LEARNING MANAGEMENT SYSTEM FOR MOBILE DEVICE (LMS)

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DEDICATION

To my beloved parent and siblings.

To my supportive friends.

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Bismillahirahmanirrahim

Praise to Allah for giving me strength and patience to complete the Projek Sarjana Muda. Special thanks and appreciation to my beloved parents Haji Hassan Bin Othman and Hajah Wan Munaini Bt Wan Ali which always pray and supporting me. I also would like to express gratitude to my project supervisor Pn Nurazlina Bt Mohd Sanusi for guiding me through the completion of this project and for those who involved in contributing something meaningful during this project.

ABSTRACT

Learning Management System (LMS) was developed which based on the current scenario in online tutoring. This application is limit to the stage of viewing notes and answering short questions by student and process of adding, updating or deleting notes by admin. The objective of this application development is to allow the student to view notes and answering short questions related to Science through mobile device. Beside that, it aims to assist student in the development and achievement of life-long learning. Object-oriented approach is used as a project methodology for this project. The Rational Unified Process is chosen to aid in this application development based on the capabilities of this approach in smoothing the object-oriented software development process. Tools that are used in developing this application such as Sun Wireless Toolkit 2.5.1, Apache Tomcat as web server and MySQL as the database. The expected result from this application is to help students to do quick revision in their study.

ABSTRAK

Learning Management System (LMS) for Mobile Device dibangunkan berdasarkan situasi terkini pembelajaran atas talian. Aplikasi yang dibangunkan ini menyediakan nota serta soalan pendek untuk kemudahan pelajar dan proses menambah, membuang serta mengemaskini dilakukan oleh pengurus sistem. Objektif aplikasi ini adalah untuk memudahkan pelajar membaca nota serta menjawab soalan berdasarkan matapelajaran Sains menerusi telefon bimbit. Selain itu, aplikasi ini dapat membantu pelajar untuk menimba ilmu tanpa mengira tempat dan masa. Pendekatan berorientasikan objek digunakan bagi aplikasi ini. *Rational Unified Process* dipilih bagi membangunkan aplikasi ini berdasarkan kebolehan pendekatan tersebut dalam kaedah pembangunan sistem berorientasikan objek. Perkakasan yang digunakan seperti *Sun Wireless Toolkit 2.5.1, Apache Tomcat* sebagai web server dan *MySQL* sebagai pangkalan data. Hasil daripada pembangunan projek ini, diharapkan ia dapat membantu pelajar membuat ulangkaji dengan cepat dan mudah.

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LMS	-	Learning Management System
PDA	-	Personal Digital Assistant
UPSR	-	Ujian Penilaian Sekolah Rendah
WAP	-	Wireless Application Protocol
RUP	-	Rational Unified Process
CLDC	-	Connected Limited Device Configuration
MIDP	-	Mobile Information Device Profile
JSP	-	Java Server Pages
OOAD	-	Object Oriented Analysis Design
ERD	-	Entity Relationship Diagram

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CHAPTER 1

INTRODUCTION

1.1 Project Background

Learning Management System for Mobile Device (LMS) is a comprehensive and affordable system that combines content and tools which can replace aspect of traditional face-to-face instruction. LMS are a web application based to facilitate anytime, any place access to learning content. The mobile courseware for learning is a method that applies accelerated learning techniques such as revision and practices while preparing the UPSR examination.

These accelerated learning techniques will help the user especially the primary school student to do quick revision on their study. For this project, it will be applied to the Science subject taken by primary student standard 6. This Learning Management System for Mobile Device is one of the advanced web based applications that will be developed to allow user to access Science subject from that website through the mobile device.

The entire user from standard 6 can view notes from this portal by using mobile device or PDA's. This is the new technique or initiative for students to study at any place, anytime, anywhere without having any reference books.

1.2 Problem Statement

- Based on the traditional approach which is face-two-face instruction make students feel bored day by day. They are preferred to use sophisticated technology or device to make revision compared to the traditional approach.
- This project will help them to make a quickly revision and practices through the mobile device.
- Other common problem is student have to bring along their reference book whenever they need to do some revision or practices.

1.3 Objectives

The objectives to develop this project are:

- To allow the student to view notes related to Science through mobile device.
- To develop course catalog that contains Science subject that divide subject into several chapter related to it.
- To create a mobility system portable anywhere and anytime.

1.4 Scope

The scope of the Learning Management System can be determined from various aspects of categories. With the scope of this system is systematically classified as the sub chapters below.

1.4.1 Scope of System Functionalities

The main functions of this system include:

- **View Note**

  Divide Science subject into several chapters related to it.

- **Admin Module**

  Admin add, update and delete notes.

1.4.2 Scope of System User

The users of this system include:

- School student standard 6
  They can do quick revision on their study without face-to-face instruction by view notes provided and answer some short question provided.

- Administrator
  They can add, update and delete notes.

1.5 Project Significant

This project will give benefit to the users especially for the primary schools students who are prepared for UPSR examination. All students standard 6 can do revision from mobile anytime, anyplace and anywhere. Besides this, mobile learning technique will help the users to make a fast revision and practices while preparing the UPSR examination. This technique will make them better understanding the subject in UPSR examination. This mobile learning management system also helps the users to save their time and they can access that application they want.

1.6 Expected Output

For this learning management system for mobile device the expected output will help the users to have knowledge through the hand phones at anyplace without bring their reference books. Knowledge and learning process can now be delivered instantly to everyone, anywhere without any reason.

Moreover, with the notes will help the student to make quick revision and practices for batter understanding. This application hopes can replace traditional face-to-face learning. This application also hopes to be the useful application to the student especially for standard 6 for their UPSR examination.

1.7 Conclusion

This chapter is the introduction of the learning management system for mobile device. It illustrates and explains the overall background, problem statement, objectives, scope and the project significance of Learning Management System for Mobile Device.

To reiterate, the aim for developing this application is to ensure that primary school student standard 6 to be well prepared for their UPSR examination that applies accelerated learning techniques such as revision and practices by viewing notes provided in this system.

In the next chapter, all related literature will be review and determine. Literature review is importance to ensure the project is in a right track which refer to previous and future similar researches that have done worldwide.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

In this chapter we will discuss about literature review, fact and finding and project methodology in order to study and understand the existing system which is the fact later will be use as a guidance to develop the application which is focus on mobile learning.

2.2 Facts and Findings

The traditional education is made in classrooms where the teacher presents the learning material to a group of students. The educational technology depends mainly on teacher and the students must physically participate in the learning process. The rapid growth of information and communication technologies and rising computer knowledge of the students make possible appearance of these new educational forms.

Mobile learning is a learning using portable technologies, where the focus is on the technology which is learning across contexts and learning with mobile devices. Other definition of mobile learning is, learning that happens across locations, or that takes advantages of learning opportunities offered by portable technologies (www.wikipedia.com). Besides that, that definition of m-Learning include the ability to

learn everywhere at every time without permanent physical connection to cable networks.

The availability of advanced mobile technologies, such as high bandwidth infrastructure, wireless technologies, and handheld devices, has started to extend e-learning towards mobile learning (Sharples, 2000). Learning mobile started on 1970 - 1980 by Alan Kay and colleagues in the Learning Research Group at Xerox Palo Alto Research Center (PARC). The idea of using computerized mobile devices to support learning was formally conceptualized a surprisingly long time ago. They propose the Dynabook as a book-sized computer to run dynamic simulations for learning. Their interim Dynabook are the first networked workstations as the first serious attempt to design a computer-mediated mobile learning platform. Although the Dynabook was a concept, Dynabook prototypes can still be felt today, and will probably be felt for decades to come. The incredible modern-day legacy of Kay's work at Xerox Paolo-Alto Research Labs (PARC) includes:

- the development of personal computers
- object-oriented languages and programming generally
- the development of graphical user interfaces
- the object-oriented Smalltalk programming language (today the underlying programming language of countless applications, including current ground-breaking educational platforms such as Edusim, a virtual world application in Croquet [which was also co-founded by Kay])
- The One Laptop per Child initiative (with which Alan Kay was actively involved, and which utilizes the Smalltalk language and many of Kay's original ideas for computer-based learning).

In 1990, Universities in Europe and Asia develop and evaluate mobile learning for students. Palm Corporation had offers to universities and companies who create and test the use of mobile learning on the PalmOS platform. The year 2000, The European Commission funds the major multi-national MOBIlearn and M-Learning projects. They