

## BORANG PENGESAHAN STATUS TESIS\*

JUDUL: LEARNING MULTIPLICATION TABLE IN MOBILE

SESI PENGAJIAN: 2007/2008

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\* Tesis dimaksudkan sebagai Laporan Projek Sarjana Muda (PSM)

# **LEARNING MULTIPLICATION TABLE IN MOBILE**

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

**FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY  
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**2008**


**DECLARATION**

I hereby declare that this project report entitled

**LEARNING MULTIPLICATION TABLE IN MOBILE**

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 parent, thanks for giving me hopes and supports to finish this project.  
For all the words and for all the smiles, I thank you. And for the success of this  
project, it is all because of both of you and always for both of you.

Thanks

## ACKNOWLEDGEMENT

**In the name of Allah (God), The Most Merciful, the Beneficent**

**Alhamdulillah**, I feel grateful because with help of Allah (God), this Project Sarjana Muda II (PSM II) has been completed successfully and all the hard time I had through out the semester.

Special thanks to my supervisor Dr. Sazilah Binti Salam for her advice, guidance and always spends times to me and give me such a brilliant idea to do well in PSM II.

I also like to extend my thanks to my beloved mom for her support and all of my family members especially my sisters and my brothers.

Last but not least my housemate 32, friends and those who are directly or indirectly involved for their continued support, encouragement and contribution in making this project achievable.

## ABSTRACT

PSM is a core subject for last year student who takes Bachelor Computer Science in Universiti Teknikal Kebangsaan Malaysia Melaka (UTeM). This subject is to give an experience and knowledge to the student on how to develop the real project before entering the real environment of working. My project is entitle "Learning Multiplication in Mobile". This project is developed especially for my target user which is students from 8 – 10 years old. The content of the project is to teach the student on how to memorize the times table using accelerated learning techniques. The approached that has used to build this project is Visual Learning Techniques. The result that has done is the students still have a problem to memorize the multiplication table. This project will teach the student on how to memorize the multiplication using graphic that represented the number. The student can see and imagine the graphic that represented a number and they will have fun for memorize times table. As a conclusion this project introduced the new way of delivering information not only to the students but also to teacher and parents. Lastly, hope this project is success so that will a have strength to do well in the other project in the future.

## ABSTRAK

PSM merupakan subjek wajib yang perlu diambil oleh semua pelajar tahun akhir Ijazah Sains Komputer di Universiti Teknikal Kebangsaan Malaysia Melaka (UTeM). Subjek ini memberi pengalaman and pengetahuan kepada pelajar dalam membuat sistem yang sebenar sebelum melangkah ke alam pekerjaan yang sebenar. Tajuk projek saya ialah "Learning Multiplication Table in Mobile". Projek ini dibangunkan untuk kanak-kanak berumur 8 – 10 tahun. Isi kandungan projek ini adalah untuk mengajar kanak-kanak untuk mempelajari dalam mengingati sifir dengan menggunakan teknik-teknik yang terpantas. Pendekatan yang saya gunakan dalam membangunkan projek ini teknik belajar berasaskan visual. Hasil daripada kajian yang telah dilakukan, didapati bahawa pelajar masih menghadapi masalah dalam menghafal sifir. Projek ini membantu pelajar dalam menghafal sifir dengan menggunakan teknik grafik yang mewakili nombor tertentu. Pelajar juga boleh melihat dan membayangkan grafik yang mewakili nombor ini. Dan mereka akan merasa seronok untuk menghafal sifir. Sebagai kesimpulan, projek ini memperkenalkan cara baru untuk menyampaikan maklumat bukan sahaja kepada pelajar tetapi juga kepada guru dan ibu bapa. Akhir sekali saya berharap projek ini akan berjaya dan saya juga akan mendapat kekuatan untuk membuat projek yang lebih baik pada masa akan datang.

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## LIST OF ABBREVIATIONS

PSM	-	Projek Sarjana Muda
UTeM	-	Universiti Teknikal Malaysia Melaka
FTMK	-	Fakulti Teknologi Maklumat dan Komunikasi
M-Learning	-	Mobile Learning
PC	-	Personal Computer
CD	-	Compact Disc
DVD	-	Digital Video Disc

## CHAPTER 1

### INTRODUCTION

#### 1.1 Project Background

There are estimated to be 1.5 billion mobile phones in the world today (Prensky, 2004). This is more than three times the number of personal computers (PCs), and today's most sophisticated phones have the processing power of a mid-1990s PC. Mobile phone technologies with the potential for supporting and delivering some elements of teaching and learning processes.

The project that will be developed is a mobile learning entitled Learning Multiplication Tables in Mobile. For this project, it will be used the best way that can help children to remember times tables. It is frustrating that on one day a child may have remembered a time tables but tends to forget the table again on the next day. Learning time's table is important in Mathematic. The student really needs to understand and memorize the times table. The students must have strong foundation in solving simple multiplication problems starting from primary school.

For this project, it will develop for children that need techniques about the multiplication in the mobile. The user can get information about multiplication and how to learn multiply by own mobile without open the book or CD in the PC. Using mobile assist learning this can be change style traditional.

This project will make the task easier in their daily job for children or parents. This project will be developing for children to learn multiply anytime, anywhere.



## 1.2 Problem Statement

In the current scenario that we can see today, most of the children have problem to solve question especially in mathematic such as remember times table. Furthermore they are not interested with mathematic because they only play with numbers and have many step that need to solve a problem. Some of the students think that using calculator is faster and easy, but for a simple calculation we do not need the calculator.

Our children in primary school now already know on how to use hand phone although they are still young. So, this project is very relevant to be developed because it can help in their learning process and can solve calculation in our head because we have learned the basic calculation skills. The students prefer something that can entertain them while studying. So they can learn the multiplication table using hand phone.

Combination this element multimedia in the hand phone will be helping them learning times table letter. With using graphic process teaching and learning will be easier and attract children to learn times table. Pictures and word also given simple instructional situations for understand and enjoyable.

## 1.3 Objective

Based on the problem, this project purposes to develop the how to Learning Multiplication Tables in Mobile. It can be useful achieve several objectives which are:-

1. To design and develop a courseware for Learning Multiplication Tables in mobile phones.
2. To increase student interest learning mathematic (multiplication table) in a new way where they can learns and enjoys this project, anytime anywhere.

3. To make the project able to be used and consequently to help the children to learn the multiplication in mobile without using exercise books and common hardware such as pc.
4. To test the user acceptance in using the mobile courseware.

#### **1.4 Scopes**

The scope of this project is to teach student how to learn multiplication in a simple terms and enjoyable. The target users of this project are primary school student aged 8-10 years. Parents can also use this project to teach the children the basic of multiplication and it is a great way to explore the subject together with their children. After that, this project is a simple way of engaging children in an activity that will help them learn and process information about a topic.

There are three learning modules in this project because the important thing is the approach that the user when explore this project. The first module in this project is introduction to number and the picture or graphic. The children must know the basic knowledge about number. The second module is simple story on how to learn and memorize times table in a faster way. The student will learn the multiplication techniques using graphics and animation element in a mobile. The last module in this project is a simple activity to help the student to practice the skills that they have learnt such as an exercise is input the answer to the question. This project will have audio for the children to listen and memorize the times table.

This project not meant for students only. It also can be used by parents who want to teach their children. This project will make the task easier in their daily job for children or parents. This project will be developing for children to learn multiply anytime, anywhere.

### 1.4.1 Mobile Supported Device

Below are list of phone model with price and flash support application. This phone type is only for Nokia model. It can support Flash Lite 2.0.

**Table 1.1: Nokia mobile phone that support Flash Lite 2**

Model	Screen Size	Official Prices (RM)	Supports
Nokia 3230	176 x 208 pixels	930	Flash Lite 1.1 and 2
Nokia 5200	128 x 160 pixels	600	Flash Lite 1.0 and 1.1 and 2.0
Nokia 5300	240 x 320 pixels	785	Flash Lite 1.0 and 1.1 and 2.0
Nokia 6260	176 x 208 pixels	N/A	Flash Lite 1.1 and 2
Nokia 6300	320 x 240 pixels	1010	Flash Lite 1.0 and 1.1 and 2.0
Nokia 6620	N/A	N/A	Flash Lite 1.1 and 2
Nokia 6630	176 x 208 pixels	N/A	Flash Lite 1.1 and 2
Nokia 6670	176 x 208 pixels	N/A	Flash Lite 1.1 and 2
Nokia 6680	176 x 208 pixels	1050	Flash Lite 1.1 and 2
Nokia 6681	176 x 208 pixels	N/A	Flash Lite 1.1 and 2
Nokia 6682	176 x 208 pixels	N/A	Flash Lite 1.1 and 2
Nokia 7390	240 x 320 pixels	1550	Flash Lite 1.0 and 1.1 and 2.0
Nokia 7610	176 x 208 pixels	N/A	Flash Lite 1.1 and 2
Nokia N70	176 x 208 pixels	1085	Flash Lite 1.1 and 2
Nokia N90	352 x 416 pixels	1275	Flash Lite 1.1 and 2

### 1.5 Project Significance

This project will be developed for children ages 8-10 years. Children always attracted to something that related with animation and graphic. This project will included the interactive multimedia elements in the hand phone such as graphic, audio, text and animation. This will change the learning environment.

This project is important in helping children to improve their thinking and learning skills especially in learning multiplication or times table. This project shows that accelerated learning techniques can be applied into multimedia application in hand phone to help children to improve the way of learning. This project can be used to help children to learn multiplication tables at home, anytime and anywhere.

## **1.6 Expected Output**

The output is an application that is designed specially for mobile devices with user-friendly interfaces and easy instructions for student to understand. It has the learning for a more entertaining and effective experience that can increase the student interest in learning mathematics in a new way where they can access rich media resources including animation, sound, picture and text. While Mathematics is considered as a stiff and boring subject to many of school kids, the colorful elements of multimedia might do the trick for them to gain a little more interest in this subject. The co-ordination of all the elements can be stimulating to student in order for them to have better knowledge absorption.

## **1.7 Conclusion**

This chapter is basically about the introduction of the project that is going developed. In this part, the objectives of the project have been stated, scopes have been identified and the purpose also must be highlight properly. Every project must be having its own target user to make the objectives addressed and the final product is useful as well. This project which included all the multimedia elements should attract the interest from children to study and acknowledged about multiplication.

So, the next step is making literature review which involved searching, collecting, analyzing and drawing conclusion in finding the significance of the project. Besides that, next chapter will also describe about methodology that will be used in developing this project.

## **CHAPTER II**

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

#### **2.1 Introduction**

This chapter reviews some of the works in the field of learning techniques that can be applied for developing the project. For this chapter there are two sub topics: it is literature review and project methodology. This topic will be discussed widely in fact and finding which include research on development software and the accelerated learning technique. Literature review is important because it show the target of the project.

Topic of project methodology will discuss about the methodology that is used in this project. Methodologies that will be used in developing this project are ADDIE model. Data collecting is through research on current software in mobile learning (m-Learning), references material in printed medium especially for special needs children and also books that are particular for developing this project. In project requirements topic, the software, hardware and other requirements that are required in this project will be discussed.

#### **2.2 Facts and findings**

This topic discusses the related research and findings that relate to this project. There are two major areas of literature to be reviewed:

1. **Research on Mobile Learning**

Many definitions of mobile learning focus on harnessing such mobile devices for learning.

2. **Accelerated learning techniques.**

Accelerated learning techniques are the approach that used in this project. The accelerated learning skills are very useful for the students or anyone to get fast remembering something whether a number or word.

### **2.2.1 Domain**

Mobiles learning devices are also excellent interpersonal communication tools bringing the opportunity for co-discovery learning for people cooperating together in order to resolve problems and for developing cooperative research and analysis skills, effective collaboration approaches, and effective communication skills when not in a face-to-face situation. As you probably have already found out in your own life, sometimes much better results come when learning from peers cooperating with you at solving a problem or issue than when learning the same subject matter from the lecturing of a supposed expert, isolated from the actual problem and confined within the boring white walls of a traditional classroom.

## 2.2.2 e-Learning VS m-Learning

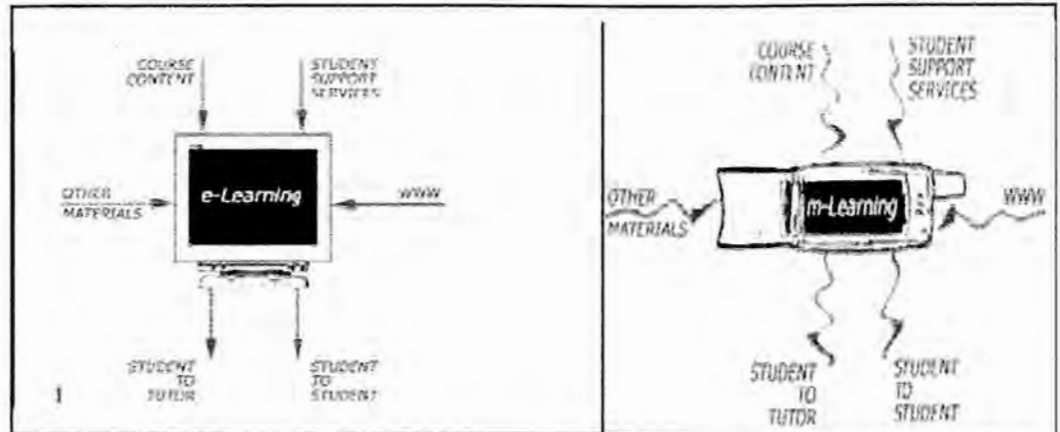
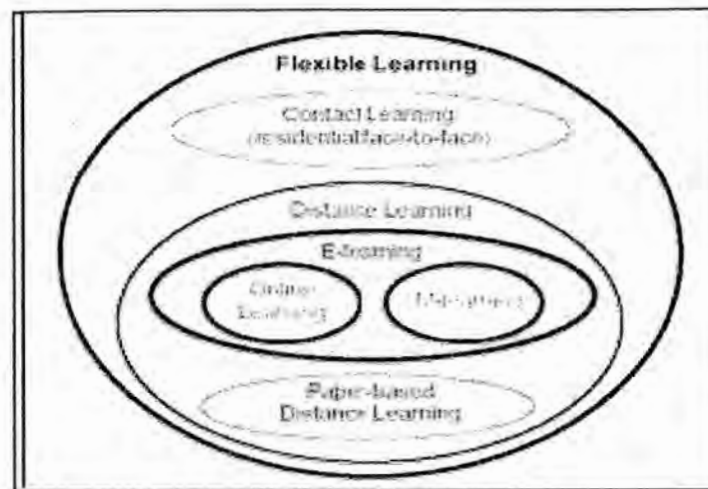


Figure 2.1: e-Learning vs m-learning

### 2.2.2.1 The Status of Learning

The evolution in education and training at distance can be characterized as a move from d-Learning (distance learning) to e-Learning (electronic learning) to m-Learning (mobile learning).

**d-Learning**  $\Rightarrow$  **e-Learning**  $\Rightarrow$  **m-Learning**



**Figure 2.2: The Subsets of Flexible Learning**

### 2.2.2.2 e – Learning

#### Electronic Learning

- A subset of technology-based training and encompasses all learning activities conducted on the Internet.
- Can be "live" (also known as "synchronous") learning, meaning student communicate with peers and instructors in real-time, or it can be completely self-paced, which is known as "asynchronous" learning.
- Covers a wide set of applications and processes, including:
  - Computer-based training
  - Web-based learning
  - Virtual classroom
  - Digital collaboration
- The delivery of content [and interaction] via all electronic media, including internet, intranets, extranets, satellite broadcast, audio/video tape, interactive TV, and CD-ROM [Urdu & Weggen, 2000]