BORANG PENGESAHAN STATUS TESIS

JUDUL: M-LEARNING: SCIENCE YEAR I (USING OUR SENSES)

SESJI PENGAJIAN: 2007

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M-LEARNING: SCIENCE YEAR 1
(USING OUR SENSES)

ROSFATIMAH BINTI ABD TALIB

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
2007
DECLARATION

I hereby declare that this project report entitled

M-LEARNING: SCIENCE YEAR 1
(USING OUR SENSES)

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

STUDENT : ______________________ DATE: 9 Nov 2007
(ROSFATIMAH BINTI ABD TALIB)

SUPERVISOR : ______________________ DATE: 12 Nov 2007
(DR SAZILAH BINTI SALAM)
DEDICATION

Specially dedicated to my beloved parents,
En Abd Talib bin Abd Majid and Pn Hasnah binti Md Isa

For my supervisor, Dr Sazilah binti Salam
(KUTKM)

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

The intention to extend my greatest gratitude in completion of this *Proyek Sarjana Muda II* (PSM II) goes beyond the ability that words cannot explain. With the best effort to address my appreciation on the contribution of all individual and parties involve directly and indirectly, I would first and foremost like to thank my supervisor Dr Sazilah Salam for being a dedicated supervisor in providing endless guidance throughout the fulfillment of the Bachelor’s Degree Thesis. It is through her valuable and justified reasoning and suggestion that open my eyes to greater extent on the unexplored aspects of the field of my research.

There are also my family members and friends effort in providing as much knowledge and pouring in views and ideas to enrich the functionality of the application being developed. Their good intention and generous assistance is worth mentioning and I would be glad to take this opportunity to convey my unbounded gratitude in return.

I shall also forward my appreciation to other lecturers who never turn me down when being consulted for extra advice in carrying out the project. Thank you to all of you.
ABSTRACT

M-learning: Science Year 1(Chapter 4: Using Our Senses) is a mobile application which is to be installed into a mobile device. There are eight units in this chapter, which are further divided into sub-units. It is developed to increase kids interest in learning science in a new way where they can access rich media resources including animation, sound, picture and text. It will become an alternative way for practicing on what they have learnt in school without using exercise books and common hardware such as pc, anytime and anywhere. Using handphone, student can access this application from anytime and anywhere such as bus, class, cafe or home. In particular, this report explains four main chapters which consist of Introduction, Literature Review and Project Methodology, Analysis and Design. The introduction explains what the application is and what their purposes are. While in the literature review and project methodology, it explains the existing similar application and comparison, the methodology approach and project requirement. Analysis is the critical part in this report which all information are captured and recorded properly. In addition, the requirements analysis is also covered in this part. The design is where the mobile architecture will be defined.
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CHAPTER I

INTRODUCTION

1.1 Project Background

Mobile Learning, or M-learning as it is often called, is a relatively new tool in the pedagogical arsenal to assist students and teachers as they navigate the options available in the expanding world of distance learning. M-Learning is defined as “the delivery of training by means of mobile devices such as Mobile Phones, PDAs and digital audio players, as well as digital cameras and voice recorders, pen scanners” and other mobile devices (McConatha and Matt Prawul, 2007)

This project is about developing a multimedia m-learning application that demonstrate and promote the use of various multimedia learning applications through affordable mobile devices. This m-learning application is a Primary Science programme for year 1 based on the latest curriculum set by Ministry of Education. The target users of this project are kids aged 5-7. Elements of audio, graphics, animation and text will be applied in this project to make it more interesting and enjoyable. Besides, the usage of colors, font and grammar that is suitable is also a major concern in developing this project. It must fulfill the requirement of the students itself which we know that each of them are different in terms on knowledge, capability and skills.
The selected chapter is ‘Using our Senses’ which is the forth chapter in the schema. There are eight units in this chapter, which are further divided into sub-units. Students will learn:

- about colours
- about shapes
- about sizes
- to group objects
- about sounds
- about smells
- about tastes
- about touching and feeling objects

They have learnt this topic in school during their science classes. Thus, it is a way to practice and improve their knowledge on what they have learnt in school through mobile technologies. There will be numbers of question for them to answer and marks will be given for every correct answer. There will be clues provided (picture, sentence, audio, animation) for each question.

The accelerated techniques will be used in developing this application. It has three main menus for users. First is ‘Let’s Hear Story’, which is the 2D animation that is created in a form of story to teach students about this chapter. Next is the ‘Activities’ part which are the exercises of the topic based on the story. Lastly are the instructions to guide users in exploring the application and the accesskeys that allow users to use the numerical keypad of mobile devices to quickly navigate to areas of application.

1.2 Problem Statements

This project is about developing the m-learning product of Science year 1. Science year 1 has been selected because it is a new subject that has been introduced to
year 1 students. Before this, Science subject has only been taught starting from year 4. Moreover, the Ministry of Education has stated that Mathematics and Science subject must be conducted in English. This caused a problem in understanding among the students especially Malays.

The traditional way such books are not attractive as it is not interactive and it fails to attract kids to gain interest with that way. We can see there are lots of Science CD courseware and e-learning for students nowadays. Many courseware and exercises books are sold in the market but there are a few weaknesses such as inconvenience factor where it cannot be accessible from anywhere such as bus and class and it depends on the physical location, the people and the tools that are available when to use them.

In school, the usage of multimedia applications has proved its effectiveness in increasing kids’ interest to learn Science. Teachers use CD as a supporting material in their learning activities but the schedule of each class to use the computer laboratory is limited. Each class normally uses the computer laboratory once or twice in a month. In this case, students will get to learn the subject using computer for a few topics only.

1.3 Objective

1. To develop mobile-learning application
   Develop mobile-learning application using Macromedia Flash 8 application. It can be used by handphones.

2. To create an interactive and fun way to be learned
   Increasing kids interest in learning science in a new way where they can access rich media resources including animation, sound, picture and text.
3 To create a user friendly and easy to use application by kids
   As kids of aged 5-7 are the main target of users, it has to be easy to use and the
   learning design must suit the mobile devices.

4 To produce a convenience product for students
   Become an alternative way for practicing on what they have learnt in school
   without using exercise books and common hardware such as pc, anytime and
   anywhere.

5 To help parents to use handphone as a supporting material in process of teaching
   Handphone can be used in class, bus or at home anytime and anywhere.

1.4 Scope

The scope of the project is only applied on three areas: Specific Users, specific
platform and specific functional. Each area is describes as below.

1.4.1 Specific User

The target kids are between the ages of 5 to 7 years old. Teachers and parents can
used the application in helping their kids understand better in this topic. For parents, it is
a great way to explore the subject together with their kids. For teachers, it is a simple
way of engaging young children in an activity that will help them learn and process
information about this chapter.

1.4.2 Specific Platform
User must have mobile technologies which are handphones that has been installed with symbian OS, the operating system for handphone.

1.4.3 Specific Functionality

This project will cover only one chapter in the standard one science syllabus; ‘Using Our Senses’ which is the forth chapter as explained earlier.

The accelerated learning techniques will be applied in this project to enhance the students to understand the topics that will be explained later in chapter 2.

The following table describes five modules that will be covered in the project.

### Table 1.1: Modules of the Project for developer

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<th>Description</th>
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<td>Creating 2D animation in ‘Let’s Hear Story’</td>
<td>The story that will cover the whole thing in chapter 4: Using Our Senses. The animation will be created using Flash 8.</td>
</tr>
<tr>
<td>2</td>
<td>Creating question in ‘Activities’</td>
<td>This application has a few sets of question which each sets have numbers of question based on the schema covered in school.</td>
</tr>
<tr>
<td>3</td>
<td>Creating clues</td>
<td>Designing and creating all the clues of each question using multimedia elements (animation, text, image and audio)</td>
</tr>
<tr>
<td>3</td>
<td>Inserting scripts</td>
<td>Inserting scripts for checking answers using Action Script</td>
</tr>
<tr>
<td>4</td>
<td>Inserting audio</td>
<td>Inserting background music, narration voice, sound effects</td>
</tr>
</tbody>
</table>
1.5 Project Significance

The project has brings some benefits and advantages to the user of the system. It will become a new way in learning as it can give a new experience for kids leaning science using mobile technologies.

Handphone usually is brought together with us. Using handphone, student can access this application from anytime and anywhere such as bus, class or home. It can be used during classes (with teacher’s permission) and even at home where parents can explore the subject together with their kids.

1.6 Expected Output

The output will be an application that will be designed specially for mobile devices with user-friendly interfaces and easy instructions for kids to understand. It has the combination of gaming and learning for a more entertaining and effective experience that can increase the kids interest in learning science in a new way where they can access rich media resources including animation, sound, picture and text. While Science is maybe considered a stiff and boring subject to many of school kids, the colourful 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 pupils in order for them to have a better knowledge absorb.

This project is important in helping students to improve their thinking and learning skills especially in learning science. This project shows that accelerated
learning techniques can be applied into multimedia application to help teachers, parents and students to improve the way of teaching and learning.

1.7 Conclusion

This project background describes the introduction to the project as a whole. It includes the content of the project, target users and the importance of the project. The problem statements describe the problems related to why this project should be developed. From the problem statements, the objectives of the project can be extracted. One of the objectives is to develop a multimedia application that demonstrates the use of the accelerated learning technique in delivering the selected topic. The scopes of the project explain the boundary and target users of the project. The needs and the content of this project are also cover in this topic. The project significance explains the output and the approach used in this project. The target of this project is to ensure that the learning process is achievable and students understand more because many of later fraction activities require an understanding of the basics of fraction conversion.

As a conclusion, this m-learning application will use a macromedia flash 8 platform that can be used with the supported mobile technologies. This will give a variety of the applications for mobile technologies in developing innovative multimedia learning applications. At the end of the project, all the objectives hopefully can be achieved and the application can be developed successfully.

For the next chapter, the literature review will be covered and from that some ideas will be generated for the next task.
CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

This chapter will discuss in detail about the literature review and project methodology of the m-learning application of a Primary Science programme for year one.

Literature review is the phase where all the processes happen such as searching, collecting and analyzing that have been published by researchers. 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 the 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 study on how to develop and things to be considered when creating an interactive m-learning application using mobile technologies, multimedia elements used in the system, portability and accelerated learning techniques.

Project methodology is a way to use all available approaches, techniques and tools to be used in achieving 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.