my family member

For my supervisor who guide and give me a lot of support, EN MOHD LUTFI BIN DOHALIT (UTEM)

For my evaluators, EN MOHD ADILI BIN NORASIKIN (UTEM)

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



ACKNOWLEDGEMENTS

Bismillahirahmannirrahim.

Firstly, Alhamdulillah and Syukur to Allah S.W.T for had given me a chance and strength for me to finish this PSM until the end. The duration of the PSM is throughout the semester which is seven month beginning in Febuary 2013 until August 2013.

I would like to thanks my PSM supervisor, En Lutfi for all guidance, help, courage and advice for me in order for me to finish up this PSM successfully.

I would also like to thanks my beloved family for given me a full support and motivation at this hard time for me to complete this PSM.

Finally, special thanks to my friend for their moral support and help me to complete this PSM successfully. I can finish my PSM on time with their helps and enthusiasms. Thank you so much

ABSTRACT

Projek Sarjana Muda is required subject of the final year student in Universiti Teknikal Malaysia Melaka (UTeM). For PSM, each student needs to come out with a project. The project has a been chosen to be develop is a 'Mari Belajar Solat' using mobile application based learning 'Mari Belajar Solat' is a learning project because kids can learn the step by step of how to performing the Solat. The application was develop for children age within three to seven years old. This project combines four element of multimedia which text, graphic, audio and animation. The activity consists six questions. This project was developed using Adobe Flash CS6. They are lots of objective that what to be achieved from this project such as to children perform the Solat and attract the kids to learn using multimedia approaches. This project will be run on mobile phone which easier to bring anywhere.



ABSTRAK

Projek Sarjana Muda adalah salah satu subjek yang dilakukan oleh pelajar tahun akhir di Universiti Malaysia MElaka (UTeM). Untuk subjek PSM, setiap pelajar perlu menghasilkan projek.Projek yang telah dipilih adalah projek pembelajaran yang bertajuk "Mari Belajar Solat" untuk kanak-kanak menggunakan aplikasi untuk telefon mudah alih.Mempelajari solat adalah satu projek pembelajaran kerana kanak-kanak boleh belajar langkah-langkah untuk melaksanakan solat tersebut.Aplikasi ini dibangunkan untuk kanak-kanak berusia dalam lingkungan tiga hingga tujuh tahun.Projek ini menggabungkan empat elemen multimedia iaitu teks, grafik, audio, dan animasi.Projek ini telah dibagunkan dengan menngunakan Adobe Flash CS6. Beberapa objektif yang ingin dicapai daripada projek ini ialah membolehkan kanak-kanak untuk belajar Solat dan menarik perhatian menggunakan

TABLE OF CONTENTS

CHAPTER	SUBJECT	PAGE
	DECLARATION	II
	DEDICATION	IV
	ACKNOWLEDGEMENTS	V
	ABSTRACT	VI
	ABSTRAK	VII
	LIST OF TABLES	XII
	LIST OF FIGURES	XIV
	LIST OF ABBREVIATIONS	XVI
CHAPTER I	INTRODUCTION	
	1.1 Project Background	1
	1.2 Problem Statement	2
	1.3 Objective	2
	1.4 Scope	3
	1.4.1 Target User	3
	1.4.2 Contents	3
	1.4.3 Deliverable	3
	1.5 Project Framework	4

- 1.6Project Significance4
- 1.7 Conclusion 5

CHAPTER II LITERATURE REVIEW PROJECT

2.0	Introduction	6
2.1	Area of study	6
2.3	Solat And Technology	7
2.4	Multimedia in Education	8
2.5	Interactive Multimedia	9
2.6	Mobile Learning application	9
2.7	Current Systems	9
2.8	Comparison of existing system	12
2.9	Conclusion	13

CHAPTER III METHODOLOGY

3.1	Resea	arch Activities	14
	3.1.1	Data Gathering / Collection	14
	3.1.2	Analysis of the data	14
3.2	Produ	ct Development Methodology	16
3.3	Projec	ct Requirement	17
	3.3.1	Hardware Requirement	18
		Software Requirement Hardware and Software	19
		Requirement Analysis	20
3.3	Projec	ct Schedule and Milestone	20
3.5	Concl	lusion	24

CHAPTER IV ANALYSIS

4.0 Introduction

4.1	Project Requirement	25
	4.1.1 Project Requirement Analysis	26
4.2	Requirement Analysis	27
	4.2.1 User Analysis	28
4.3	Conclusion	28

CHAPTER V

DESIGN AND IMPLEMENTATION

5.0	Introduction	29
5.1	Design Architecture	30
	5.1.1 Image / Graphic	31
	5.1.1.2 Audio	32
	5.1.1.3 Animation	33
	5.1.2 Preliminary Design	33
	5.1.2.1 Storyboard Design	33
	5.1.2.2 Interface Design	34
	5.1.2.3 Output Design	38
5.2	Product Implementation	39
	5.2.1 Production of Texts	40
	5.2.2 Production of Graphic	41
	5.2.3 Production of Audio	42
	5.2.4 Production of Animation	43
	5.2.5 Media Integration	44
5.3	Software Configuration Management	46
	5.3.1 Configuration Environment Setup	46
	5.3.2 Version Control Procedure	48
5.4	Implementation Status	49
5.5	Conclusion	51

25

CHAPTER VI TESTING AND EVALUATION

6.0	5.2.5 Media Integration	52
6.1	Test Plan	53
	6.1.1 Test User	53
	6.1.2 Test Environment	54
	6.1.3 Test Schedule	56
	6.1.4 Test Strategy	57
	6.1.5 Test Design	58
6.2	Test Implementation	58
	6.2.1 Test Description	58
6.3	Testing Result and Analysis	61
	6.2.1 Analysis Testing	64
6.4	Conclusion	67

CHAPTER VII PROJECT CONCLUSION

7.1	Observation on Weaknesses and Strengths	68
	7.1.1 The Strength	68
	7.1.1 The Weakness	69
7.2	Propositions for Improvement	70
7.3	Contribution	70
7.4	Future Work	70
7.5	Conclusion	70

REFERENCES

BIBLIOGRAPHY

C Universiti Teknikal Malaysia Melaka

APPENDIX A APPENDIX B APPENDIX C APPENDIX D

C Universiti Teknikal Malaysia Melaka

LIST OF TABLES

TABLE	TITLE	PAGE
Table 2.1	Comparison of existing system	12
Table 4.1	The Usage of Multimedia Elements	27
Table 4.1	Production of Text	40
Table 5.1	Example of audio used	42
Table 5.2	Example of audio used	43
Table 5.3	Example of Animation created Action Script	43
Table 5.4	Example action script Multiple Choice Questions	45
Table 5.5	Table Software Configuration Environment Setup	47
Table 5.6	Version Control Procedure	58
Table 5.7	Overall duration schedule	50
Table 5.8	Implementation Status	50
Table 6.1	Minimum Hardware Requirement for Testing	55
Table 6.2	Location of Testing	55
Table 6.3	Table Test Schedule	56
Table 6.4	Functionality Testing Forms for Multimedia Expertis	e 59
Table 6.5	Usability Testing Form for instructors	60
Table 6.6	User Acceptance Testing Form for Students	61
Table 6.7	Results for Functionality Testing	62
Table 6.8	Results for Usability Testing	62
Table 6.9	Results for Acceptance Testing	63

LIST OF FIGURES

FIGURE

TITLE

Figure 2.1	Solat Demo For Children	10
Figure 2.2	Manual of Belajar Solat	11
Figure 2.3	Jom Solat	11
Figure 3.1	The Methodology Multimedia Production Diagram	15
Figure 5.1	System Architecture Flow	30
Figure 5.2	Home Design Background	31
Figure 5.3	Menu Design Background and Button	32
Figure 5.4	Sample of Audio Recorded	32
Figure 5.5	Sample of Animation Rukun Solat	33
Figure 5.6	Home Interface Design	34
Figure 5.7	Mari Belajar Solat 1 Interface Design	35
Figure 5.8	Belajar Solat 2 Interface Design	35
Figure 5.9	Rukun Solat 3 Interface Design	36
Figure 5.10	Niat Solat 4 Interface Design	36
Figure 5.11	Niat Solat 2 Interface Design	37
Figure 5.12	Niat Solat 4 Interface Design	37
Figure 5.13	Example of Home	38
Figure 4.14	Example of Menu Belajar Solat	39

PAGE

Figure 5.15	Example of vector graphic	41
Figure 5.16	Example of Bitmap graphic	42
Figure 6.12	Testing Environment	55
Figure 6.2	Testing Environment	56
Figure 6.3	The graph that the Functionality Testing	63
Figure 6.4	The graph that the Usability Testing	65
Figure 6.6	The graph that the User Acceptance Testing	66

xv

LIST OF ABBREVIATIONS

PSM	-	Projek Sarjana Muda
PDA	-	Personal Digital Assistant
PSD	-	Photoshop Data File Extension
PNG	-	Portable Network Graphics
RAM	-	Random-Access Memory
SWF	-	Shockwave Flash
Wav	-	Waveform Audio File Format
GIF	-	Graphics Interchange Format
JPEG	-	Joint Photographic Experts Group
DVD-R	-	Digital Versatile Disc Recordable
CD	-	Compact Disc
M-Learning	-	Mobile Learning
MGBL	-	Mobile Game Based Learning
PC	-	Personal computer

xvi

CHAPTER I

INTRODUCTION

1.1. Project Background

Solat is the most important thing that must do by Muslim around the world. Each Muslim does Solat every day as an obligation to their religion. Solat is the name for the prayers which are performed five times a day as a direct contact to the god. As is known, Solat has two main components which are the physical movements and the verbal components. For this reason, we discover the true sense of Solat since it will enable us to perform it in a deeper and more meaningful manner. Let's have a look at the Solat performed step by step. The movements of a Solat are as follows:

- Kiyam: standing up
- Ruku: bending down
- Secde: prostrating

In this project, mobile application based learning which entitles "Mari Belajar Solat" is developed to help the kids between ages 3-7 years is to set that step by step Solat in easy and fun way. The objectives that could be achieved while implementing this project, "Mari Belajar Solat" is to make an easier for kids to learn Solat in fun and interesting way. This application is about learning about the Solat performed step by step. After the learning process, this application also contain with fun activity which is Solat quiz, so kids can test their understanding of what have they learn from the application. The project is an application which is equipped with all interactive learning elements such as activities, graphic, and audio that can teach kids to Solat. This project will be deliverable on mobile phone which easier to bring and browsed anywhere and anytime.

1.2 Problem Statements

Nowadays, much kind of media application is release for example there are lots of mobile games and learning. But mostly the application is limit to quiz and games only. With this project, "Mari Belajar Solat", it will present the educational content in interactive and playful way through mobile devices. Currently, kids are using the book as the main element or reference in their learning process and they still not had been exposed to learning application through mobile compare to games application.

Using the current method of learning which is by book, kids usually not interested in its content and they will bored to learn more about the topics. Thus, kids find it hard to understand the Solat process and steps using the word and static pictures from the book. As an alternative, there are learning materials today use mobile based technologies as an alternative way to attract the kid's concentration in education.

1.3 Objectives

The objectives of the project are describes briefly as following:

- i. To develop a Mari Belajar Solat mobile application based learning.
- To design interesting and attractive Mobile application based learning.
- iii. To investigate the effectiveness of using mobile app.

In this thesis, problems are investigated according to these questions:

- i. How to attract student in learning Solat?
- ii. How mobile application can attract student concentration in learning?
- iii. How to give positive impact to kids on solat.

1.4 Scopes

The scopes of this project will include the term of target user, contents to be developed and deliverable. The scopes are described as following:

1.4.1 Target User

Kids are the target user for this project. The age of the kids is around 3 until 7 years old.

1.4.2 Contents

The contents to be developed cover the followings:

- i. Develop a mobile learning about Solat.
- ii. Develop a mobile application about Solat and activity
- iii. The product will use Adobe Flash CS6.

1.4.2 Deliverable

The product will be deliver using mobile Smartphone's which are compatible with Flash.

1.5 Project Framework

Project framework for mobile application development to learning "Mari Belajar Solat" is using the design cycle iteration. In the first phase, as a developer, practices and activities, quiz will be reviewed. In developing this application, kids learn to exposure in prayer.

Developers will take into account the new models and develop technologies and design. By using Adobe Illustrator and Adobe Flash, developers can create interface and animation. The interface should be simple, interesting, nice and clear. So that can be understood by kids 3-7 year.

After complete the product development, it will test to examine consumer acceptance of products. In this case, the kids will be a tester. They will be given a mobile application where they will test the function and give feedback. Any errors, bugs or feedback during the test will be considered and modified to get better output and can improved the product.

1.6 Project Significance

This project will provide easy way to memorize child. The project that is been developed is focusing on using technology to help target users can understand and perform better. Features such as quiz and interactivity will help kids to understanding, performance and remember every each principle in performing Solat better. Below are some of the significant of the project:

i. To help the kids fast thinking

The aim is to give an easy way for the kids to memorize the step by step of the Solat . These activities will teach the kids to choose the correct answer.

ii. Platform for learning

Mobile application based learning is more interesting rather than just reading the book. The book is static and not interesting at all. Therefore, mobile application based learning is the best platform to teach them. This project will change the way to deliver the information. Using mobile application based learning can be an effective method. Mobile application learning approaches allows kids to access learning effectively because it is one of the hand-held devices instead of carrying books. Mobile is also more convenient to carry anywhere and at any time.

1.7 Conclusion

This chapter is an introduction of mobile application based learning is to be developed. It describes the project background, statement of the problem, objectives, scope and significance of the project. This project can achieve the objectives. This educational program "Mari belajar Solat" tells to people about step by step Solat based on the reference materials. Thus, this project can be used as a reference for future generation.

For the next chapter, it will discuss about the literature related to mobile application and methodologies to be used to develop a mobile application based learning.

CHAPTER II

LITERATURE REVIEW

2.0 Introduction

This chapter will discuss about the working of the literature review related to mobile application based learning. The purpose is the research to develop knowledge that the published material in order to create knowledge during the project.

In addition, the literature is the source, referring to the study of a collection of materials published in selected areas such as articles, journals, theses, online library, technical "documents and case studies.

2.1 Area of study

Nowadays, it will be difficult for kids to focus on their studies. This is because the books are not interesting and attractive. Mobile application has become a trend in the market, and the kids are more interested mobile phone. General definition of mobile learning is the knowledge transfer events, content, tools, and applications. Education is now become necessity in our daily life. Every subject which taught in school has both information and knowledge. Both knowledge have importance and clear aims.

2.3 Solat and Technology

Prayer is speech and deed, beginning with the takbir and ended with regards to the conditions. Principe prayers must compulsory on individual who are already bahligh. Word is derived from the Arabic prayer which means prayer. The word prayer in Arabic means seeking the welfare of prayer and praise, while in fact contain definitions, face heart (soul) to God and His cause fear, and grow in the soul a sense of grandeur, greatness and perfection of his power.

According to figh term prayer is a form of worship which consists of movements, speeches, beginning with Takbiratul ihram caring and end with regards to certain conditions.

2.4 Multimedia in Education

According to a study done by Brian A (2003) have shown that people remember 20% of what they hear, 40% of what they see and hear, but 70% of what they see, hear, and do. Education programs that utilize multimedia and interaction allow students to learn concepts more quickly and attract. Development of information technology and the ability to deliver digital information has become the most convenient communication techniques in the field of education. The most common technology to transmit information using multimedia and mobile application. The benefits of mobile application:

- i. Kids can study at any time and place they want. The size of a mobile phone is small and easy to be carried anywhere.
- ii. Fixed and 'read only'. Additionally can download free on goggle play.
- iii. Kids can get information easily and quiz. They just need a mobile phone or smartphone with multimedia capabilities and can download on goggle play.