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JUDUL: **MOBILE SEARCHING ENGINE FOR LEARNING MANAGEMENT SYSTEM**

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MOBILE SEARCHING ENGINE FOR LEARNING MANAGEMENT SYSTEM

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This report is submitted in partial fulfillment of the requirements for the Bachelor of Computer Science (Software Development)

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

2008

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DECLARATION

I hereby declare that this project report entitled

MOBILE SEARCHING ENGINE FOR LEARNING MANAGEMENT SYSTEM

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, Khalidir bin Mahmood and Yatinah bt Abu Samad, my supervisor, Pn. Nurazlina bt. Mohd Sanusi and my housmate at Taman Tasik Utama.

Thank you all....

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May all of efforts will be blessed with great rewards from the Almighty Allah.

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ABSTRACT

Mobile Search Engine for LMS is an application that has been developed to be used in mobile phones. Having this application, continuous learning can be easily done everywhere using the mobile phones as the medium. That application only can display the content that provided in the embedded database. The learners need to choose the topic and the application will be show the detail description. The searching function is able to user find the topic using the keyword. Information in the application is depends the information that developer provided and learner cannot be edit or deletes that content. This application developed using the java mobility technology as a programming languages and using the netbeans 6.0 and java wireless toolkit as a development kit. This project used OOAD as a approach and methodology is based on the RUP model. This application will be run in the mobile phone with supported MIDP 2.0 and CLDC 1.1.

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ABSTRAK

'Mobile Search Engine for Learning Management System' merupakan sebuah aplikasi yang dibangunkan untuk digunakan di dalam telefon mudah alih. Melalui aplikasi ini, pembelajaran dapat dilakukan di mana-mana sahaja kerana mengunakan telefon bimbit sebagai medium pembelajaran. Aplikasi ini akan memaparkan topik-topik yang dibekalkan didalam aplikasi ini. Pengguna hanya perlu memilih topik yang ingin dilihat dan aplikasi akan memaparkan secara keseluruhan. Pengguna juga boleh menggunakan fungsi carian untuk memudahkan pengguna mencari maklumat didalam aplikasi ini. Maklumat yang terdapat didalam aplikasi ini bergantung kepada pembangun sistem kerana maklumat tersebut tidak boleh diubah atau ditambah oleh pengguna. Aplikasi ini dibangunkan menggunakan java mobile sebagai bahasa pengaturcaraan dengan menggukan perisian Netbean 6.0 mobility dan Java Wireless Toolkit. Aplikasi ini dibangunkan mengunakan metodologi Object Oriented Analysis and Design dalam pembangunan aplikasi dan mengunakan Rational Unified Process (RUP) sebagai proses pembangunan. Ia dipilih kerana proses pembangunan tersebut menyokong penggunaan UML diagram sebagai model. Aplikasi ini menggunakan telefon bimbit yang menyokong teknologi MIDP 2.0 dan CDLC 1.1 untuk membenarkan ia digunakan di dalam telefon.

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LIST OF ABBREVIATIONS

LMS	Learning management system
MSe	Mobile Searching Engine
SOM	Software Object Model
CSV	Comma Separate Value

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CHAPTER I

INTRODUCTION

1.1 Project Background

Today, mobile phone (handset) is important devices for people as communication device allow them to connect with others. The evolution of communication become fast where users can access the information at anywhere and anytime. Internet come the popular platform to access the information but mobile or handset will become the popular device to user to get their information in the web or the server. The technology of mobile is becoming more fast with the more application developed to used in the mobile such as game and mobile tool. Mobile phone can receive data such as a text or picture and can be used for storage to store any program on the memory same as a computer.

The Mobile Search Engine for LMS (Learning Management System) is an application that obtain information or data in the database same as a LMS in desktop platform. The Mobile search engine will provide the data on the specific content. This is because the application is a standalone application and not a web server application where user can download the content from the web server. The learner need to key-in any keyword to find a required topic that provided in the database. The system will check the database and display results that match the keyword. Any matching keyword will be display on the mobile screen and users need to choose a result to view the detail.

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SUN Microsystems and Microsoft provide a platform to enable the application run in the mobile. J2ME is a SUN IDE (Integrated Development Environment) and .Net is a Microsoft IDE. Search Engine for LMS will be using the J2ME IDE.

1.2 Problem Statement

- **Conventional study style**

The ideas to develop mobile learning system occur from the several problems that are related to current learning style which depends to conventional way and web based way. The conventional learning is a manual style where papers are used as notes. Student or learner need to carry papers as note for going to a class. If want to go for a holiday or hang out, notes or papers is a not a practical way because they need a bag to carry them. Using the mobile as a platform to access notes, it will become more fun and easier to use because the size of mobile phone is small as a handheld device.

- **Connection to current LMS**

Portal web e-learning is the better way to use as the platform for learner to get a note or make a discussion. This is will only happen if they have connection to internet. Portal web e-learning can only be access using the computer with internet connection. That will be a limitation to access the web for the learner without internet connection at home. The downloaded notes need to be printed out in order to carry it everywhere.

- **Computer is a not portable device to carry out**

The mobile search engine is more like interactive courseware for learning purpose. The interactive courseware can be used at the computer to view the content but cannot be used for the travel learner because carrying the computer it does will become a problem. The size of computer or notebook is still matters for not burden the users.

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1.3 Objective

The general objective in developing this system is to improve the learning style. Below are the lists of the objective of the Mobile Search Engine

To construct the portable searching engine be able to held

- To construct a search engine for mobile device like as a search engine in the web or any search engine that current use for learning application without using the connection

To apply the search engine for LMS (Learning Management System)

1.4 Scope

1.4.1 User

The target user for this system is learners who have a mobile phone with support the java environment to run the application. The specific module or subject will include in the database to get a specific target user such as Software Engineering Subject.

1.4.2 Functionality

The main function in the Mobile Search Engine for LMS is a searching function. The learners need to type the any keyword in the input field. The system will make a searching in the database and display any result and learners need to choose a specific result to view more detail. The application will used the mobile phone screen to display the result. That will be have a limitation with the displayed the content of result.

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1.5 Project Significance

Mobile Search Engine for LMS can help the learners to study at everywhere, every time and with more comfortable situation with using the mobile phone. The learners doesn't need the paper as a note and an internet as a connection to the portal web to access their note. The advantages using the Mobile Search Engine as the note for learners are paperless, connectionless and portable.

1.6 Expected Output

As usual, search engine will provide the result depend on the keyword keyed in by user. The Mobile Search Engine is same with the others search engine on any platform. This application will display all the match results depend on the keyword given by user. As a result, a system will display the topic with the numbering and learners need to choose a desire topic to preview it. After the displayed the matching result, learners need to choose any displayed result and view the detail of content.

1.7 Conclusion

From this chapter, the Mobile Search Engine can be seen as a learning solution for learner by using a mobile as study platform. It can be use at any place and any time. Others than using hand phone a communication medium, this device also can help on learning and act as a multifunction device. As the standalone application, its not depends to the others connection or device to use the function.

The next activity to be carried out is to complete the chapter 2. Chapter 2 consists of fact and finding, project methodology, project requirements and project schedules and milestones. In order to complete this chapter, a lot of effort needs to be done on research about proposed title, including study on related journals, research reports, and articles.

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CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

Literature review is the phase where all the processes begin before developing phase. The activities included in this phases are searching, collecting and analyzing data from the sources like internet, articles and existing system. The purpose of literature review is to express writer what knowledge and idea have been published on before researcher and the weakness and strengths about the system. In this literature review, it will show the comparison system based on the all perspectives and not depend to mobile technology.

In the software development, project methodology is an important thing to consider. Project methodology is a set of procedure, method or tool used in managing the project from the beginning of the project till the end depend on the type of methodology used and project size. Project methodology it's important because the software must be delivered to the client on time and should meet their requirement. Each phase of process have the document that is a must to review. All the review process will produce the good quality of software.

A good quality of software is depending on requirement from users (client). Identifying project requirement will make the project easy to develop.

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2.2 Fact and finding

Fact and finding in this chapter is where the past research is done related to this project. The research is used for guidance in finishing and getting ideas for project. All the information is gathered from various sources such as books, articles and internet. That information is related to the search engine development and the learning style.

The mobile phone or mobile, also called a wireless phone, cellular phone, cell phone, or cell, is a long-range, portable electronic device used for mobile communication that uses a network of specialized base stations known as cell sites. In addition to the standard voice function of a telephone, current mobile phones can support many additional services such as SMS for text messaging, email, packet switching for access to the Internet, and MMS for sending and receiving photos and video. Today, mobile is a one of platform to gain knowledge. The function of mobile is still look will be increase in time to time. Now, much mobile manufactured company is competitive in mobile technology. The function of computer almost can be use in the mobile. The technology of mobile software development is too fast.

Mobile software is software that designed to run on handheld computers, personal digital assistants (PDAs), smartphones and cellphones. Since the first handheld computers of the 1980s, the popularity of these platforms has risen considerably. Recent model cellphones have included the ability to run user-installed software. Now, many platforms were support to development of mobile software such as J2ME, Symbian, Android, Lazarus, Microbrowser Based, and .Net Compact Framework. Each platform has an advantages and disadvantage on many aspects.

Table 2.1: Platform Mobile development comparison

	Overview
Java ME	Ideal for a portable solution, if the Java ME platform provides the needed functionality. Good for vertical applications that must be portable. Device-specific

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	libraries exist for many devices and are commonly used for games, making them non-portable.
Symbian	Very powerful for general purpose development. The Symbian based S60 platform is strongly supported by Nokia with some support from other device manufacturers. In Japan NTT DoCoMo's Symbian based MOAP platform is also well supported by a number of manufacturers (Fujitsu, Nokia, Mitsubishi and Sharp amongst others). It should be noted, however, that MOAP is not an open development platform. Another Symbian based platform, UIQ, is less well supported (principally by Sony Ericsson). Currently large device deployments in Europe and Japan, with little penetration in the US market.
Android	Recently announced by the Open Handset Alliance, whose 34 members include Google, HTC, Motorola, Qualcomm, and T-Mobile, Android is a new Linux-based platform currently available only as a developer pre-release. Although it does not yet have any fielded implementations, its support by 34 major software, hardware and telecoms companies makes it likely that it will be rapidly adopted from 2008. The Linux kernel is used as a hardware abstraction layer (HAL). Application programming is exclusively done in Java. You need the Android specific Java SDK. Besides the Android Java Libraries it is possible to use normal Java IDEs.
Lazarus	Ideal for prototyping and quickly developing database powered applications. Also useful for porting Object Pascal software to mobiles. Can access the native APIs when translated headers are available.
Python	Ideal for initial prototyping and concept testing when functionality falls outside Java ME.
.NET Compact Framework	Ideal for deployment on homogeneous Pocket-PC devices. However not cross platform and limited to Microsoft

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