MYGURU IN MOBILE PLATFORM FOR UPSI LECTURER

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LIST OF ABBREVIATIONS

DFD	-Data Flow Diagram
ERD	-Entity Relationship Diagram
SDLC	-System Development Life Cycle
UIMS	-University Integrated Management System
MCMC	-Malaysia Communication and Multimedia Commissions
UPSI	- Universiti Pendidikan Sultan Idris

APPENDIX

System Design Documentation (Sdd)

CHAPTER 1

INTRODUCTION

1.1. Introduction

In this new era of technology, the ability of mobile device has been improved in terms of usability and connectivity. Mobile device such as smart phones are available in various types of sizes and technologies in market nowadays. The growth of mobile technologies has enhanced the area of education and makes mobile learning as new evolution in education. Mobile learning (m-learning) as a kind of learning model allowing learners to obtain learning materials anywhere and anytime using mobile technologies and the internet (Ozdamli & Cavus, 2011). Therefore, this will bring the convenience and flexibility environment for lecturers and students. The personal nature of mobile phones and their portability means that m-learning has a huge potential in education (Vogel et al,2010). M-learning is a new concept in the Malaysian education system. According to Mahat, Ayub, & Luan (2012) the statistics have shown that most Malaysians possess mobile phones as reported by Malaysian Communication and Multimedia Commission (MCMC) in a survey in 2010, most of university students often use their mobile phones mainly only for communication rather than for educational purposes. Therefore, Universiti Pendidikan Sultan Idris (UPSI) has take initiative to develop mobile learning known as MobiLearn. There are three categories of users that can access MobiLearn which are Lecturers, Students and Guardians. Currently only the features for student has been enable via mobile. The purpose of this project is to develop UPSI lecturer module for MyGuru in mobile platform and enhance features for staff in UPSI mobile which currently only have one feature.

1.2. Problem statement

Mobile technology is now integral part of human. Smart phones give positive impact to education. Recent times have seen the field of mobile technology grow exponentially, leading to institutions increasingly recognizing the importance of delivering content and services to users through their mobile devices (Nazri et al., 2012). A research that conducted by Malaysian Communication and Multimedia Commissions (MCMC) on Handphone User Survey 2012 show that 73.3% of adults were using mobile. The age range of adults users are from 20 until 49 years old. This statistic shows that mobile learning can be introduce to Malaysian culture. Thus, UPSI has take initiative to implement mobile application as aided learning tools. However, not all features in MyUPSI Portal have been integrated to mobile. One of the features is MyGuru for lecturers. Currently UPSI lecturers only can view MyGuru through MyUPSI Portal. Therefore, there are several issue faced by lecturers such as:

1) Lecturers only can view profile.
2) Lecturers need to login to a computer in order to access MyGuru.
3) Difficulty to a make announcement if they unable to attend class or lecture.

1.3. Importance and benefits

MyGuru has been an important medium of communication between lecturers and students since 2004. A research was conducted by ICT Centre in June 2011, indicating that 23442 active users were using MyGuru. This statistic has helped the research and clearly proven the importance of MyGuru amongst the students and lecturers. As students and lecturers are required to interact and communicate more often to improve the learning efficiency and effectiveness, an interactive environment is necessary and should be well-designed for both lecturers and students; hence mobile learning application is a solution. Desktops and notebooks have several disadvantages and one main drawback is its immobility. In other words, mobile learning decreases limitation of learning location with the mobility of general portable devices. It is a personal, spontaneous, “anytime, anywhere”, unobtrusive, way to learn and to access educational tools and materials content that enlarges access to education for all. It reinforces learners’ sense of ownership of the learning experience, by offering them their flexibility in how, when and where they learn and access (Mohammad, Mamat & Isa, 2012). Lecturer and student also can interact more often as long as mobile device connected to a wireless or internet. Besides, mobile technology will make the learning environment more interactive. M-learning environments which utilize the latest technologies will bring an interactive learning environment into learning and teaching activities (Cavus & Uzunboylu, 2009).

1.4. Objectives

The objectives of this project are:

1) To develop a mobile application for the UPSI lecturers in using Myguru in a mobile learning environment.
2) To enhance additional features for staff to perform daily task via MobiLearn.

1.5. Scope

MobiLearn is a mobile application that developed on open sourced based. MobiLearn can be accessible via Android and Apple Mobile Devices. The scope of the project that has been identified is this application is only for UPSI lecturers.

CHAPTER 2

LITERATURE REVIEW

2.1. Introduction

Technology is the most importance in our daily life that can ease our daily routine. Technology has drastically evolved over the years to become one of the most used tools in today's world of education. Therefore, the evolution of technology has changed and improves the education development. Geographical boundaries are no more a hurdle in learning knowledge and skill. Nowadays a student sitting in one corner of the world can learn from a teacher sitting another corner of the globe. The emergence of new technology has opened new horizon in the field of education, with all its benefits the resistance to accept this new technology has been the major issue of research for scholars in the field of IT, education and technology management (Waheed, 2010). Benefits of technology give positive impacts in education environment. Technology also can be great tools to motivate students instead of improve performance.

2.2. Mobile Learning

The growth of Information and Communication Technology (ICT) has reshaped the learning style. The development of mobile technology has been enhanced from time to time. Nowadays, the abilities of mobile phones are not only for call purposes. The function of mobile phone has been upgraded to several features. In facts, the devices become smaller and easy to bring to anywhere. Mobile devices such as smart phone are vastly gaining popularity because of their relatively strong computing capability built into small sizes, their internet connectivity and the availability of various types and also easy-to-use mobile software applications (“mobile apps”) (Hsu, Rice & Dawley, 2012). The demand of mobile phone had change the use of mobile technologies for educational purposes. This new concept of learning will able the learner, trainer, lecturer and teacher to engaged in educational activities without constraint of delimited physical location. As Agnes Kululska (2005) stated that mobile learning has a range of attribute that contribute to the meaning or definition of this new technology which are spontaneous, ubiquitous, personal, informal, contextual, portable and pervasive. The word ubiquitous has been used since 1980 in computer science world which means available everywhere. Therefore, this attribute make the educational activities become easier. Few years back, the use of personal computer and laptop are the latest technology that has been using in education environment. Virtual learning is the technology that has been used on that time. One of the examples of virtual learning is E-learning and learning management system (LMS). Nowadays, each person has mobile phone and this is the reason why mobile learning can be introduced in teaching and learning environment.

2.2.1. Benefits of Mobile Learning

There are a lot of advantages or benefit of mobile learning. Mobile learning or called as M-learning allow lecturers and students to interact more often and obtain learning materials anywhere and anytime as long as connected to internet. In other word, mobile learning has conceptual similarities with distance learning. Therefore, this will bring the convenience and flexibility environment for the lecturers and students. The learning style will be ease since they can learn regardless of the place or time. Mobile learning appears to be ideally suited to lecturers as it provides a process of learning for professionals who differ from others in the contexts and ways in which they work and learn (Aubusson, Schuck & Burden, 2009). Lecturers no need to spend large amounts of time at a desk, they able to work via mobile.

Mobile learning allows lecturers to communicate with student easily. It also can encourage shy students to interact personally with lecturers. Lecturers can use private message to interact with students that required special attention. Hence, lecturers can monitor students easily.

The personal nature of mobile phones and their portability bring m-learning to a huge potential in educational industry. This concept diversifies the learning style by offering enormous potential as a tool to be used in situations where learners are geographically dispersed, to promote collaborative learning, to engage learners with content, as an alternative to books or computers, as an alternative to attending campus lectures and for ‘just-in-time’ delivery of information (Abas & Ed, 2009). Students able to access lecture notes through mobile phone. Lecturers also can upload variety of teaching material instead of static lecture notes such as video and flash clip. Thus, the variety of learning style will increase student’s interest in education.

Besides that, mobile learning also improves social learning. For instance, the forum features allow students and lecturers share their knowledge. Students also are able to discuss regarding the topic or subject even outside of the class. If the students have questions to ask, they are able to use the forum thread. This will help students revise easily before examination. Furthermore, lecturers are also able to inform important or urgent notice using announcement features. For instance, lectures have emergency cases or need to postpone a class, they are able to inform students through this application. The message will spread with one touch and cost effective.

In addition, the application of mobile learning using combination of multimedia elements such as text, graphics, video and sound created the best experiences for lecturers and students. The mobile web is different, but the design process is similar enough for Web Designers to ease into mobile design works. Designing a perfect mobile website is an impossible task even for experts, but by using an interactive user-centered design process can help create the best experience for the users (M. Nazri et al., 2012). According to Jeng, Wu & Huang (2010) with mobile learning system, lecturers and students can enhance their learning experience. Moreover, lecturers and students able to zoom in and out by single touch. This is the difference between mobile and desktop.

2.3. MyGuru

The learning management system (LMS) called MyGuru has been an important platform of communication and interaction between UPSI lecturers and students since 2004. MyGuru is compulsory to all lecturers and students of UPSI. All the teaching and learning processes are carried out via MyGuru. It is a platform with various functions and features designed to support an outstanding teaching and learning process. It allows the lecturers to create the content of teaching resources and upload them to the internet themselves. Meanwhile lecturers can also monitor their students activities (Nazri & Wiraputra, 2012).

In order to provide a better e-learning environment, MyGuru approached cloud computing technology which emphasizes on high availability and stability rather than functionalities along providing web 2.0 features, Outcome Based Education (OBE) and web conferencing.

MyGuru allows collaborative learning between lecturers and students through the features inside MyGuru. For instance, lecturers are able to share course materials, online assessment, list of assignment and also carry mark each subject. In addition, at the same time, students also can contribute as content provider such as sharing the notes and idea through forum features. Students able to upload word, pdf and image inside the forum thread. This is an evidence to support that MyGuru promotes the concept of sharing and collaborative learning.

2.3.1. Limitation of MyGuru

MyGuru is accessible through mobile devices such as iPad, iPhone and smart phones. However, the interface size is not suitable for mobile view. The text and graphics size are squeezed to smaller size makes it difficult to access through mobile devices. Lecturers and students need to zoom in and out to view MyGuru. Thus, to satisfied and fulfill the needs; MyGuru in mobile platform is the best idea to overcome this problem.

2.4. MobiLearn

Universiti Pendidikan Sultan Idris (UPSI) is the only education-based university in Malaysia undertaking specific programs to education. Currently, there are 10,680 active students enrolled in a distance learning program called as “Program Pensiswazahan Guru” in UPSI. All graduated students will become school teachers throughout Malaysia.

As lecturers and students are required to interact and communicate more often to improve the learning efficiency and effectiveness, an interactive environment is necessary and should be well-designed; hence mobile learning application is a solution in terms of mobility and flexibility. Therefore, the developed a mobile application specifically for online teaching and learning by customizing appropriate modules in University Integrated Management System (UIMS) into a simple and user friendly environment called MobiLearn. The application can be accessed via smart gadget either Apple or Android mobile devices through the URL http://m.upsi.edu.my.

Development of MobiLearn using open web technologies such as HTML5, Javascript, PHP while the frameworks is developed using JQuery Mobile. MobiLearn consist of 3 main user which are staffs/lecturers, students and guardians. Students can access MyGuru through MobiLearn by using the features MyCourse, MyClass and Alerts. Thus, students can access all the learning materials such as notes, announcements, forum and assignment given by lecturers. Moreover, students are able to view exam result and their profile via MobiLearn. Students also can view their classmate. Meanwhile, for guardians features, they are able to access student examination results and student course. For common features such as About, Location, News, Staff Directory, Alumni, OER and FAQ can be accessed by anyone. Currently, the feature for staffs/lecturers is only view profile. Thus, this enhancement of MobiLearn will allow lecturers to access MyGuru through mobile platform.

MobiLearn gives positive impacts to UPSI netizens because MobiLearn is accessible via 3G broadband and WiFi. Thus, students able to study anytime and anywhere whereas lecturers able to monitor students even there is no desktop or laptop in front of them. Besides, MobiLearn also support the green technology whereby it can help to reduce paper usage since students able to read the lecture notes through their mobile phone.

2.5. Analysis of Mobile Learning

Based on the research, there are several universities that chose mobile learning as an additional medium for teaching and learning purposes. Some of the university are using mobile apps to promote their universities. There is a lot of example of mobile apps. For this analysis, the writer chose four of mobile apps which are UManitoba, Limkokwing Apps, TAMUmobile and University of Delaware.

2.5.1. University of Manitoba

University of Manitoba built a mobile app called as UManitoba that benefit not only for students and lecturers but for the entire University of Manitoba Community including alumni and campus visitors. However, the main focus of UManitoba is to enhance student' experience of having online tools in their mobile.

The features that contains in UManitoba are news, events, directory, grades, schedule, library search, facebook, youtube, twitter, transit, new students resources, student email campus maps and emergency contacts, bookstore, about and information. The common features as news, events, emergency contacts, map, transits, feedback, directory, about, food and bookstore able to access without needing the user authentication.

The students of University of Manitoba need to login their credential in order to access schedule, grades, and student email. UManitoba is a sample of a good and beneficial mobile app. In order to access UManitoba, users need to download the apps directly to the mobile device. Figure 2.1 is the main page of UManitoba.

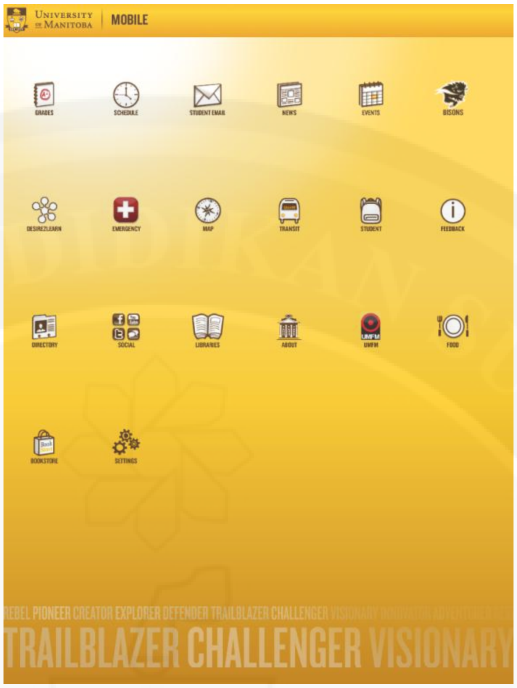

UNIVERSITY OF MANITOBA
MOBILE
GRADES
SCHEDULE
STUDENT EMAIL
NEWS
EVENTS
BISONS
DESIRE2LEARN
EMERGENCY
MAP
TRANSIT
STUDENT
FEEDBACK
DIRECTORY
SOCIAL
LIBRARIES
ABOUT
UMFM
FOOD
BOOKSTORE
SETTINGS
REBEL PIONEER CREATOR EXPLORER DEFENDER TRAILBLAZER CHALLENGER VISIONARY
TRAILBLAZER CHALLENGER VISIONARY

Figure 2.1 Main Page of UManitoba

Figure 2.2 shows the login features for students to access UManitoba. The login features is prompt only for the certain feature.

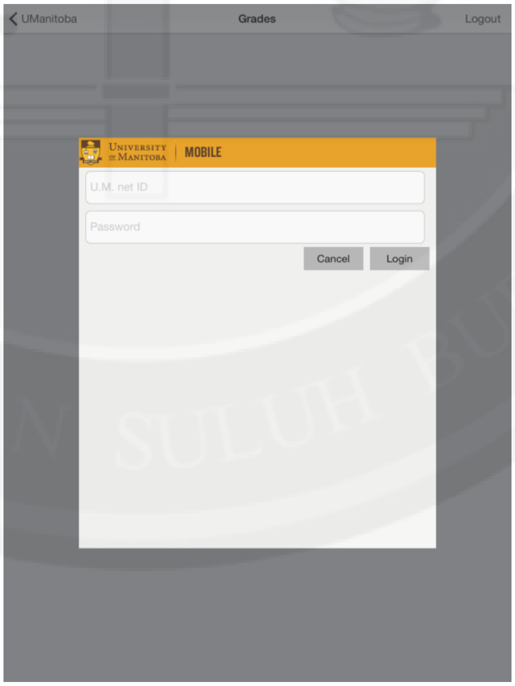
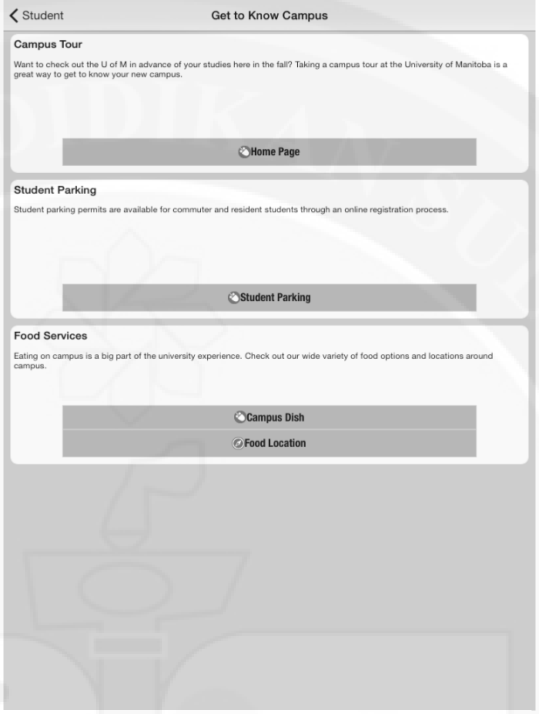

UManitoba
Grades
Logout
UNIVERSITY OF MANITOBA
MOBILE
U.M. net ID
Password
Cancel
Login

Figure 2.2 Login Feature for Students

While figure 2.3 below is the example of features that can be accessed by all public users and this feature is beneficial for students of University of Manitoba especially to new students.



Campus Tour

Want to check out the U of M in advance of your studies here in the fall? Taking a campus tour at the University of Manitoba is a great way to get to know your new campus.

Student Parking

Student parking permits are available for commuter and resident students through an online registration process.

Food Services

Eating on campus is a big part of the university experience. Check out our wide variety of food options and locations around campus.

Figure 2.3 Student features

2.5.2. Limkokwing University

Limkokwing University called their mobile app as Limkokwing App. Limkokwing App was built purposely for students to access their portal instead of the need to login to the desktop. There are four types of view in the Limkokwing App which are for ipad user, iphone user, android user and windows user. This app allows students to access the latest information such as events, class schedules and exam results and reminders of outstanding fees or assignments.