MY MOBILE CLASS ASSISTANT APPLICATION ON ANDROID PLATFORM

NURUL WAHIDAH BINTI ZAINAL AL ABIDIN

REPORT SUBMITTED IN FULFILMENT OF THE DEGREE BACHELOR OF COMPUTER SCIENCE (COMPUTER SYSTEMS & NETWORKING) WITH HONOURS

UNIVERSITI MALAYSIA PAHANG

2013

STUDENT DECLARATION

I hereby declare that this project report entitled

MY MOBILE CLASS ASSISTANT APPLICATION ON ANDROID PLATFORM

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

STUDENT : _____ Date: 23/ 12/ 2013

(NURUL WAHIDAH BINTI ZAINAL AL ABIDIN)

SUPERVISOR DECLARATION

I hereby declare that this project report entitled

MY MOBILE CLASS ASSISTANT APPLICATION ON ANDROID PLATFORM

is written by my student with her own effort and I satisfied with the report that was presented to me.

SUPERVISOR : _____ Date: 23/ 12/ 2013

(MADAM ZARINA BINTI DZOLKHIFLI)

ACKNOWLEDGEMENT

In the name of ALLAH S.W.T, The Most Gracious, The Most Merciful. Pray and peace upon the Prophet Muhammad S.A.W. With the highest praise to ALLAH, I manage to complete this project successfully. I would like to extend my sincere gratitude to my project supervisor, Madam Zarina Binti Dzolkhifli, her assistance, inspiring and guiding towards the progress of this project. Obviously the progress I had now will be uncertain without her assistance.

Most of all, it is with great pleasure that I acknowledge the indulgent cooperation and continuous support to my family. Throughout the years, they have been patiently guided me in right direction and offering encouragement.

Grateful appreciation is also extended to lecturers in the Faculty of Computer Systems and Software Engineering, University Malaysia Pahang for their support and assistance.

Not forgetting to all my friends especially my course mate who has helped me along the way during this project. Understanding and cooperation given by them are countless and valuable for me.

Last but not least, once again thank you to all who involved in the project for their constant encouragement during the duration of this project.

Thank you.

EXECUTIVE SUMMARY

The exponential growth of information has made it important for learning to take place quickly. The emergence of ICT and the Internet has greatly influenced the way knowledge delivered. This has resulted in the development of learning management system. Here, the developer sees this sophisticated technology to help lecturers at the university to reduce their burdens in spreading the knowledge or announcements about their future class planning to students. This report presents brief detail of the project based for a task or event viewer via Android mobile application to be developed as part of University Malaysia Pahang (UMP) final year project. The aim of this project is to develop an Android-based mobile application that can provide information delivery from one device to another. This information could be an announcement, event, task or reminder. This project also aimed to establish connections of integrated databases of user's information among UMP lecturers and students. This project is a project based on Android OS platform which enables the students to view the updated event of current subject taken on their smart phone. The content that lecturers post from their mobile application will be delivered to the student's mobile application. The project was implemented in a small networking environment within FSKKP, UMP for the simulation testing purpose. Besides, there are two types of tool used for this project which are Eclipse SDK and WampServer. Eclipse SDK is used to run the source code of Android Java programming whereby WampServer is used to design the database of the project. The results from this project would be an integrated system which capable of receiving input from lecturers through the mobile application, manipulating the received data and outputting them to students in a graphical form via the mobile application installed on their smart phone. As a conclusion, this project provide benefits especially to the students as it will focused on preparing a to-do-list tasks which enables the students to manage their student life activities such as managing several tasks (quizzes, tests, assignments). With this application, we can learn to facilitate another way of communication among lecturers and students through the usage of new technology mobile environment on Android platform.

RINGKASAN EKSEKUTIF

Pertumbuhan eksponen maklumat telah menjadikannya penting bagi pembelajaran berlaku dengan cepat. Kemunculan ICT dan Internet telah banyak mempengaruhi cara ilmu yang disampaikan. Di sini, pemaju melihat teknologi canggih ini untuk membantu pensyarah-pensyarah di Universiti untuk mengurangkan beban mereka dalam menyebarkan pengetahuan atau pengumuman mengenai kelas pada masa hadapan. Laporan ini membentangkan butiran ringkas projek berasaskan pemapar tugas atau peristiwa melalui aplikasi mudah alih Android untuk dibangunkan sebagai sebahagian daripada projek tahun akhir Universiti Malaysia Pahang (UMP). Matlamat projek ini adalah untuk membangunkan aplikasi Android mudah alih yang boleh menyediakan penyampaian maklumat dari satu peranti yang lain. Maklumat ini boleh menjadi satu pengumuman, peristiwa, tugas atau peringatan. Projek ini juga bertujuan untuk mewujudkan sambungan pangkalan data bersepadu pengguna maklumat antara pelajar dan pensyarah-pensyarah UMP. Projek ini merupakan satu projek yang berasaskan platform Android OS yang membolehkan para pelajar melihat tugas tersebut. Kandungan yang diberikan oleh pensyarah daripada aplikasi mudah alih mereka akan dihantar untuk paparan di aplikasi mudah alih pelajar. Projek ini telah dilaksanakan dalam persekitaran rangkaian yang kecil dalam lingkungan FSKKP, UMP untuk tujuan simulasi pengujian. Selain itu, terdapat dua jenis alat yang digunakan untuk projek ini iaitu Eclipse SDK dan WampServer. Eclipse SDK digunakan untuk menjalankan kod sumber pengaturcaraan Android Java manakala WampServer digunakan untuk mereka bentuk pangkalan data bagi projek ini. Hasil daripada projek ini akan menjadi satu sistem bersepadu yang mampu menerima input daripada pensyarah melalui aplikasi mudah alih, memanipulasi data yang diterima dan mengeluarkan data kepada pelajar dalam telefon pintar mereka. Kesimpulannya, projek ini memberikan manfaat terutamanya kepada para pelajar kerana ia akan memberi tumpuan kepada menyediakan tugasan yang membolehkan pelajar untuk mengurus aktiviti-aktiviti kehidupan pelajar mereka seperti menguruskan beberapa tugasan (kuiz, ujian, tugasan). Dengan aplikasi ini, kita boleh mengadaptasi cara lain komunikasi antara pensyarah dan pelajar melalui penggunaan persekitaran mudah alih teknologi baru dalam platfom Android.

LIST OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS/ ABBREVIATION/ GLOSSARY

ADT	Android Development Tool
Apk	Android Application Package file
App	Application
CSS	Cascading Style Sheet
FSKKP	*Fakulti Sistem Komputer dan Kejuruteraan Perisian*
GUI	Graphical User Interface
ICT	Information and Communication Technology
IDE	Integrated Development Environment
iOS	iPhone Operating System
LMS	Learning Management System
OS	Operating System
PC	Personal Computer
PHP	Hypertext Preprocessor
PSM	*Projek Sarjana Muda*
SDK	Software Development Kit
SDLC	System Development Life Cycle
SMS	Short Message Service
SQL	Structured Query Language
UML	Unified Modeling Language
UMP	University Malaysia Pahang

CONTENTS

PART 1

INTRODUCTION

1.1 Overview

Current development of the technology is currently a benchmark for a nation to be declared as a contemporary nation. The facilities provided through info technology is not solely expedite even save time, prices will even amendment the approach teaching either at college, college, or any institution. Rapid technological developments have begun to amendment direction and also the ancient method of teaching. Ancient teaching relies on the book, diagrams and charts. This manner practiced since past times from condemned by technology-based teaching strategies like computers. This can be as a result of the pc has the flexibility to form simulations and integrate transmission options like animation and sound.

Here, the developer sees this refined technology to assist lecturers at the university to scale back their burdens in spreading the information or announcements regarding their future category attending to students. In delivering announcements and latest info, lecturers typically use social networking sites like Facebook, E-mail and Moodle to facilitate them. This may result in plenty of use of the account for the scholars to visualize the newest info on the standing of the class which will be conducted. For developer, the usage of associate application on android mobile platform will save time and prices still as cut back memory usage on the student's laptop. The mobile courseware for teaching and learning may be a technique that applies accelerated learning techniques like delivering course notes and assessments for UMP students.

‘My Mobile Class Assistant App on Android Platform’ is a project based on Android OS application which enables the students to view the course activities of the current subject taken on their smartphones. The content that their lecturers post from this system will synchronize for students to view from their mobile devices on the ‘My Mobile Class Assistant’ application. Students will also receive automatic, personalized course events delivered straight to their mobile devices whenever lecturers post on course content, announcements, graded items, tests, and many other course activities.

These accelerated teaching and learning techniques will help the students especially for the students of Faculty Computer Science (FSKKP) to do quick revision, organized schedule and planner on their study. For the simulation testing of this project, it will be applied to the three subjects taken by students which are PSM, Network Technologies and English for Professional Communication.

1.2 Problem Statement

The exponential growth of data has created it vital for learning to require place quickly. Facing this challenge needs new wondering however we tend to acquire information and skills additionally as how we develop learning resources that may contend with the knowledge-based economy. The emergence of ICT and also the web has greatly influenced the manner information delivered. This has resulted within the development of learning management system (Rusmini Ku Ahmad, 2011).

A Learning Management System (LMS) could be a set of tools that facilitate the delivery of the proper content to the correct students, at the correct time and within the right format. LMS usually give, however not restricted to registration and student pursuit, content creation and delivery capabilities, analysis and development designing and resource management organization. Once it involves LMS in Malaysia, several would solely understand the existence of Moodle. Indeed, Moodle is known chiefly as a result of it is broadly speaking utilized by instructional establishments across the world particularly once The university in United Kingdom is defrayment millions in

exploitation it as its main LMS (Chuah Kee Man, 2011). With massive of user base, this enables Moodle to endure speedy development and improve. However, there are several ASCII text file LMS out there and systems are nearly as good as Moodle. Realizing the widespread use of mobile devices in Malaysia, one amongst the ways that to expedite the acceptance of LMS is to leverage on the employment of mobile technology that may facilitate mobile learning. Mobile learning also will facilitate overcome the matter of accessibility and property.

Referring to existing Moodle system in UMP, developer find there are restrictions on the delivery of information related to the subject matter involved to the student. For example, students need to see the upcoming tasks and assignments given by lecturers in different outline interfaces. Although, there are some subjects that are not used by the lecturers to deliver information. This will contribute to the problem a lot of wasted space. Developer sees this as an indication of problems to develop application that are more easily used by both students and lecturers.

Given the amount of burden that a modern-day students has to bear, it is only befitting that there should be an application which helps them manage their assessments and daily routine in a better way. ‘My Mobile Class Assistant App’ is a comprehensive class organizer for each class. With this app, students can avail plenty of other handy features such as test reminders for various classes along with receiving notifications for each and much more. Students will be able to see all the courses activities related to all their registered subjects listed in a single outline interface. This can make it easier for students to organize their learning and assignments schedule in a more orderly fashion. They may know the list of the datelines of assignments to be delivered in their mobile phones as of today the students are able to have a sophisticated smartphone and can be beneficially used. They can also continue to receive the latest announcements or notifications given by the lecturers instead of using "sticky-notes" for the purpose of their reminder.

1.3 Objectives

Generally, the project is finished to attain the goals. The goals of the project are explicit as below:

i) To develop an Android-based mobile application for event/task viewer.
ii) To provide information delivery from one device to another.
iii) To facilitate another way of communication among lecturers and students through mobile environment.

1.4 Review of previous work/project and relationship to current project

1.4.1 Mobile Learning Application

Smart, mobile devices are the popular associated quickest growing computing platform with an estimated 1.6 billion mobile device users by 2013 as compared to a current estimate of two billion computer users. This speedy proliferation of mobile devices over the last 5 years has dramatically altered the platform that's used for social, business, diversion, gaming, productivity and promoting using software system applications. Containing world positioning sensors, wireless property, image or video capabilities, inbuilt internet browsers, voice recognition, among different sensors, mobile devices have enabled the event of mobile applications that may give wealthy, highly-localized, context-aware content to users in hand-held devices equipped with similar procedure power as a typical computer (Josh Dehlinger, 2011).

Christopher Cheong, in his article on "Designing a Mobile-app-based Cooperative Learning System", aforesaid that the classes of the mobile learning applications are often as each placed learning and cooperative learning. Below is that the table of categorisation of mobile learning applications that tailored from (Naismith,2004).

Learning Theory and Key Theorists	Descriptions	Activities
Behaviourist learning (Pavlov, 1927; Pavlov & Anrep, 2003; Skinner, 1968)	Activities promoting learning as a change in learners' observable actions.	Drill and feedback Classroom response systems (clickers)
Constructivist learning (Bruner, 1966; Papert, 1980; Piaget, 1929)	Activities in which learners actively construct new ideas or concepts based on both their previous and current knowledge.	Participatory simulations
Situated learning (Brown, Collins, & Duguid, 1989; Lave & Wenger, 1991)	Activities promoting learning within an authentic context and culture.	Problem and case-based learning Context awareness
Collaborative learning (Vygotsky, 1978)	Activities promoting learning through social interaction.	Mobile computer-support collaborative learning
Informal and lifelong learning (Eraut, 2000)	Activities supporting learning out-side a dedicated learning environment and formal curriculum.	Supporting intentional and accidental learning episodes
Learning and teaching support (No key theorists)	Activities assisting the coordination of learners and resources for learning activities.	Personal organization Support for administrative duties (e.g., attendance)

Table 1.1: Categorisation of mobile learning applications

1.4.2 Android versus iPhone

Based on the survey done by The Fortune a thousand web sites, android was quicker than iPhone in eighty four of the tested websites, and iPhone beat android in Sixteen Personality Factor Questionnaire of the races. This demonstrates android wasn't simply quicker overall, however rather provided a quicker browsing expertise four

times out of five. Android's edge fully disappeared once observing mobile specific sites. These are sites that were changed to match the mobile user expertise, and have a tendency to be smaller and lighter. On mobile sites, android was solely third quicker, with a median load time of 2.085 seconds versus iPhone's 2.024 that are effectively identical. On non-mobile sites, android was fifty nine quicker, with a median load time of 2.180 seconds compared to 3.463 seconds on iPhone. For this project scope, we tend to selected to develop in android platform as a result of it's tending to be smaller and lighter which each low cost smartphone will support the minimum demand of android OS.

1.4.3 Existing Systems

Current web-based Learning Management System targeted on fulfilling the wants of establishments in providing elementary, normal instructional platform. Several universities around the world have with success integrated the utilization of LMS within which all educational data services, on-line content and applications are centralized and managed learning. LMS could be a learning environment for online which statements are been adopted by the students, academics and institutions.

The first example of associate existing system is Moodle system. Moodle may be a free software system package and act as e-learning system that may facilitate educators particularly lecturers to make effective learning communities on-line. Batchuluun (2008) report that the bulk of respondents cited LMS Moodle because the best for his or her purpose. It's not seen because the best product altogether aspects. However, the results showed that higher valuation Moodle of expertise (Momani, 2010). Social constructionist theory guided the planning and development of Moodle and has been greatly influenced by the teaching and learning practices. Moodle is user friendly, versatile and is generally used. Moodle package directly designed around 5 main problems with principle. Moodle web site identifies some things because the principles for mistreatment Moodle (Knight & Bush, 2009).

To use the Moodle, students must provide the details which include their student matric number and password. They can use this site in many beneficial activities such as

downloading the lecture notes, laboratory assessments, online quizzes or uploading their assignments. Before that, they must ensure that they has enrolled to the registered subjects by receive the enrollment key from the lecturers. Below is the screenshot of Moodle:

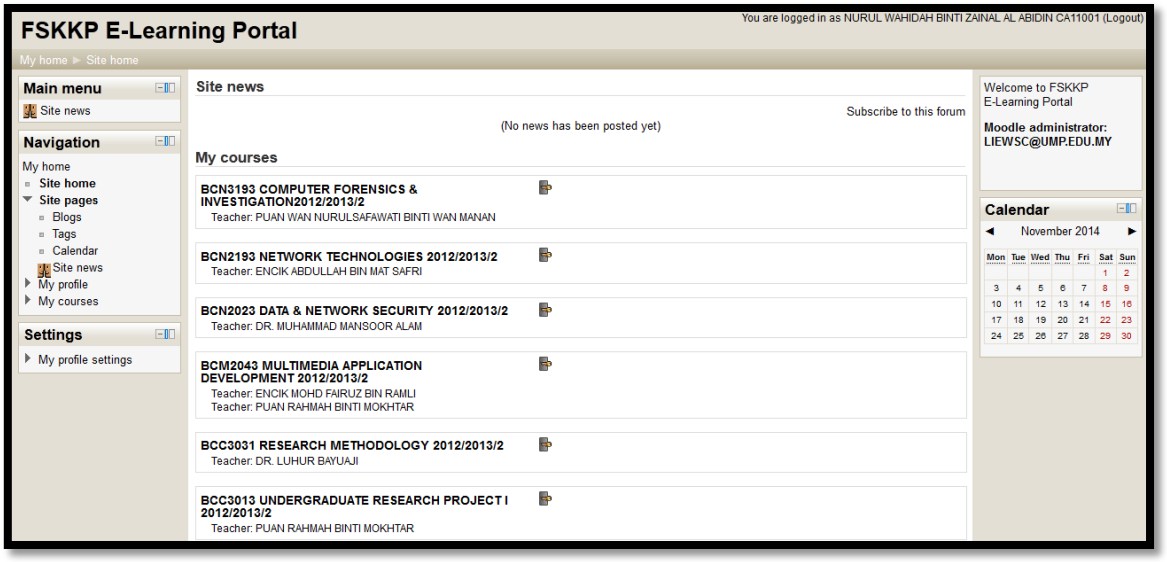

Figure 1.1: Moodle system of FSKKP UMP

Second existing system is social website of Facebook. Facebook is a popular social networking site. Originally, it is restricted to people with .edu email addresses. Facebook is currently available to anyone with a valid email address which the one that is verified by Facebook. Facebook members can join networks based on school affiliation, employers, and geographic regions. Facebook is not just a great way for people to find old friends or learn about what is happening but it is also detected as an incredible learning tool.

Lecturers can utilize Facebook for class projects, for enhancing communication, and for engaging students in a manner that might not be entirely possible in traditional classroom settings. Through Facebook, lecturers can send out reminders about upcoming tests, upcoming due dates, or any classroom news. The figure below is the example usage of Facebook for the educational purpose:

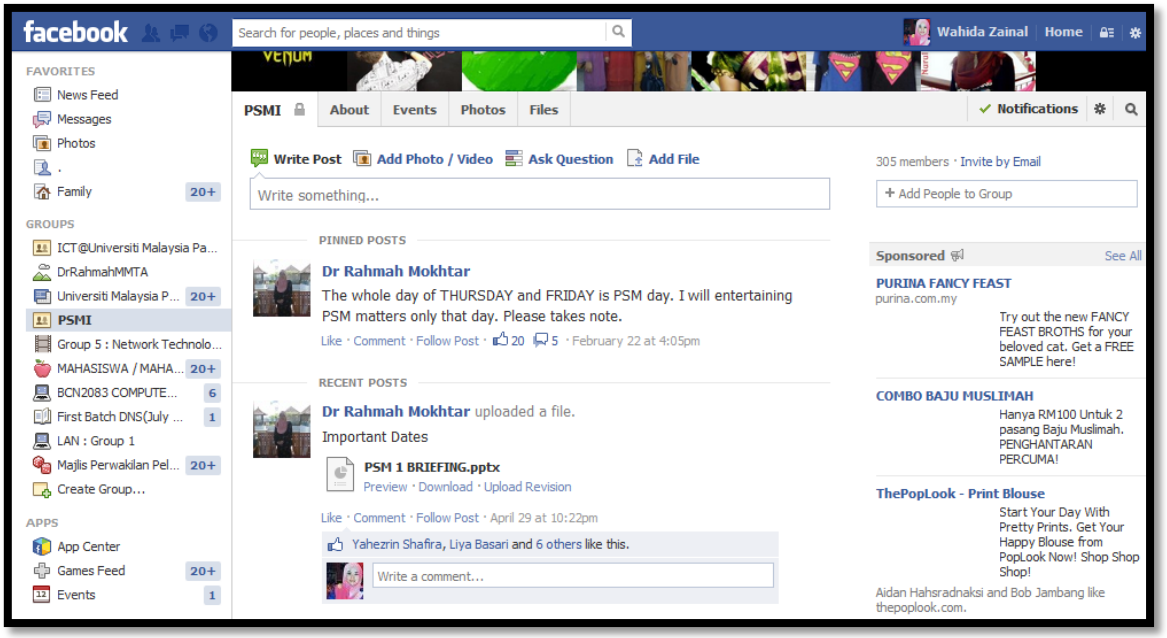

Figure 1.2: Facebook become as learning tool for subject PSM in UMP

A mobile application may be a term applied to explain a kind of application software package designed to run on a mobile device like smartphones or tablets. Mobile applications are usually utilized to produce users with similar services to those that accessed the pc or computer. Now, the popular mobile application is employed to teach, entertain or facilitate users in their daily lives. in line with the journal entitled "We need Definitions Relevant education Mobile Learning" by Yiannis Laouris 1996, he declared that this biological process marked the emergence of the organ within the new timeline of evolution, one that encompasses human language systems, each the hearing and upon receipt the transmission is our speech (Laouris 1996, 2005). The most focus here is that mobile application sometimes helps users by connecting them to web services a lot of usually accessed on desktop or portable computer computers. This mobile application is used as a mobile computer marker utility, a client-based mobile instant electronic communication and lots of alternative applications.

Based on the survey done in UMP, majority of students would really like to use a smartphones to access learning resources in lecture rooms. Students might access the web courseware system and transfer lecturer's notes; synchronize the lecturer’s power point slides on the smartphones. Next existing system is ‘Studious’ mobile application

for android. ‘Studious’ could be a class management app for android that lets the students to form their timetable on the device with customizable sound profiles for every class. With ‘Studious’, they will additionally avail lots of different handy options like note-taking, school assignment or take a look at reminders for numerous classes in conjunction with receiving notifications for each.

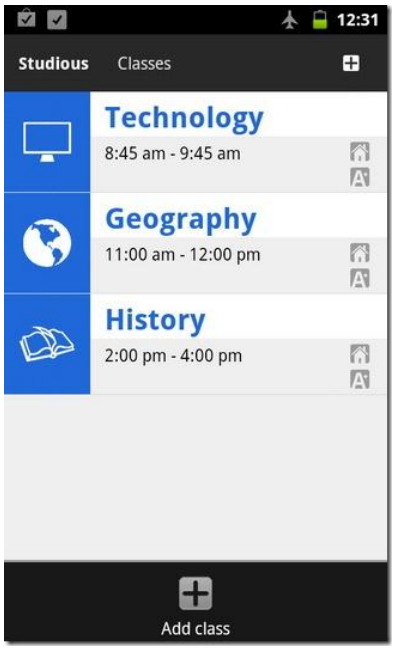

Figure 1.3: ‘Studious’ mobile application for Android

1.4.4 Problems in the Existing Systems

Despite the existence of system characteristics printed on top of, there are several challenges and issues have to be compelled to be solve so as to reinforce the effectiveness of mobile learning applications. These are printed below:

i. Bandwidth issue and connectivity
   a. Participating the academic content needs a mixture of made multimedia system parts. However, as a result of the restrictions of information measure and property, downloading content to the students concerned are slow. This creates disappointment and boredom among students and affects the educational facilities.

ii. Lack of quality content
   a. At this point, there's an absence of prime quality learning content in Malaysia. This is often because of lack of experience and substantial monetary resources needed to develop the content. As a result, most of the educational content has lower interaction and a moderate impact on students.

iii. Difficulty in engaging learners online
   a. Engaging actively students is one among major consider crucial the success of a learning program. On-line learning needs a really high degree of self-motivation and is a smaller amount among our students.

iv. Different interface of different subject
   a. The usage of many interfaces of different subjects enrolled by students in Moodle system may give a contribution to a lot of wasting space. There is no need to do a different interface of different subjects as the students may have difficulty in accessing to their subjects due to enrollment key and so on.

1.5 Current system and its limitation

The existing system is generally utilized by undergraduate students. This method is making certain that there are not any clashes for the each timetable created. The present timetable continuously amendment and concerned several lecturer to handle it. it's taking an excessive amount of their time. The conclusion is that they want a system to assist and improve the method of getting ready the timetable.

With the appearance of the net nowadays, there are concerning four main smartphone platforms android, iOS, Windows Phone seven and Blackberry OS. during this project, developer can concentrate on the android platform that has been well-liked throughout the year. Therefore what makes the android platform thus common particularly considering that it's a relative newcomer to the current market? Within the title of the book "Master the android mobile development platform" by jerome, he explained android as a system that's Java-based software package that runs on Linux kernel 2.6. Elgin, ben (17 August 2005) in their journal "Google Buys android for Its Mobile Arsenal" justify that android may be a Linux-based software package designed specifically for bit screen mobile devices like smartphones and tablets computers. Initially developed by android, Inc., supported by Google Finance, android was launched in 2007 together with the formation of the Open telephone Alliance association of hardware, code and telecommunication corporations dedicated to advancing open standards for mobile devices.

Now there are several applications of learning, as represented within the previous section that live outside the LMS scheme like mobile application particularly. Lecturers are able to initiate using applications and technologies that don't seem to be supported by their institutions LMS and in doing so that they take their students outside of the virtual field. Most mobile learning applications consisting of mobile consumer software package that comes with the server software, internet based mostly generally often liable for managing the users, the content to be delivered to mobile subscribers, pacing learning activities, assessment and activity work. See Figure below.

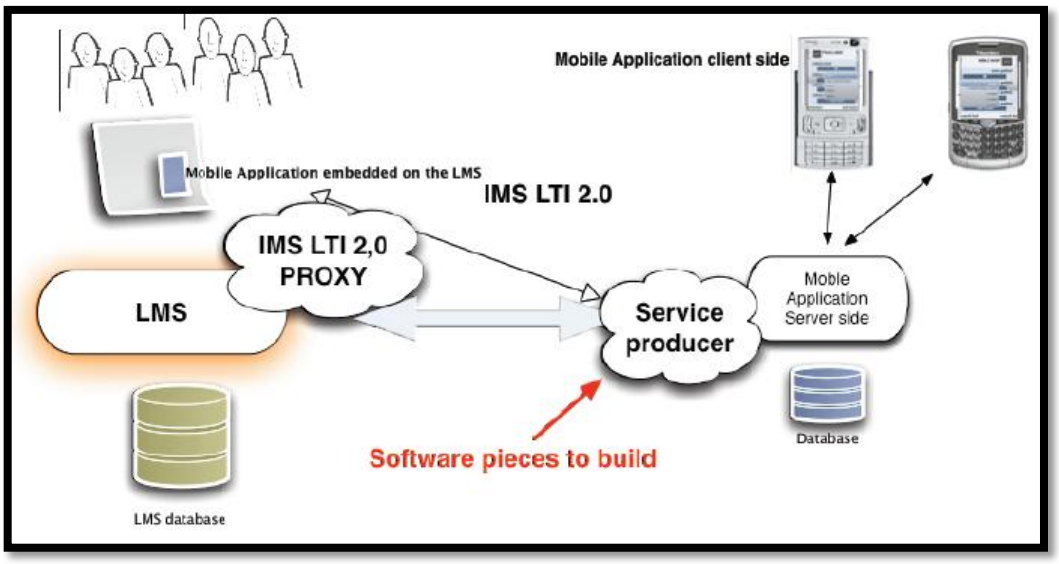

Figure 1.4: Mobile learning application that can be integrated with LMS

'My Mobile Class Assistant App on Android Platform' is a project based on Android OS application which enables the students to view the events of the current subject taken on their smartphones. The content that their lecturers post from Learning Management System (LMS) courses will automatically be available for students to view from their mobile devices on the 'My Mobile Class Assistant application'. Students will also receive course reminder delivered to their mobile devices whenever lecturers post on course content, announcements, graded items, tests, and many other course activities. The system will be embedded through the mobile application by final execution of .apk file.

The users of this system are divided into two categories. The first category would be the lecturers who need their own timetable for the current semester. The second category would be the students who want to see the events or tasks made by lecturers. Students can also have their timetable together with the alerts on the upcoming tasks. The contents of the application, which include text and graphics, would be acquired from the following sources described in the next section. As graphics plays an important role to attract browser attention, creative and nice graphics are needed. Most of the graphics will be downloaded from the Internet and further modified using

either Adobe Photoshop of Macromedia Fireworks. The logo and banner will be created using Adobe Photoshop.

Limitation of this project is only created for the use of FSKKP UMP. Besides that, another limitation is that the FSKKP UMP must have a permanent administrator to maintain the database in the system. Administrator has to key in the data and lecturer for the first time registration. Students also must have internet connection in their smartphone to be able to get the events from the lecturers.

From this system, developer is able to get helpful data for future work. Additional development includes increasing formula for resolution timetabling drawback of over one department at same time. Additionally improving drawback modeling and search technique, reducing execution time and enhancing graphical interface through the mobile application. A lot of analysis is required to complete the interactive and automatic timetable system. The method, techniques and ideas developed should be tested on additional datasets and application.

1.6 Explanations of terminology

Terminology is that the study of and also the field of activity involved with the gathering, description, process and displays of terms, for instance lexical things belonging to specialized areas of usage of one or a lot of languages. Terminology is a knowledge domain field of analysis as a result of it's extremely influenced by the activities and strategies of the areas it serves. Terminology has become a specialized side of linguistics and data science (Dafydd Gibbon, 1998).

Apps are the short kind of applications. Native apps are applications developed to be used on mobile devices, written in a very native programming language like Java or Object-C. Native apps may be sold-out through app stores like Apple's Appstore or Google's App Market. On the opposite hand, internet apps are applications designed with web-standard technology, usually optimized for smaller devices, and additionally

generally simplified versions of existing sites. Most internet Apps are designed with the three web-standard elements that are markup language, CSS, and JavaScript.

There are two styles of internet apps that are traditional internet apps which the appliance designed with hypertext markup language, CSS, and JavaScript and might be accessed via a browser on a mobile device. The other is Hybrid internet apps that the application designed with hypertext markup language, CSS, and JavaScript and regenerate into a native app, so that they will be distributed through an app store like android marketplace.

1.7 Methods of approach

Methods of approach are also known as procedure. It is an ordered sequence and can be understood as a techniques, set of actions, operations and strategies which have to be executed accordingly to the plans. A procedure can be to a perception on how to describe in terms such as obtaining an expected result. There are a number of steps performed by the developer to build the project successfully. The following figure are the steps to develop this project:

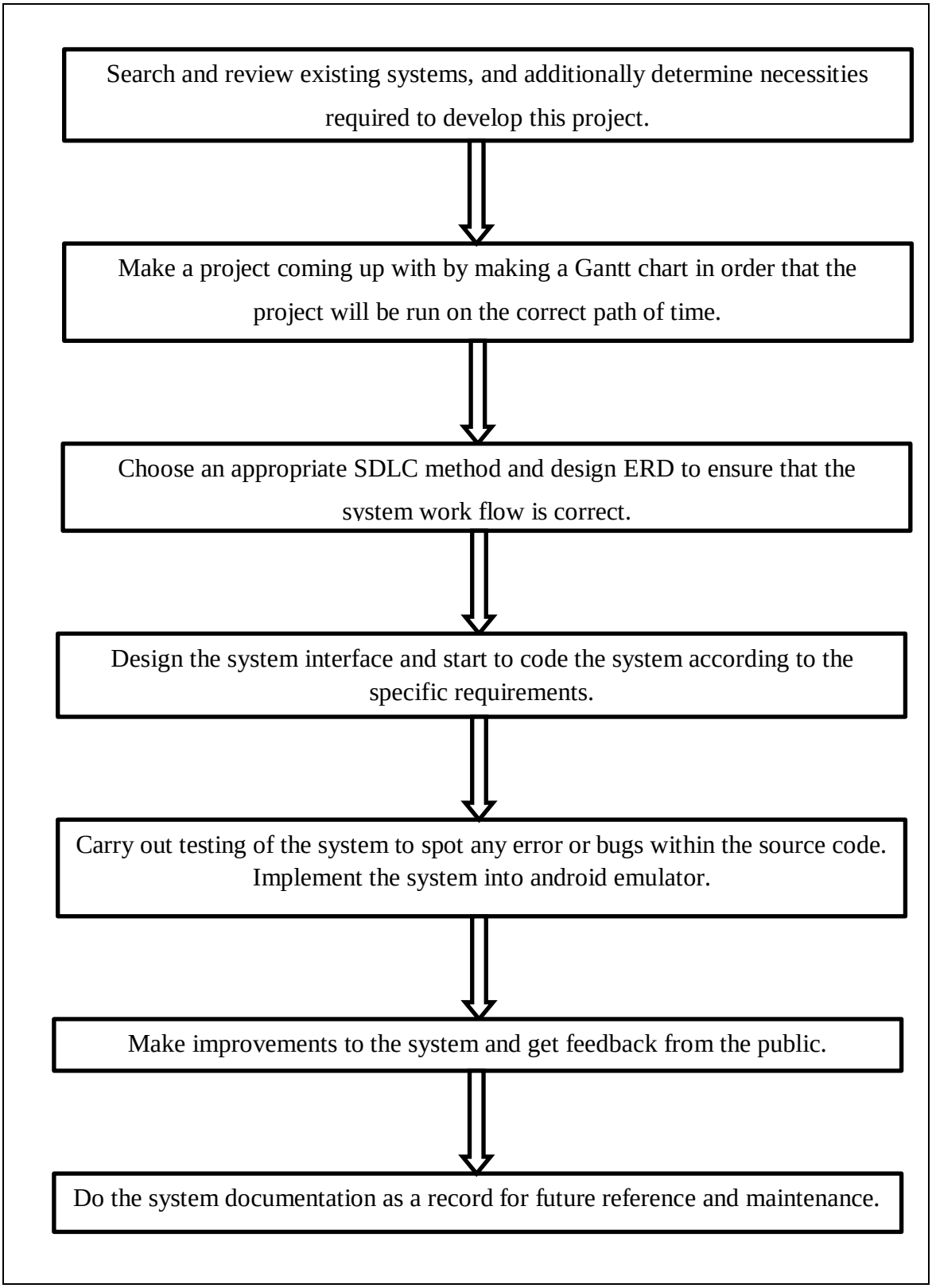

Figure 1.5: Methods of approach for the project

1.8 Indications of scope and limitations of the study

The future of learning system is mobile. Despite the challenges at this time of mobile learning is not a typical screen, OS, browser support that is little question which mobile learning is quick changing into a wide accepted to deliver and facilitate managing the activities encompassing the delivery of learning. Taking signals from many discussions with the lecturers that there's a clear demand to maneuver additional and a lot of features to the mobile version of LMS out notification and assessment. There positively desires into a small however powerful important administrative functionality for the mobile platform that creates it easier to administer the LMS to go.

The system are going to be enforced in an exceedingly tiny networking environment in such the way that developer integrates the LMS Moodle like system by retrieving all the databases required and effort the system with Eclipse program for the mobile application development setting. The opposite scopes of the project are divided into two main classes as explicit below:

i. Lecturer/Administrator side
   a. In this project, the scope is limited to only 3 lecturers of 3 different subjects for the testing of simulation purpose.
   b. Lecturers may be the administrator of the system whom can update, delete or edit the learning materials.
   c. Have an ability to assign learning materials such as assignments datelines or quizzes notification to students on their mobile device and can be seen to the student’s mobile device.
   d. Have an ability to make a quick announcements or messages.
   e. Have an administrator functionality of controlling the course teaching plans, course completions and assessments due dates.

ii. Student side

a. In this project, there will be only 3 students that can view and testing this mobile application.
b. Have an access to course activities of the learning management system via their Android smartphones application.
c. Have an access to all of the events on mobile version as in the main learning management system version. This may not be the SMS notification but access to all messages, announcement and assessments deadline on the calendar in the application of the mobile version.
d. Students should have access to the information by lecturers to give a consistent view of their learning plan and preparing for incoming test or quizzes.
e. May provide their students information in login setup like Moodle system.

1.9 Outline of material presented in rest of the report

This report consists of three main components as a full. the primary part describes the identification of the project to be developed by the developer, the issues faced by administrators or lecturers, the issues faced by students, developer in developing project objectives, the scope of the project, the existence system that relate to the project and also overall framework for developing this project.

The second part describes the report body which elaborates the user requirements and the design descriptions. In this part, the developer describes the development planning of the project which includes the enhancement of the learning management system that integrates into the Android based mobile application. These can be done by using some modules which are Eclipse program for the Java Integrated Development Environment (IDE) and the work light modules for the publishing and testing simulation of the application into the Android mobile devices.

Next to part three, this part describes the conclusion of this project that describes the benefits and disadvantages of the system are designed. moreover, the planned

improvement of the system represented in this section in order that other developers will upgrade this system so as to become a lot of competent and economical.

1.10 Conclusion

In alignment with the goal of this project, developer concludes this part that is regarding the literature review, fact and finding and project methodology so as to review and perceive the present system that is the fact later are going to be used as a guidance to develop the applying that is concentrate on android based mostly mobile learning.

To repeat, mobile teaching and learning is a learning platform through mobile technology, wherever the main focus is on learning technologies across the context and learning with mobile devices. It started in 1970 to 1980 by Alan Kay and his colleagues within the Learning analysis cluster at Xerox town research facility (PARC). This part of report has explained the prevailing system as a guide to make sure that the project can develop archived on the PSM standard and to make sure high quality and value of the project itself.

PART 2

REPORT BODY

2.1 Detail user requirement

In order to develop a good project, it is very important to choose the correct hardware, software and technology. Below are some explanations of the hardware, software and technology chosen as development tools for the project. The following sections discuss the scripting language, graphic design tool, database technology, Android technology, and the hardware requirement used to develop this system.

2.1.1 Programming / Scripting language

- ✓ **Java API Programming**

Java is formerly known as computer programming language. It enables programmers to write computer instructions using English based commands, instead of having to write in numeric codes. It is known as a high-level language because it can be read and written easily by humans. Like English, Java has a set of rules that determine how the instructions are written. These rules are known as syntax. Once a program has been written, the high-level instructions are translated into numeric codes that computers can understand and execute (Paul Leahy, 2012).

In the early nineties, Java was created by a team led by James Gosling for Sun Microsystems. It was originally designed for use on digital mobile devices, such as cell phones. However, when Java 1.0 was released to the public in 1996, its main focus had shifted to use on the Internet. It provided more interactivity with users by giving developers a way to produce animated webpages. Over the years it has evolved as a successful language for use both on and off the Internet. A decade later, it is still an extremely popular language with over 6.5million developers worldwide (Paul Leahy, 2012).

For this project, developer has chosen to use Java because it has many features that will help much in developing this project. Java was designed with a few key principles in mind:

a) Easy to Use: The fundamentals of Java came from a programming language called C++. Although C++ is a powerful language, it was felt to be too complex in its syntax, and inadequate for all of Java's requirements. Java built on, and improved the ideas of C++, to provide a programming language that was powerful and simple to use.

b) Reliability: Java needs to reduce the likelihood of fatal errors from programmer mistakes. With this in mind, object-oriented programming was introduced. Once data and its manipulation were packaged together in one place, it increased Java's robustness

c) Secure: As Java was originally targeting mobile devices that would be exchanging data over networks, it was built to include a high level of security. Java is probably the most secure programming language to date.

d) Platform Independent: Programs need to work regardless of the machine they were being executed on. Java was written to be a portable language that does not care about the operating system or the hardware of the computer.

2.1.2 Graphics Design Tool

✓ **Adobe Photoshop CS**

Adobe Photoshop is chosen to be used as one of the graphic editing software because it is professional image-editing software that provides a comprehensive toolset, and powerful creative options to help people create professional-quality images for web, printing, and other emerging media.

2.1.3 Database Technology

✓ MySQL

MySQL is known as a database management system (DBMS) for relational databases, therefore, MySQL is an RDBMS which a database being a collection of interrelated data, be in text, numbers, or binary files, that are stored and kept organized by the DBMS (Ullman, 2003). MySQL was selected to develop the database for this project because like Java, MySQL offers excellent performance, portability and reliability, with moderate learning curve at little to no cost because MySQL is the world's most popular open source database. Besides that, another reason for it being chosen is because Java has good support for MySQL.

2.1.4 Android Technology

✓ **Android SDK Tool**

The Android SDK is chosen in developing this project because it provides the API libraries and developer tools necessary to build, test, and debug apps for Android. The ADT Bundle is used because it can quickly start developing apps. It includes the essential Android SDK components and a version of the Eclipse IDE with built-in ADT

(Android Developer Tools) to streamline the Android app development. The Android version that can be used for this project is starting from the Android 2.2 (Froyo) to latest version of Android 4.2 (Jelly Bean). The ADT Bundle includes everything developer needs to begin developing app such as:

a) Eclipse + ADT plugin
b) Android SDK Tools
c) Android Platform-tools
d) The latest Android platform
e) The latest Android system image for the emulator

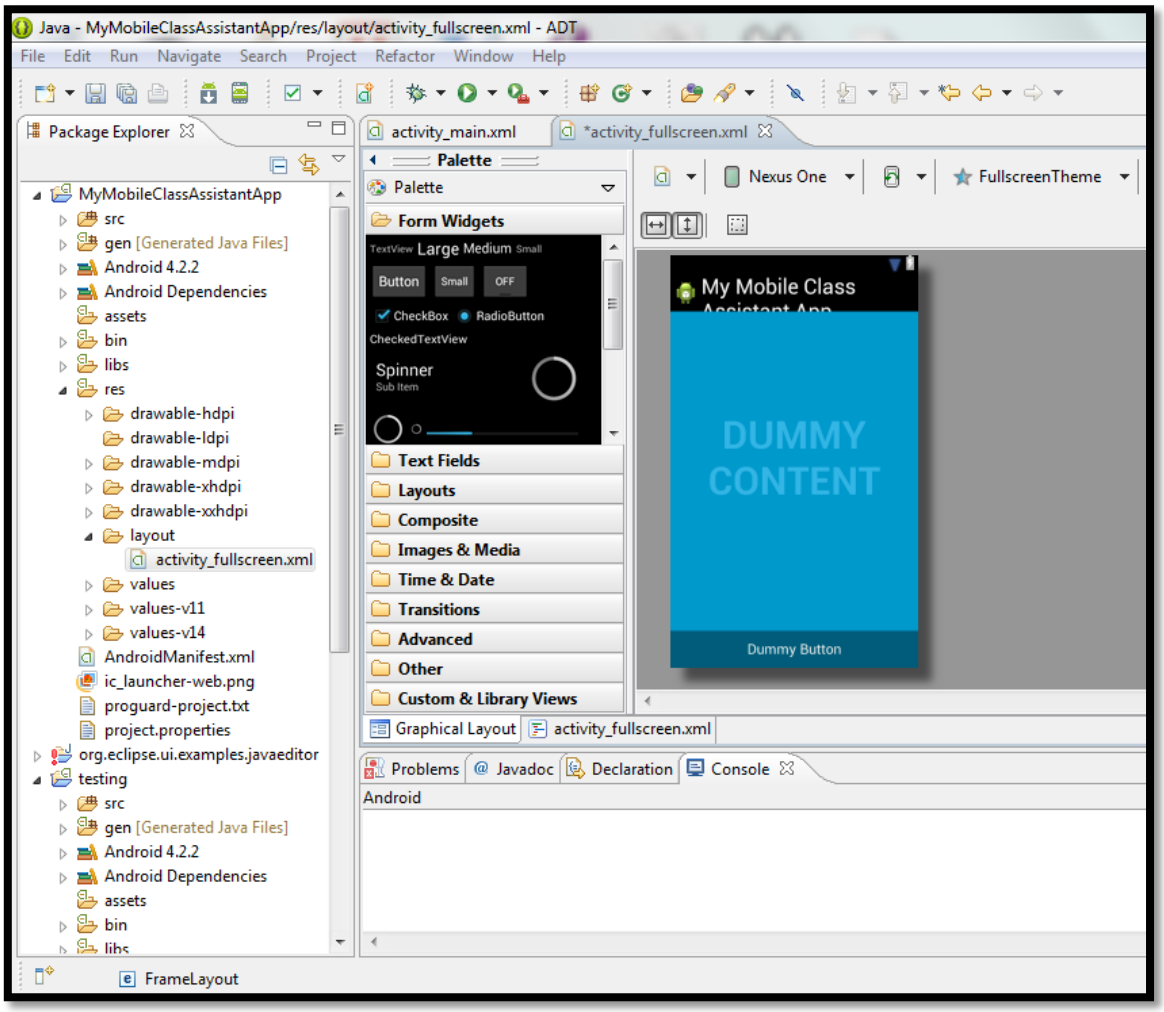

Figure 2.1: Eclipse Android Developer Tools

2.1.5 Hardware Requirements

Below is the list of hardware requirements for the personal computer to develop the My Class Assistant App:

a) Intel Pentium IV 500MHz processor or higher
b) 128MB DDR-Ram (256MB is recommended)
c) 10GB Hard-disk space or higher
d) 15” Monitor (can support up to 1024X768 Resolution)
e) 56Kbps Modem
f) Keyboard and Mouse

2.2 Technic/theory/modeling/flow chart/all relevant diagram

2.2.1 Use Case

UML use case diagrams are used to describe the main processes and functionality of the timetable system. The purpose of having use case diagram is to identify the scope of this system. Three use case diagrams have been created for the system: the first is for administrator, one for the lecturer, and one for the student.

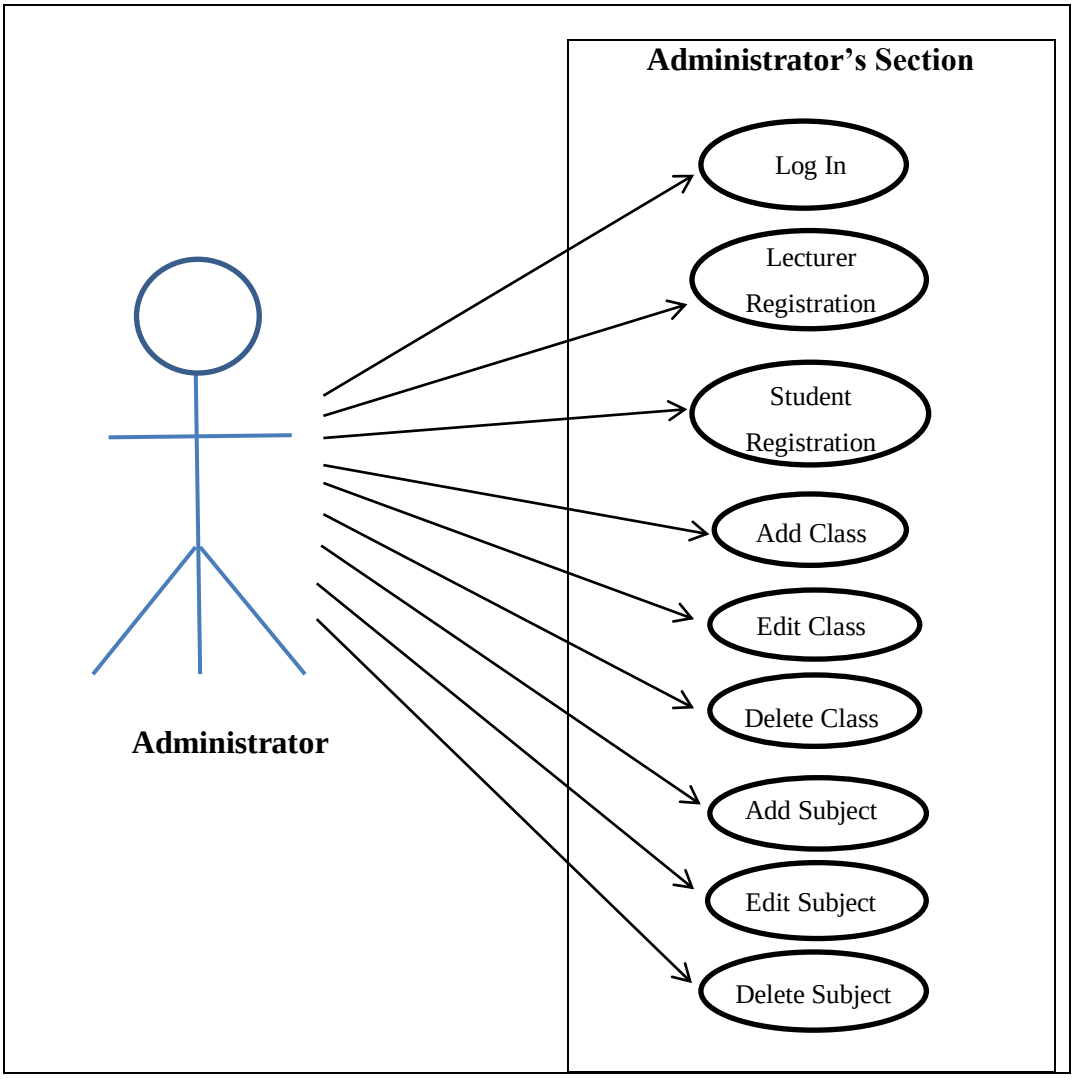

Figure 2.2: Administrator's Section Use Case Diagram

Based on the diagram above, Administrator plays an important role in the system. He/she will control the system activities by managing the database files that contain the lecturers and students username together with the password for the Log In process. He/she also can add, edit or delete the class and subject information.

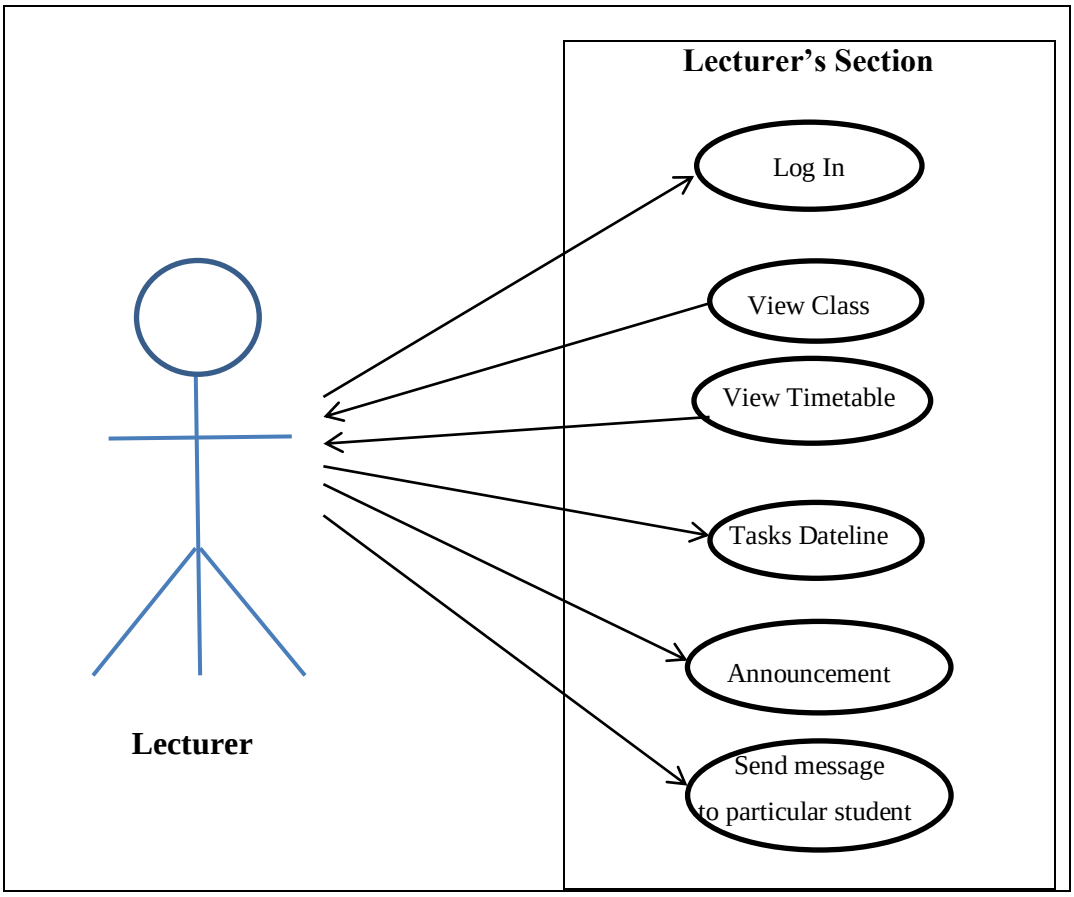

Figure 2.3: Lecturer's Section Use Case Diagram

Based on the diagram above, lecturer can login to the system by using their username and password. System will then display the main menu if login is successful. If the username and password are not accepted, system displays a message indicating that the username or password is invalid. Once the lecturer logs in, they can perform the processes like view class, view timetable, inform about the tasks dateline, make announcement and send a message to a particular student.

Use Case	Description
Log In	Lecturer must login by using their username and password.
View Class	By using this function, lecturer may see the subject name, subject code, credit hour, class of the day and time for the current semester.
View Timetable	Lecturer can view the timetable from this function.
Tasks Dateline	Lecturer can set the dateline for tasks submission.
Announcement	Lecturer can give announcement to their students regarding the cancellation of class or others.

Table 2.1: Lecturer's Section Use Case Description

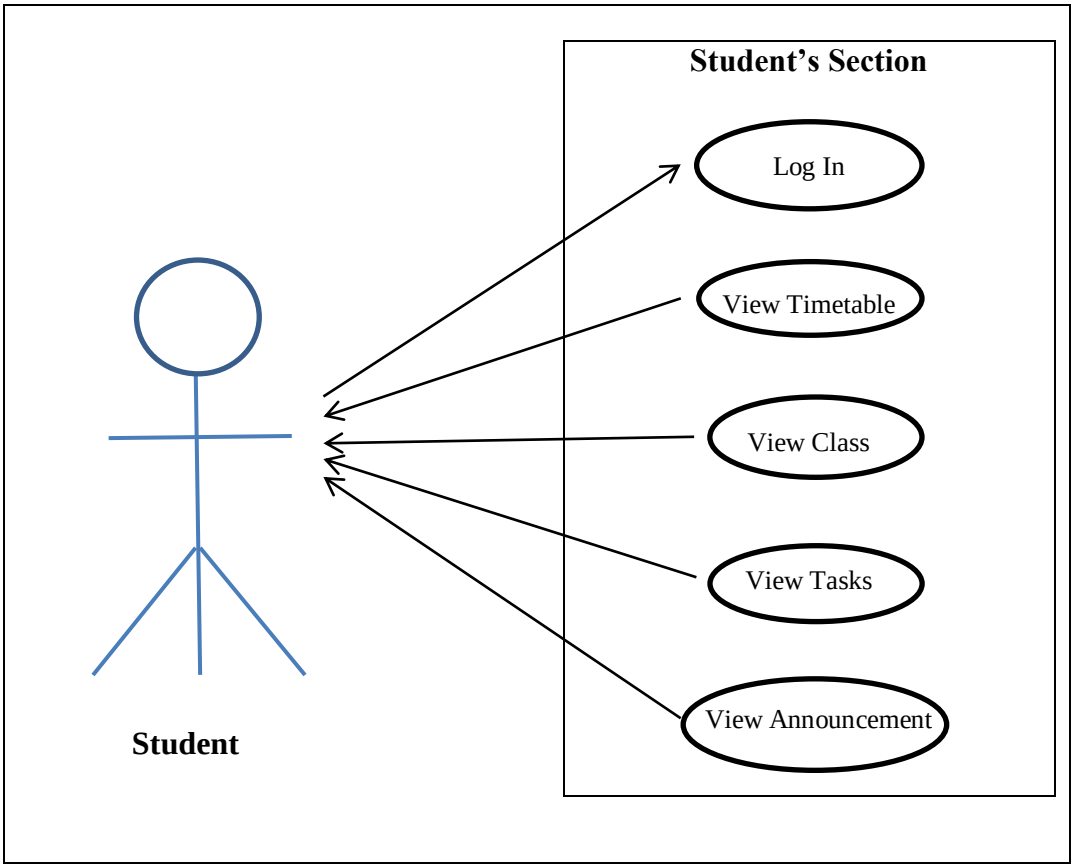

Figure 2.4: Student's Section Use Case Diagram

Student can login to the system via the 'My Mobile Class Assistant App' on their smartphone, using their usernames and passwords. System will display the main menu if login is successful. If the username and password are not accepted, system displays a message indicating that the username or password is invalid. Once the student logs in, they can only view the processes like view timetable, view class, view tasks given by the lecturer and view the announcement. Student cannot make any administrative action through the application except for viewing only.

Use Case	Description
Log In	Student must login by using their username and password.
View Timetable	Student can view the timetable from this function.
View Class	Student may see the subject name, subject code, credit hour, class of the day and time for the current semester, together with the respective lecturer of the subject.
View Tasks	Student can view the tasks given by lecturer such as Assignment or Project.
View Announcement	Students can view the announcement made by the lecturers.

Table 2.2: Student's Section Use Case Description

2.2.2 Work Flow Modeling

Work Flow modeling or known as activity diagrams are used to model the flow between the different components of two modules of lecturer and student function. An activity diagram is important because the developer wants to model the workflow of a use case diagram as stated in previous section, and it can show the paths within the use case as well as other use cases. With activity diagrams, the developer will be able to illustrate where the functionality exists in the system and how the functionality coordinates with the functionality of other components of the system. The developer has developed five activity diagrams for this system which are Log In process (Lecturer/Student), View Class and Timetable (Lecturer/Student), Add Task/Announcement (Lecturer), View Task/Announcement (Student) and Add Class/Subject (Admin).

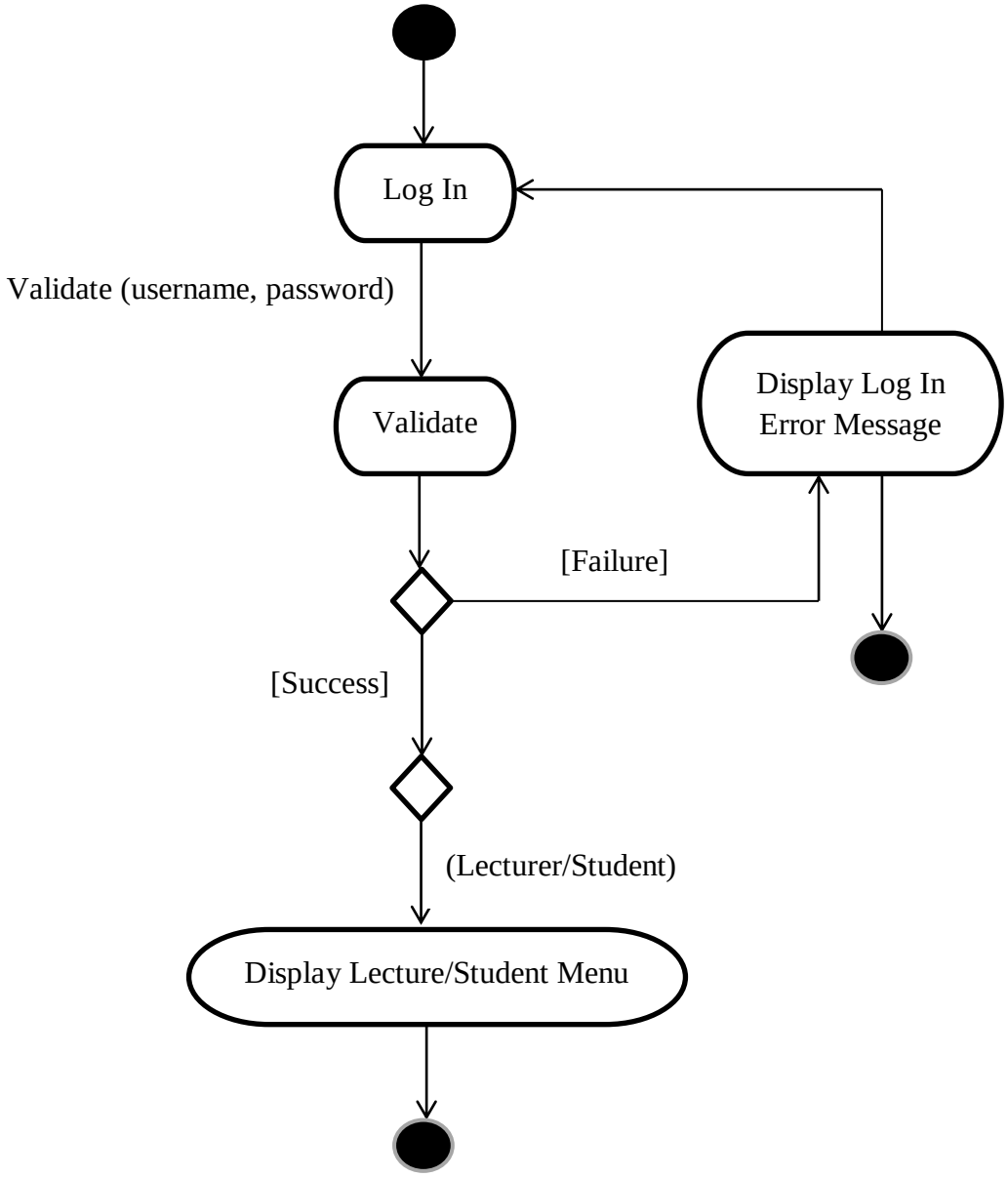

Figure 2.5: Activity diagram for Log In process

Figure 2.5 above shows the activity diagram of Log In process for lecturers and students. First, the lecturers, and students need to login using the username and password that was created by their lecturers during registration. The system will validate the username and password. If the password or username is invalid, an error message will be displayed and the lecturer or student can try to login again. If login is successful, the system will validate the user as a lecturer or student.

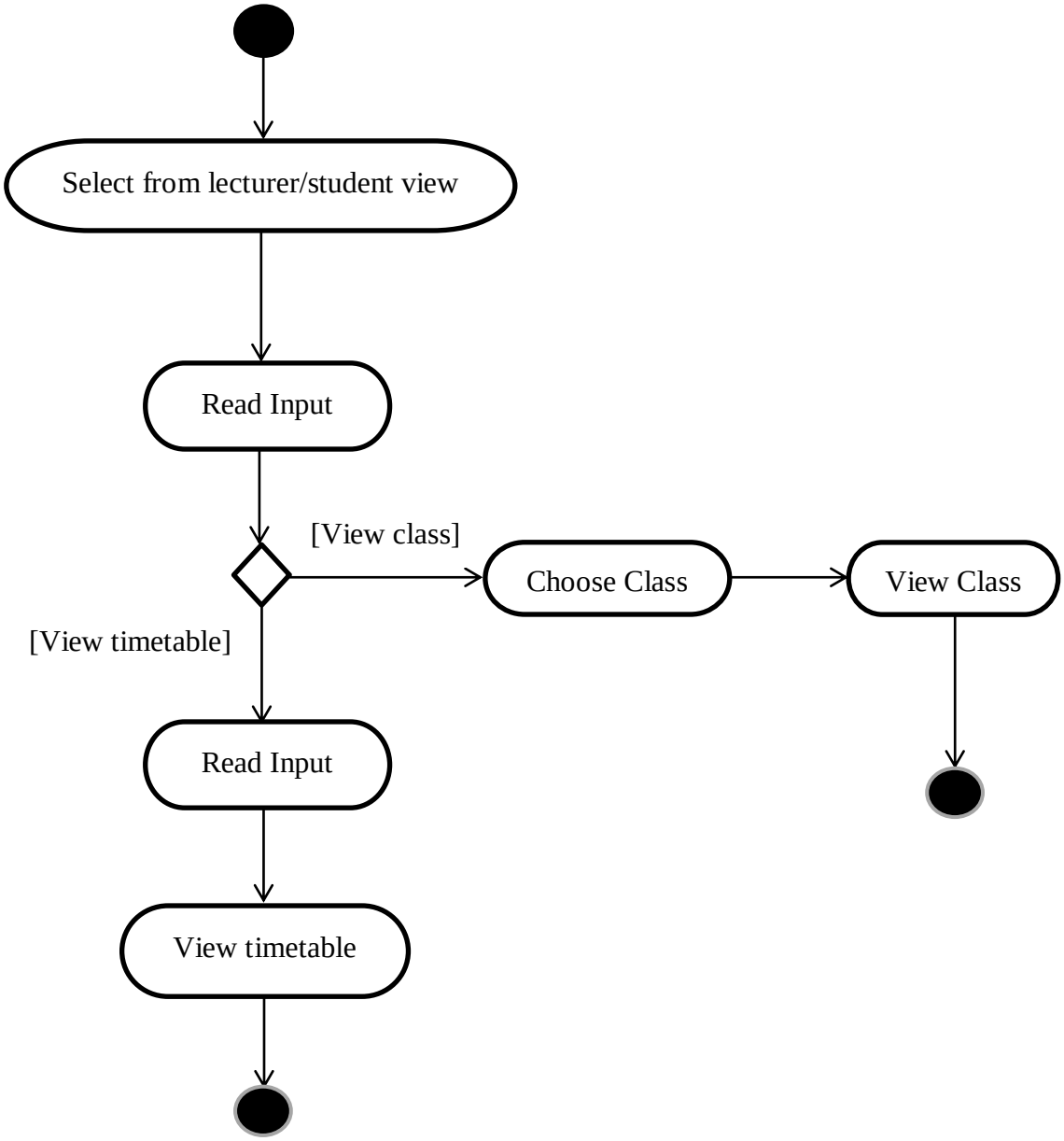

Figure 2.6: Activity diagram for View Class and View Timetable

Figure 2.6 above shows the activity diagram for View class and view timetable for lecturers and students. The lecturers and students can click on the view class or view timetable menus and the specific information will be loaded.

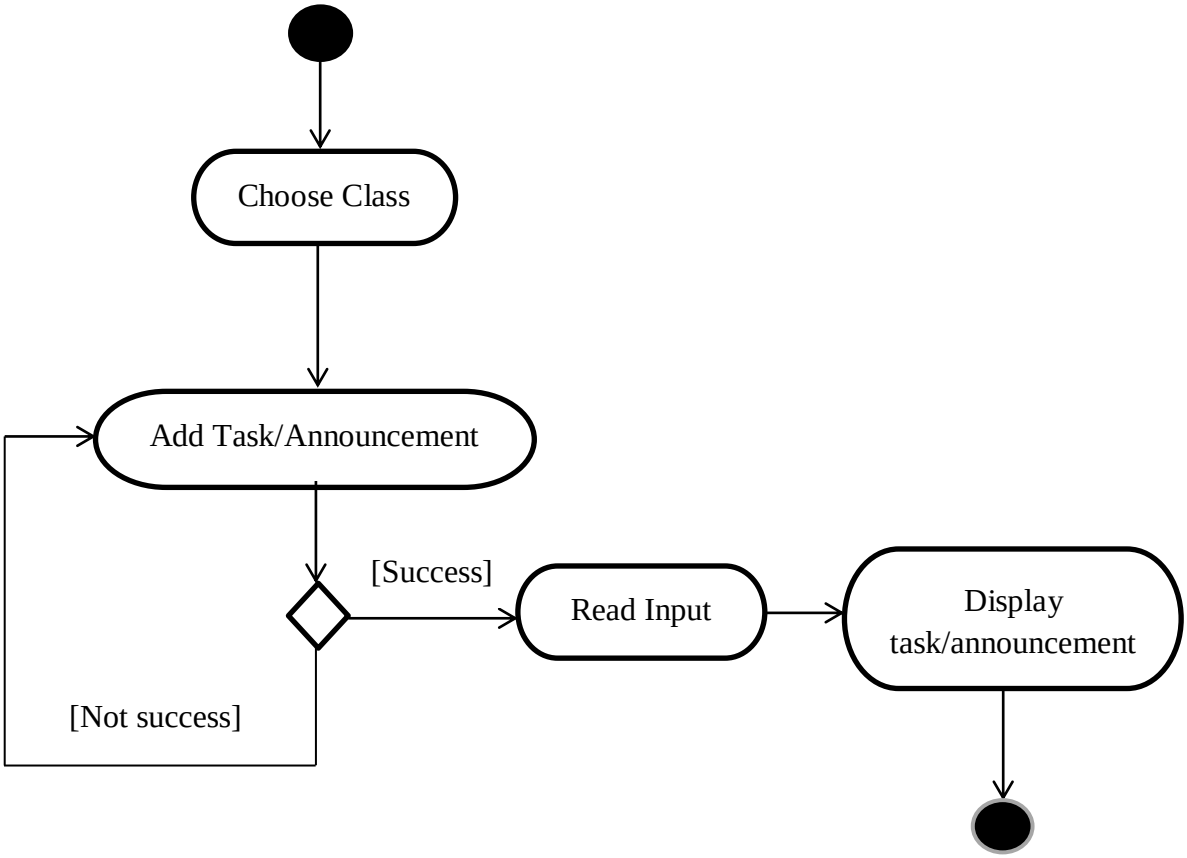

Figure 2.7: Activity Diagram for Add Task and Announcement

Figure 2.7 shows the activity diagram for add task and announcement for the lecturer. Lecturer needs to choose class to add the task and announcement. Then, they need to submit the task for display. If the add task is successful, the task and announcement will be display for student's view. Besides that, if it is not successful, it will go back to the Add task/announcement process.

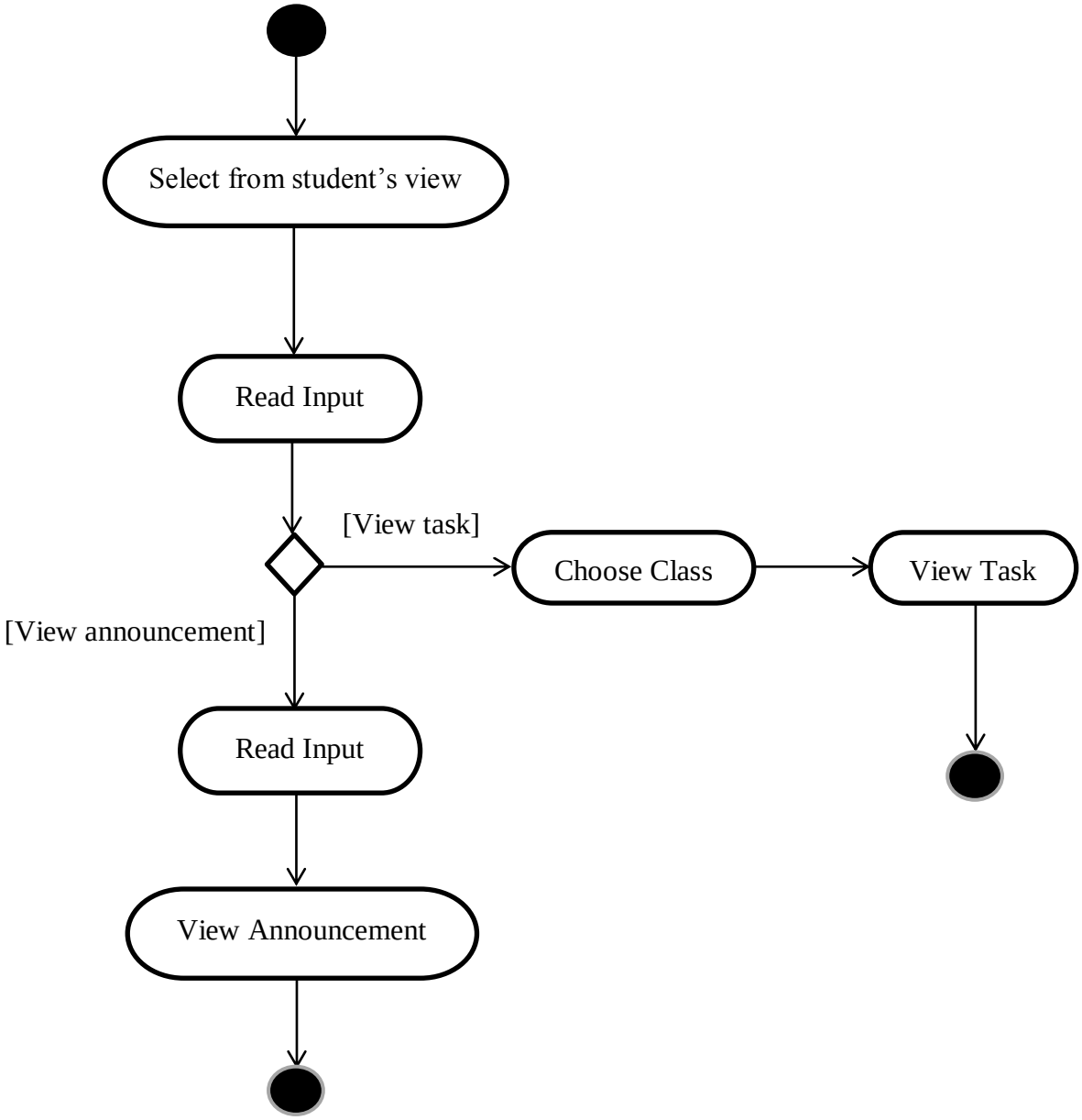

Figure 2.8: Activity Diagram for View Tasks and View Announcement

Figure 2.8 above shows the activity diagram for View tasks and view announcement for students. Students can click on the view task or view announcement menus and the specific information will be loaded.

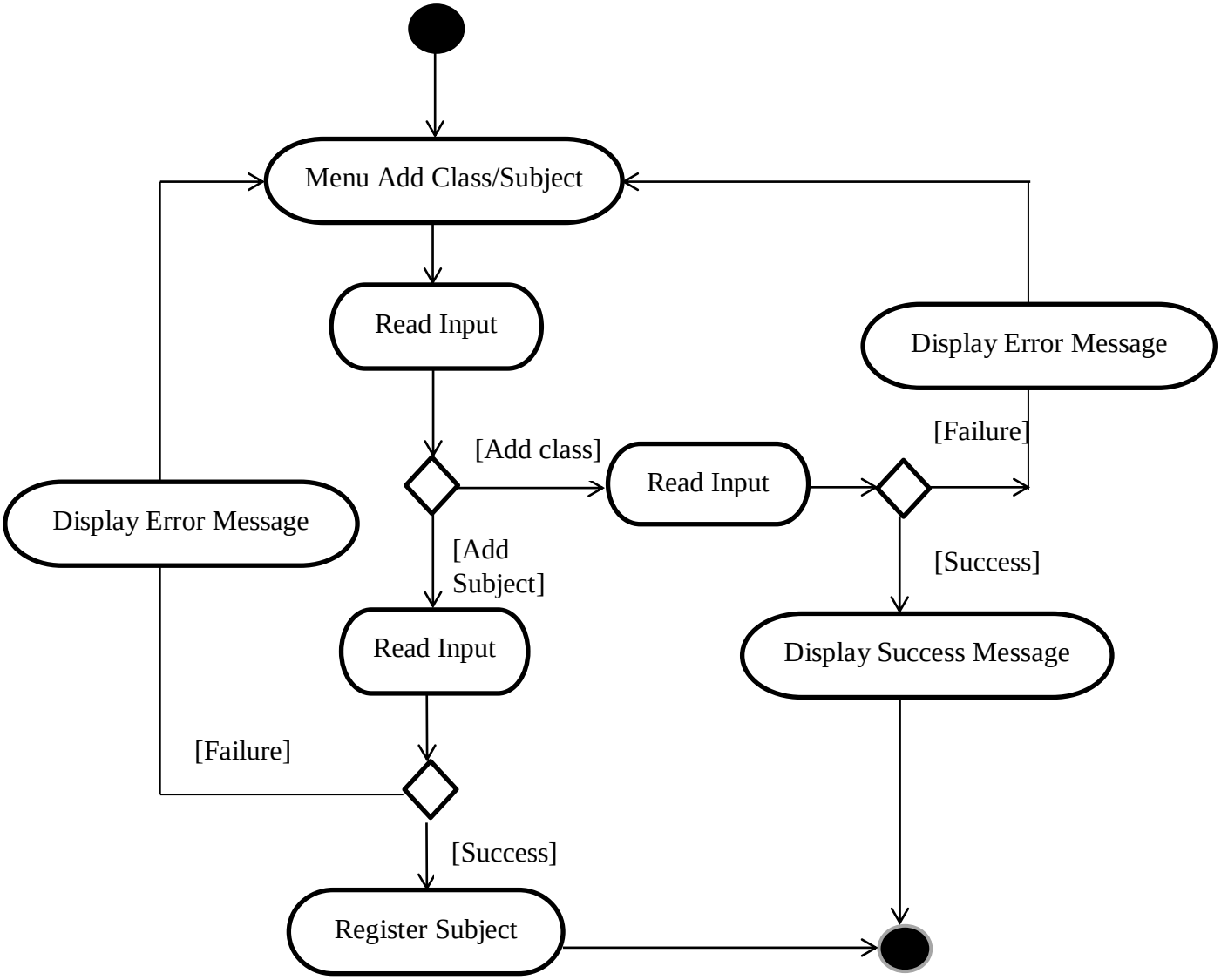

Figure 2.9: Activity Diagram for Add Class and Subject

Figure 2.9 above shows the activity diagram for Add Class and Add Subject for Administrator. Admin needs to click menu add class or subject. Then, he/she need to submit the task for display. If the add class or subject is successful, the successful message will be display, otherwise, if it is not successful, it will go back to the Add Class/Subject process.

2.2.3 System Structure Design

The structure charts below shows the structure design of this project:

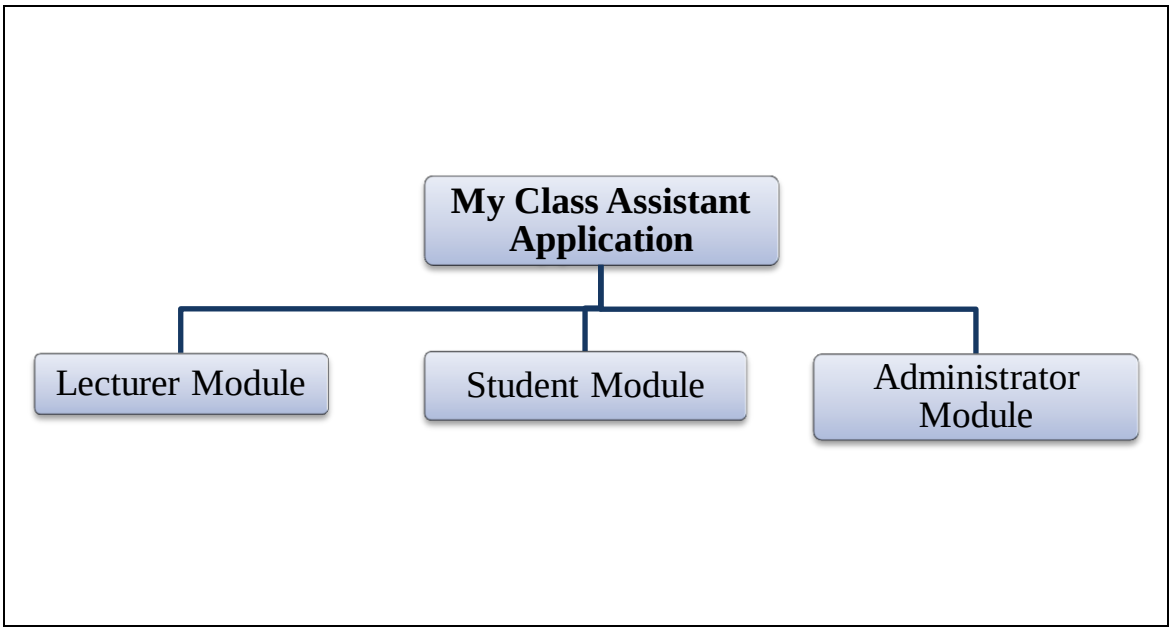

Figure 2.10: Main System Structure Design

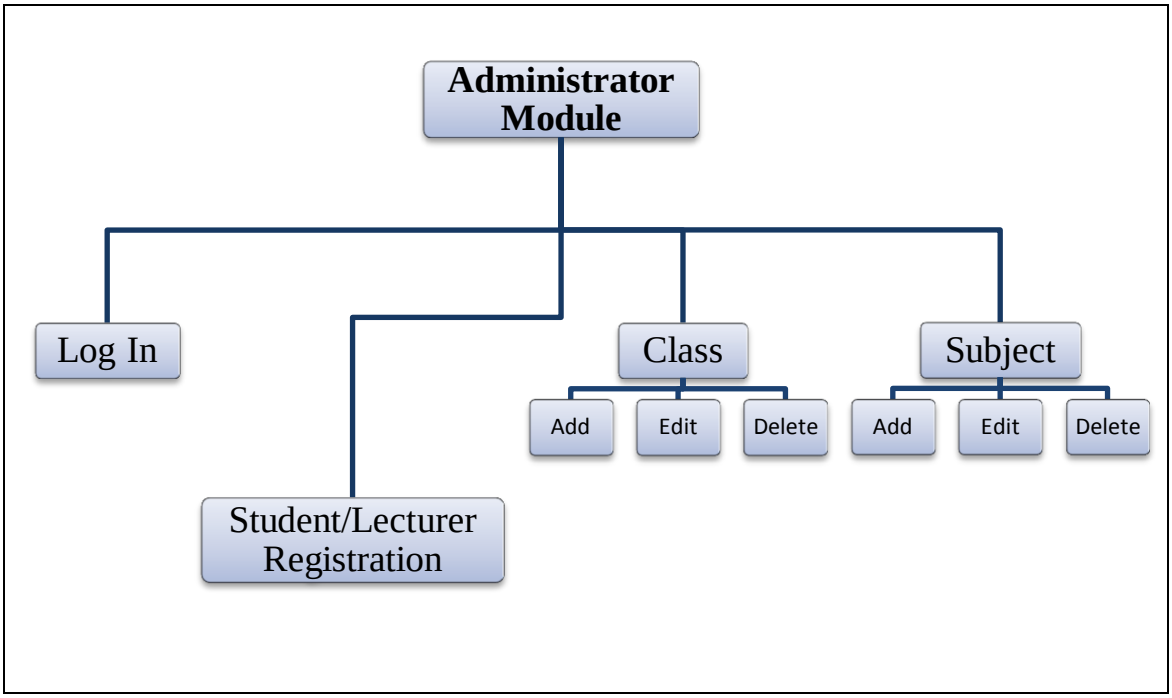

Figure 2.11: System Structure Design for Administrator Module

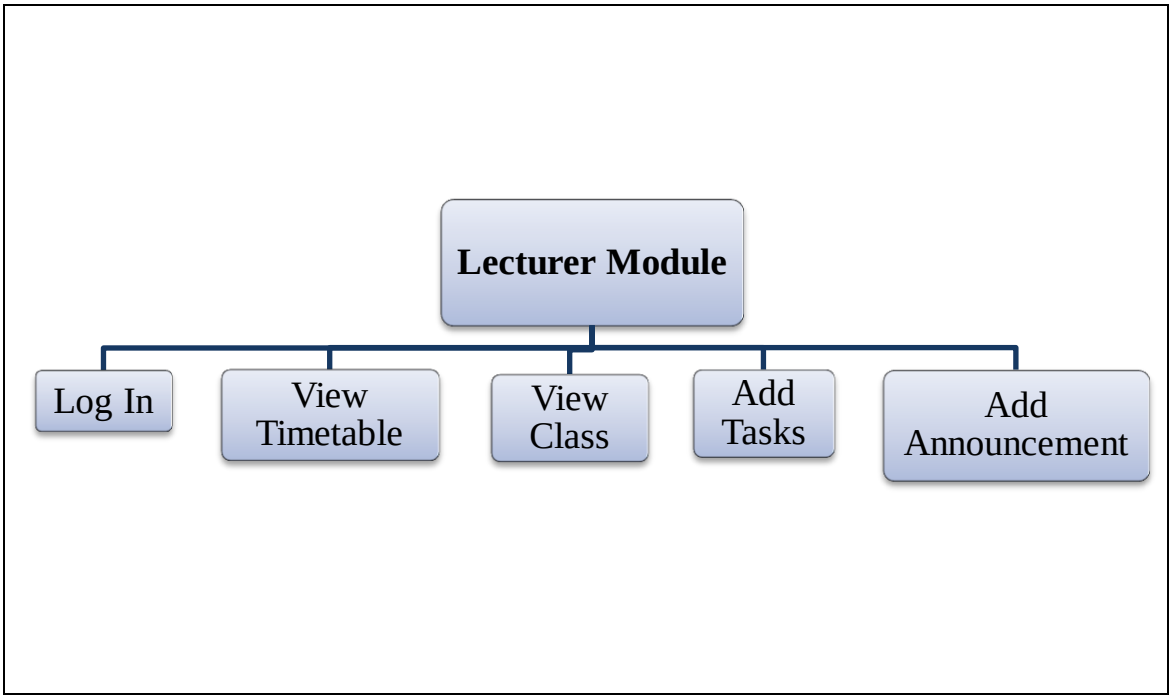

Figure 2.12: System Structure Design for Lecturer Module

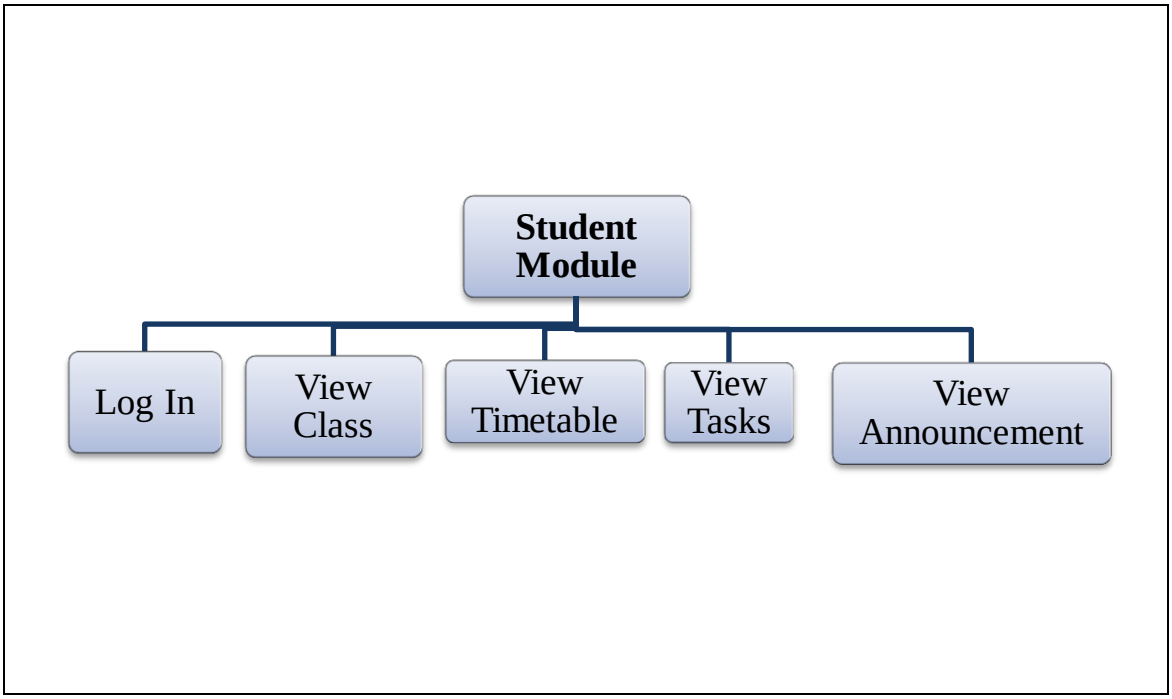

Figure 2.13: System Structure Design for Student Module that resides on the Android Application

2.2.4 Database Design

2.2.4.1 Entity-Relationship Diagram (ERD)

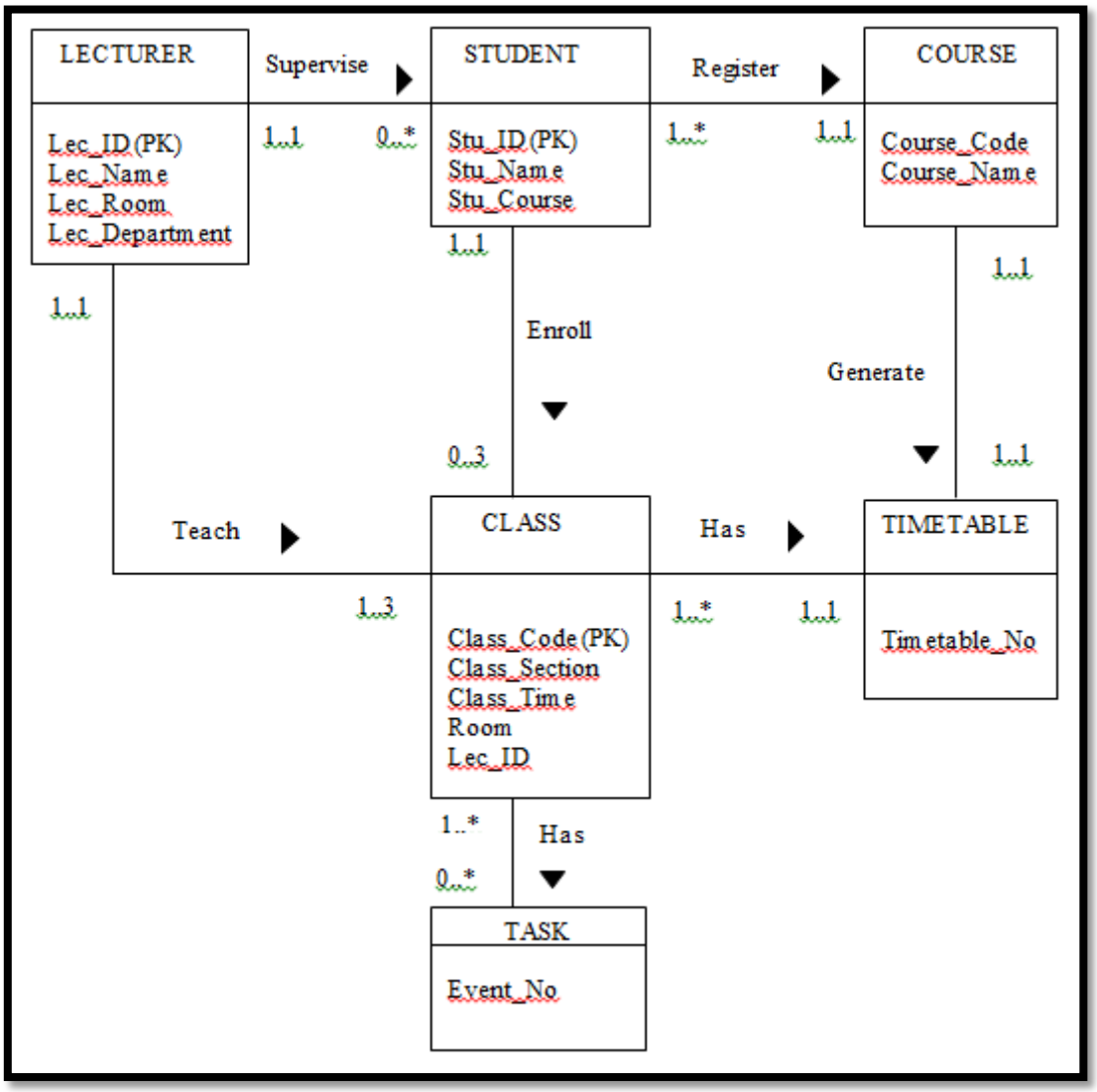

Figure 2.14: Entity-Relationship Diagram of My Mobile Class Assistant App system

In this project, the database design phase is used to show how data will be stored in a database table. The database will be created using MySQL. All the main database tables and functions are stated in Table 2.3 below.

Table	Description
Lecturer and Student	This table store lecturer and student details, which include their username and password. Lecturers will be able to insert, update and view own details, while the students can only view the information.
Timetable	This table stores all the information regarding the timetable of the lecture session of the current semester.
Class	This table will store all the details of class registred for current semester. Lecturer can add and view the class details through the class links.
Tasks	This table stores lecturer id, date and time. Lecturer will insert the tasks dateline such as submission of Assignment 1 and make reminder to their students by giving announcement to student's smartphones apps.
Course	This table stores the course information of FSKKP students such as BCN, BCG or BCS.
Time and day	Store the day, time, and date.

Table 2.3: Main database table and description

2.2.5 Interface Design

This project's interface design will be made up of simple but effective presentations that can attract and user friendly for the user's attention. There are minimum graphics so they will not clutter the page design. Besides that, interface consistency is maintained throughout the page so that there is uniformity in the system that will not cause confusion to the lecturers as users. The figures below will be the rough screen design of the system and application interface.

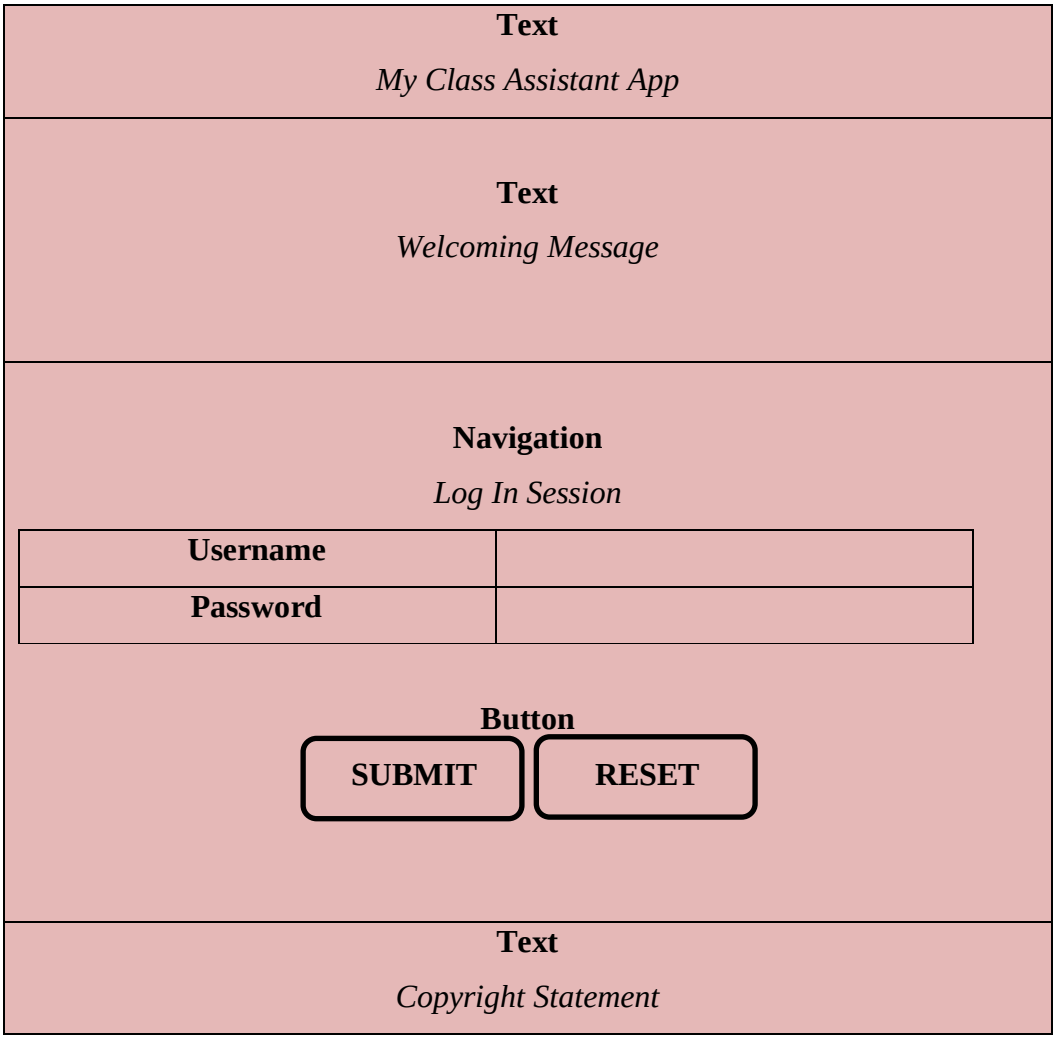

Figure 2.15: Screen Design of system for Lecturer/Student Section

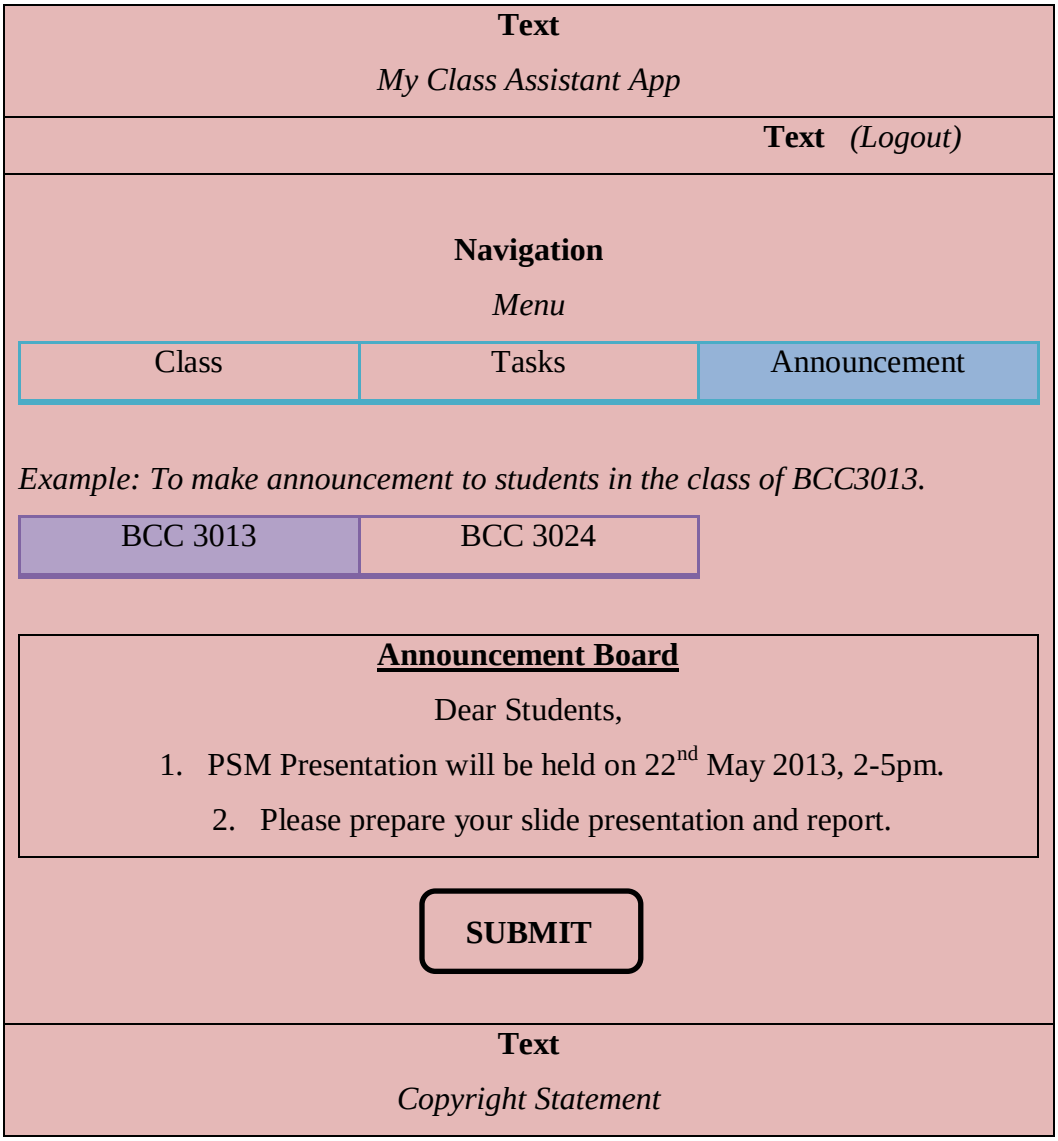

Figure 2.16: Screen Design of system's menu for Lecturer Section

Figure 2.17: Screen Design of Task menu for Lecturer Section

2.2.5.1 Expected Result

Figure 2.18: Screen Design of Announcement menu for Student Section. There will be a popup message after students tap on the frequent date.

2.3 Methods and material used

2.3.1 Software Development Life Cycle (Waterfall Model)

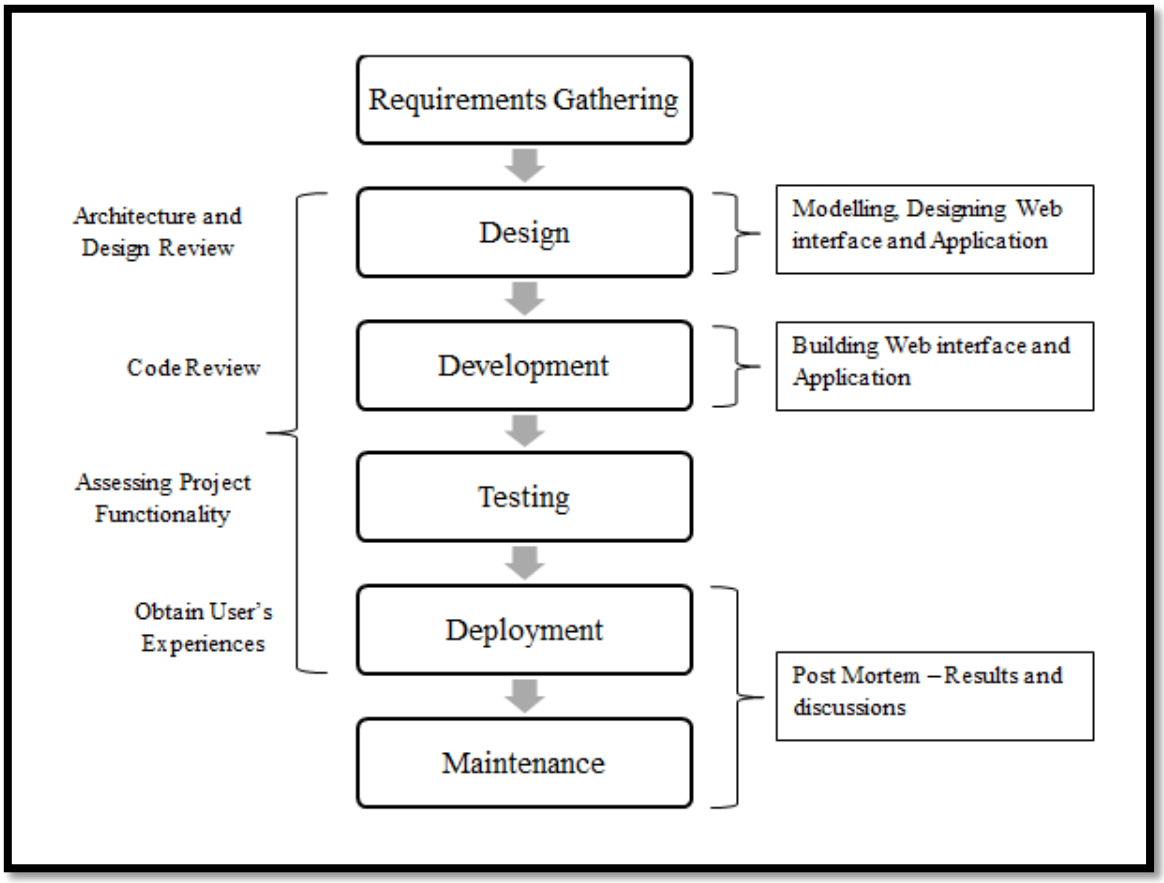

Figure 2.19: SDLC (Software/System Development Life Cycle) Phase

System Development Life Cycle process (SDLC) will be applied to the development of this project to ensure that all functional user requirements, goals and objectives are met. SDLC provides a structured and standardized process for all phase of any system development effort. There are number of phases of system development through several stages of development from feasibility analysis, system planning and concepts development, requirements definition, design, development, integration and testing, the user acceptance, and finally to the project maintenance.

2.3.1.1 Requirements

Developer develops this project to meet functional requirements. These requirements are the desired functionality that the users which are Students and Lecturers whom want this project to be build and delivered to them. A functional requirement describes an interaction between the system and its environment. In this phase, process of discovering, analyzing, defining, and documenting the requirements happen. These involve measuring each and every functional requirement and operational requirements.

In this phase, developer identifies the need for a new project which integrates new technology of mobile application. The user's information such as the student list and subject name is needed to be prioritized and translated into a plan. The usual activities may involve in this phase is to investigate the problem or opportunity and the reasons why this project should or should not be developed.

2.3.1.2 Design

In Design phase, the physical project flow is designed with the help of logic design prepared. Through this phase, developer might use the tools and specific software to create the overall project design which including possible output. During design processes, developer converts the description of the solution into logical and physical project specifications. The developer designs all aspects of the project, from input and output screens, databases and application processes.

Theoretically, this project could be implemented on any hardware and systems software. The idea is to make sure that the project functions as intended. As part after logical design, developer develops them into the physical design to perform the physical operations necessary to facilitate data, processes and information output which is explain on the next phase.

2.3.1.3 Development

Once all the information and data gathered, developer proceeds to the Development phase which includes building and coding the system and mobile application. This can be done in many ways, from creating a working model of the project to be implemented with the details necessary to build the final project, from the programming language, to the database system that will store the data and to the hardware platform on which the project will run. The final project will run on the Android SDK platform which is Eclipse SDK package to only run the project as a prototype version.

2.3.1.4 Testing

During the Testing phase, developer tests the individual project module and the entire project in order to find and correct the errors. Application software is installed or loaded on existing hardware platform, and the users are introduced to this new project and trained. In this phase, developer collects and receives the users (Student and Lecturer) experience to get the comments and response from them. Documentation is produced throughout the life cycle, and training occurs from the inception of the project. Implementation continues for as long as the project exists because ongoing user support is also a part of the implementation.

2.3.1.5 Maintenance

In this phase, developer makes the changes that users ask for and modify the project to reflect changing conditions. These changes might necessary to keep the project running and useful. In a sense, maintenance is not a separate phase but a repetition of the other life cycle phases required to study and implement the needed changes.

2.3.2 Software used to develop the project

2.3.2.1 Android SDK Eclipse Tool with ADT plugin

The Android Software Development Kit (SDK) is composed of modular packages that can be downloaded separately using the Android SDK Manager whereby Android Development Tools (ADT) is a plugin for the Eclipse IDE that is designed to give a powerful, integrated environment in which to build Android application. ADT extends the capabilities of Eclipse to let quickly set up new Android projects, create an application UI, add packages based on the Android Framework Application Programming Interface (API), debug the application using Android SDK tools, and even export signed or unsigned .apk files in order to distribute the application. The main reason developer chose this software kit because developing in Eclipse with ADT is highly recommended and is the fastest way to get started. With the guided project setup it provides, as well as tools integration, custom XML editors, and debug output pane, ADT gives an incredible boost in developing Android applications.

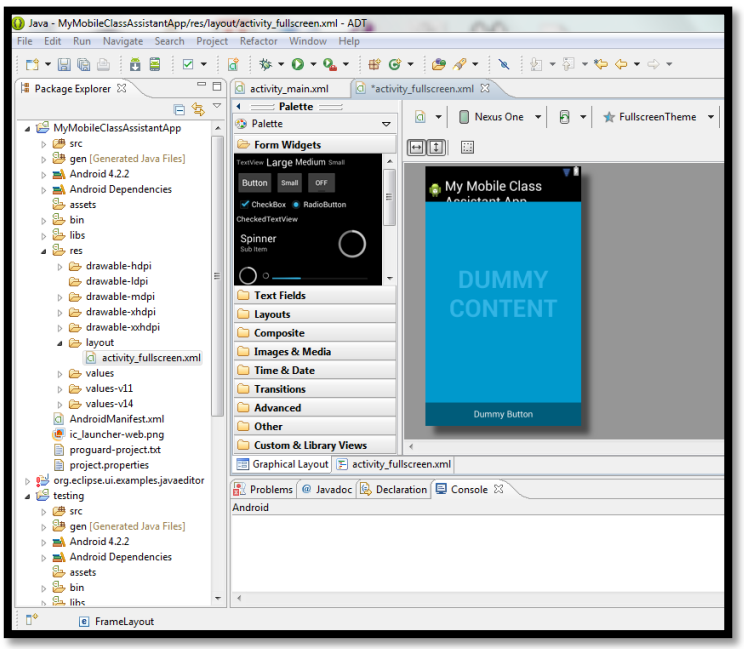

Figure 2.20: Android SDK Eclipse Tool software

2.3.2.2 PHP

Hypertext Preprocessor or formerly known as PHP is probably the most popular scripting language on the web. It is used to enhance web pages. With PHP, developer can do things like create username and password login pages and others. PHP is widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into HTML. PHP can collect user information in such a way that user directly interact with the script. PHP can also interact with MySQL databases by which developer can write user's information to the database and can retrieve information from the database. For this project, PHP is used to do more complex things like setting up a login system.

2.3.3 Hardware elements needed in developing the project

2.3.3.1 Computer platform

A computing platform includes hardware architecture and a software framework including application frameworks, where the combination allows software to run. Typical platforms include a computer architecture, operating system and Runtime libraries. A platform is a crucial element in software development. A platform might be simply defined as a place to launch software. The platform provider offers the software developer an undertaking that source code will run consistently as long as the platform is in place. Another important element is an operating system (OS) which used as software program that enables the computer hardware to communicate and operate with the computer software. For this project, developer chose to use operating system in Windows 7 and above in order to support the functionality and technologies used by Android SDK Eclipse tool.

2.3.3.2 Processing power

While most mobile computing devices are still considered to be toys, it is clear that the amount of processing power that will be resident in these devices by this time is going to be quite substantial. That means that the classes of applications that will run on these devices will not only be more robust, they will also probably be a lot more complex in terms of the amount of business logic that needs to be accessed and integrated. Processing power or CPU is the ability of a computer to manipulate data. Processing power varies with the architecture and clock speed of the CPU. For this project, developer runs the project in a computer with 2.50 GHz processing power and 8GB memory storage (RAM) in order for the project to be run smoothly by using the Eclipse tool.

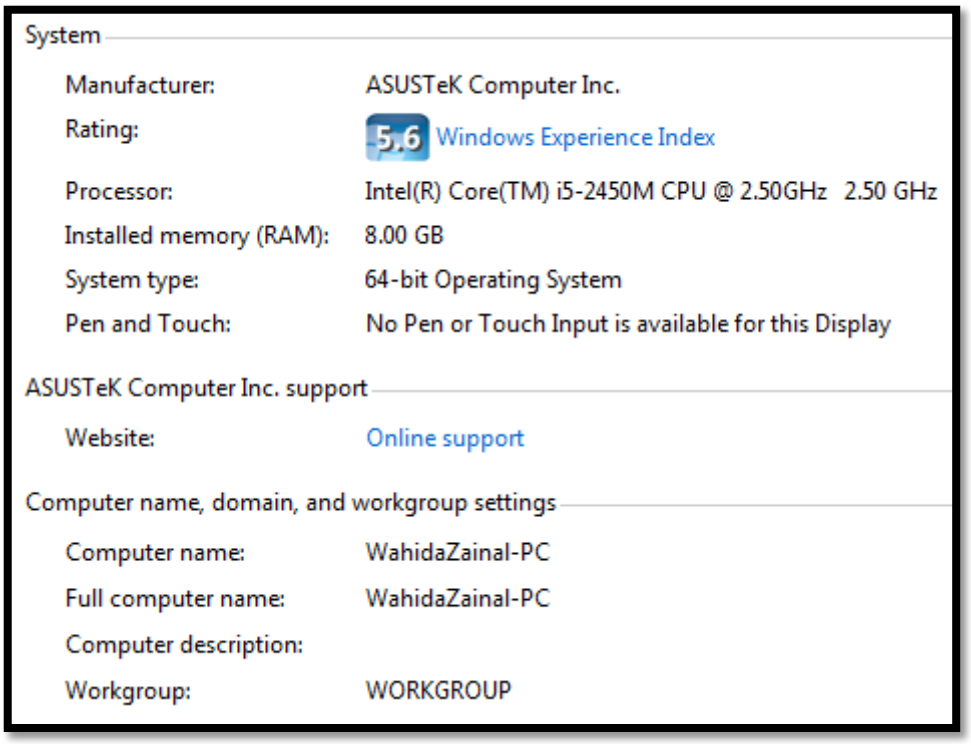

Figure 2.21: Developer's computer system information

2.4 Modules

There are three modules in the project. They are Android module, PHP module and Database module.

2.4.1 Android

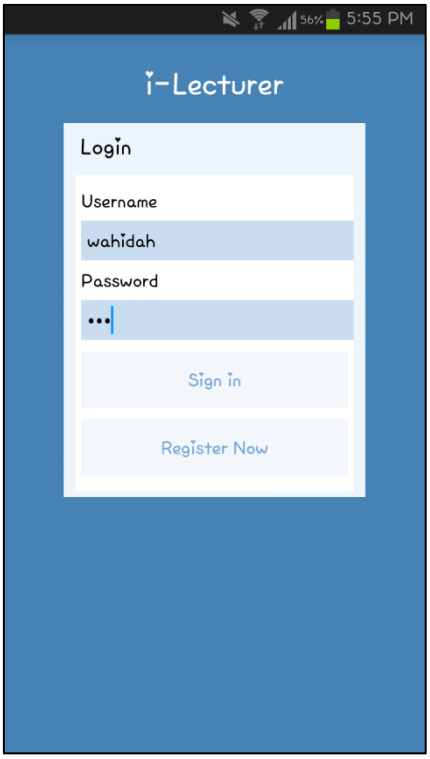

Figure 2.22: Login page for Lecturer/Student

```
public class Login extends Activity implements OnClickListener {
        private EditText txtUsername;
        private EditText txtPassword;
        private Button btnSignIn;
        private Button btnRegister;
        private String username;
        private String password;
  @Override
  public void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    requestWindowFeature(Window.FEATURE_NO_TITLE);
    setContentView(R.layout.activity_login);
                if( Build.VERSION.SDK_INT >= 9){
```

```
StrictMode.ThreadPolicy policy = new StrictMode.ThreadPolicy.Builder().permitAll().build();
StrictMode.setThreadPolicy(policy);
                    }
                    txtUsername=(EditText)findViewById(R.id.txtLoginUsername);
                    txtPassword=(EditText)findViewById(R.id.txtLoginPassword);
                    btnRegister=(Button)findViewById(R.id.btnRegister);
                    btnSignIn=(Button)findViewById(R.id.btnSignin);

                    btnSignIn.setOnClickListener(this);
                    btnRegister.setOnClickListener(this);
  }
  @Override
  public boolean onCreateOptionsMenu(Menu menu) {
    getMenuInflater().inflate(R.menu.login, menu);
    return true;
  }
        public void onClick(View v) {
                    if(v.getId()==btnSignIn.getId()){
                                username=txtUsername.getText().toString();
                                password=txtPassword.getText().toString();
                                if(username.equals("") || password.equals("")){
        AlertDialog alert = new AlertDialog.Builder(Login.this).create();
        alert.setMessage("Username Or Password can not be Empty");
        alert.setButton("OK",new DialogInterface.OnClickListener() {
public void onClick(DialogInterface dialog,int which) {
}
});
        alert.show();
        }
                    else{
        signValidation();
        }
}
                    if(v.getId()==btnRegister.getId()){
                     Intent intent=new Intent(Login.this,Register.class);
                     startActivity(intent);
                    }
        }
        private void signValidation() {
         // Create a new HttpClient and Post Header
         HttpClient httpclient = new DefaultHttpClient();
        HttpPost httppost = new HttpPost("http://192.168.43.20/iLecturer/login.php");
```

Figure 2.23: Code for Login process

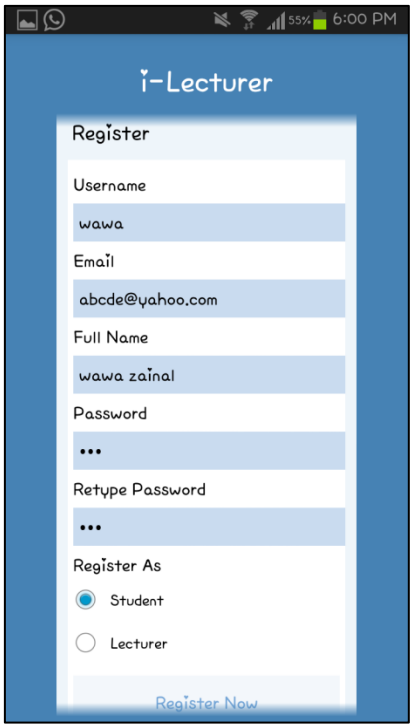

Figure 2.24: Register page for Lecturer/Student

```
private void registation() {
	// Create a new HttpClient and Post Header
HttpClient httpclient = new DefaultHttpClient();
	HttpPost httppost = new
	HttpPost("http://192.168.43.20/iLecturer/registation.php");
try {
List<NameValuePair> nameValuePairs = new ArrayList<NameValuePair>(2);
	nameValuePairs.add(new BasicNameValuePair("username", username));
nameValuePairs.add(new BasicNameValuePair("password", password));
nameValuePairs.add(new BasicNameValuePair("email", email));
nameValuePairs.add(new BasicNameValuePair("full_name", full_name));
nameValuePairs.add(new BasicNameValuePair("state", state));
httppost.setEntity(new UrlEncodedFormEntity(nameValuePairs));

// Execute HTTP Post Request
HttpResponse response = httpclient.execute(httppost);
	String str =
	inputStreamToString(response.getEntity().getContent()).toString();
```

Figure 2.25: Code for Register process

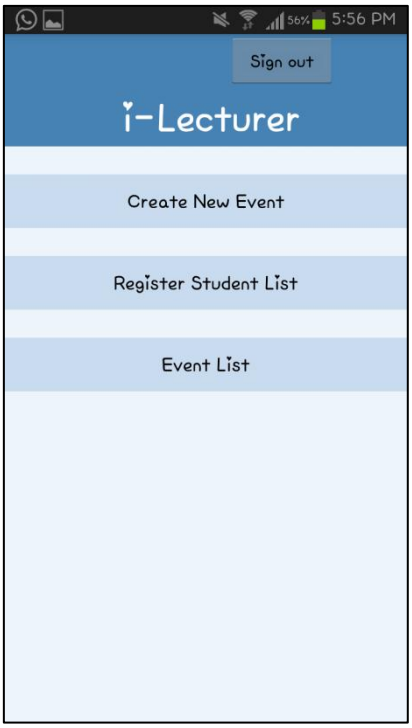

Figure 2.26: Main menu for Lecturer

```
@Override
public void onClick(View arg0) {
       if(arg0.getId()==btnNewEvent.getId()){
    Intent intent=new Intent(MainMenuTeacher.this,AddNewEvent.class);
    startActivity(intent);
    }
    else if(arg0.getId()==btnsignout.getId()){
       Intent intent=new Intent(MainMenuTeacher.this,Login.class);
    startActivity(intent);
    }
    else if(arg0.getId()==btnstudentList.getId()){
    Intent intent=new Intent(MainMenuTeacher.this,Student_List.class);
    startActivity(intent);
    }
    else if(arg0.getId()==btneventlist.getId()){
       Intent intent=new
       Intent(MainMenuTeacher.this,event_list_lecturer.class);
       startActivity(intent);
    }
}
```

Figure 2.27: Code for MainMenuLecturer

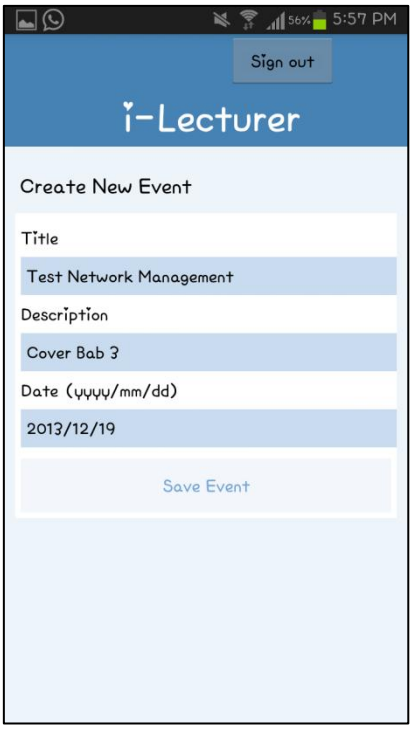

Figure 2.28: Create New Event page for Lecturer

```
private void save() {
// Create a new HttpClient and Post Header
       HttpClient httpclient = new DefaultHttpClient();
       HttpPost httppost = new
       HttpPost("http://192.168.43.20/iLecturer/add_event.php");
    try {
    List<NameValuePair> nameValuePairs = new ArrayList<NameValuePair>(2);
    nameValuePairs.add(new BasicNameValuePair("title", title));
    nameValuePairs.add(new BasicNameValuePair("des", description));
    nameValuePairs.add(new BasicNameValuePair("date", date));
    httppost.setEntity(new UrlEncodedFormEntity(nameValuePairs));
```

Figure 2.29: Code for Creating new event

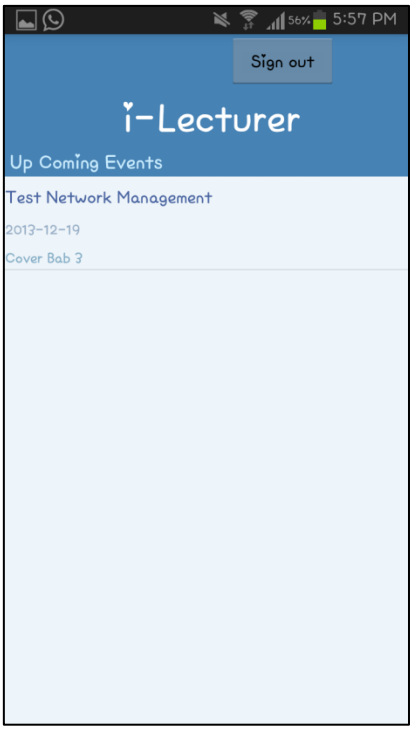

Figure 2.30: Event list page for Lecturer

```
ListAdapter adapter = new SimpleAdapter(this,
contactList,R.layout.event_list,new String[] { TAG_TITLE,TAG_DATE,
TAG_DESCRIPTION }, new int[] {
R.id.title_list,R.id.date_list,R.id.description_list });
           setListAdapter(adapter);
           ListView lv = getListView();
           lv.setOnItemClickListener(new OnItemClickListener() {
public void onItemClick(AdapterView<?> parent, View view,int position, long
id) {
final String title = ((TextView)
view.findViewById(R.id.title_list)).getText().toString();
AlertDialog.Builder alertDialog = new
AlertDialog.Builder(event_list_lecturer.this);
```

Figure 2.31: Code for Event list

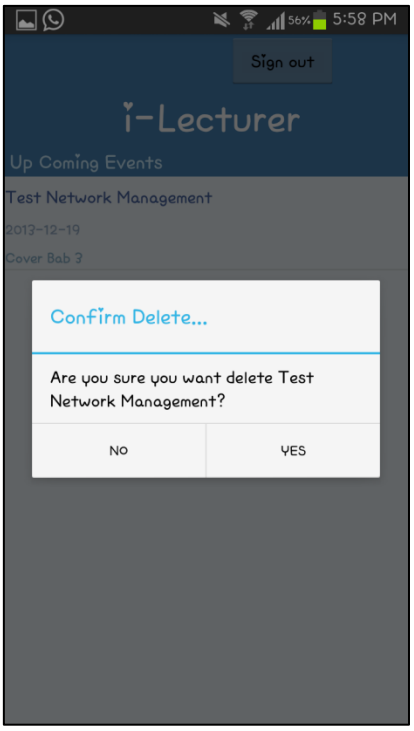

Figure 2.32: Delete Event for Lecturer

```
// Setting Dialog Title
alertDialog.setTitle("Confirm Delete...");
// Setting Dialog Message
alertDialog.setMessage("Are you sure you want delete "+ title +"?");
// Setting Icon to Dialog
// Setting Positive "Yes" Button
alertDialog.setPositiveButton("YES", new DialogInterface.OnClickListener() {
public void onClick(DialogInterface dialog,int which) {
// Write your code here to invoke YES event
Delete(title);
}
});
// Setting Negative "NO" Button
alertDialog.setNegativeButton("NO", new DialogInterface.OnClickListener() {
public void onClick(DialogInterface dialog, int which) {
// Write your code here to invoke NO event
dialog.cancel();
}
});
// Showing Alert Message
alertDialog.show();
}
```

Figure2.33: Code for Delete Event

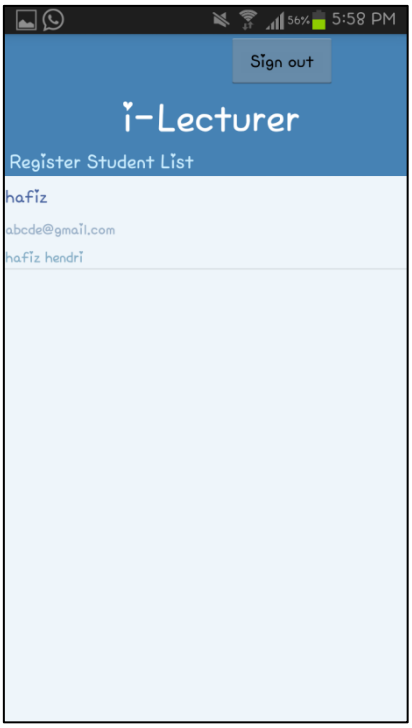

Figure 2.34: Registered Student List for Lecturer

```
ListAdapter adapter = new SimpleAdapter(this,
contactList,R.layout.event_list,new String[] { TAG_USERNAME,TAG_EMAIL,
TAG_FUILL_NAME }, new int[] {
R.id.title_list,R.id.date_list,R.id.description_list });
setListAdapter(adapter);
      ListView lv = getListView();
      lv.setOnItemClickListener(new OnItemClickListener() {
public void onItemClick(AdapterView<?> parent, View view,int position, long
id) {
      final String name = ((TextView)
      view.findViewById(R.id.title_list)).getText().toString();
AlertDialog.Builder alertDialog = new AlertDialog.Builder(Student_List.this);
```

Figure 2.35: Code for Student List

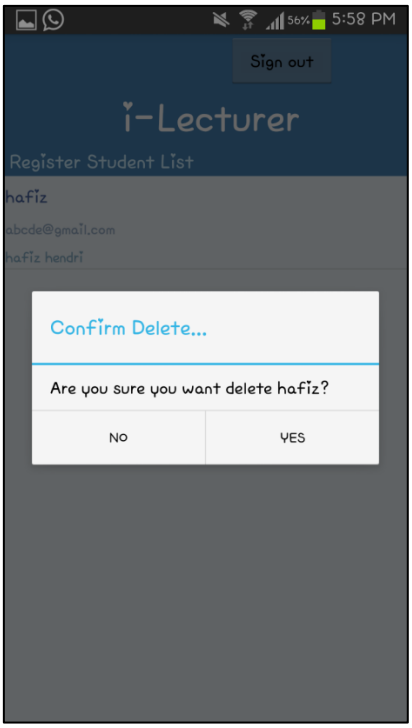

Figure 2.36: Delete Student for Lecturer

```
// Setting Dialog Title
alertDialog.setTitle("Confirm Delete...");
// Setting Dialog Message
alertDialog.setMessage("Are you sure you want delete "+ name +"?");
// Setting Positive "Yes" Button
      alertDialog.setPositiveButton("YES", new
      DialogInterface.OnClickListener() {
public void onClick(DialogInterface dialog,int which) {
// Write your code here to invoke YES event
Delete(name);
});
// Setting Negative "NO" Button
alertDialog.setNegativeButton("NO", new DialogInterface.OnClickListener()
{
public void onClick(DialogInterface dialog, int which) {
// Write your code here to invoke NO event
dialog.cancel();
});
// Showing Alert Message
alertDialog.show();
}
```

Figure 2.37: Code for Delete Student

2.4.2 PHP

```php
$username=$_POST['username'];
$password=$_POST['password'];


$con = mysql_connect('localhost','anftechn_student','student');
if (!$con)
  {
  die('Could not connect: ' . mysql_error());
  }

mysql_select_db('anftechn_student_management', $con);


$sql = "SELECT state FROM users where username = '$username' and password = '$password'";
$result = mysql_query($sql);


if ($row=mysql_fetch_array($result)) {
echo $row['state'];
}
else{
echo "false";

}

mysql_close($con);
```

Figure 2.38: Coding for Login

```php
$username=$_POST['username'];
$password=$_POST['password'];
$email=$_POST['email'];
$full_name=$_POST['full_name'];
$state=$_POST['state'];


$con = mysql_connect('localhost','anftechn_student','student');
if (!$con)
  {
  die('Could not connect: ' . mysql_error());
  }

mysql_select_db('anftechn_student_management', $con);
$sql ="INSERT INTO users (username, password, email,full_name,state) VALUES('$username','$password','$emai


if (mysql_query($sql))
  {
    echo "Saved";
  }

else{
echo "error";
}

mysql_close($con);
```

Figure 2.39: Coding for Registration

```php
$title=$_POST['title'];
$description=$_POST['des'];
$date=$_POST['date'];



$con = mysql_connect('localhost','anftechn_student','student');
if (!$con)
  {
  die('Could not connect: ' . mysql_error());
  }

mysql_select_db('anftechn_student_management', $con);
$sql ="INSERT INTO events  (title, description, date) VALUES('$title','$description','$date')";


if (mysql_query($sql))
  {
    echo "save";
  }

else{
echo "error";
}

mysql_close($con);
?>
```

Figure 2.40: Coding for Add New Event

```php
$res=array();
$response = array();

$con = mysql_connect('localhost','anftechn_student','student');
if(!$con){
die("connection failed".mysql_error());
}
$db=mysql_select_db('anftechn_student_management', $con);
if(!$db){
die("connection failed".mysql_error());
}
$result = mysql_query("SELECT * FROM events");

while($row = mysql_fetch_array($result))  {
    $res[] = array(
        'yammer' => array('title'=> $row['title'],'description' => $row['description'],'date' => $row['date
    );
}
mysql_close($con);
$response['yammer'] = $res;
echo (json_encode($response));

$fp = fopen('event.json', 'w');
fwrite($fp, json_encode($response));
fclose($fp);
```

Figure 2.41: Coding for Event List

```php
$title=$_POST['title'];
$con = mysql_connect('localhost','root','');
if (!$con)
  {
  die('Could not connect: ' . mysql_error());
  }

mysql_select_db('student_management', $con);
$sql ="DELETE FROM events WHERE title='$title'";


if (mysql_query($sql))
  {
    echo "Saved";
  }

else{
echo "error";
}

mysql_close($con);
```

Figure 2.42: Coding for Delete Event

```php
$username=$_POST['username'];
$con = mysql_connect('localhost','anftechn_student','student');
if (!$con)
  {
  die('Could not connect: ' . mysql_error());
  }

mysql_select_db('anftechn_student_management', $con);
$sql ="DELETE FROM users WHERE username='$username'";


if (mysql_query($sql))
  {
    echo "Saved";
  }

else{
echo "error";
}

mysql_close($con);
```

Figure 2.43: Coding for Delete Student

2.4.3 Database

Figure 2.44: localhost phpMyAdmin for database storage

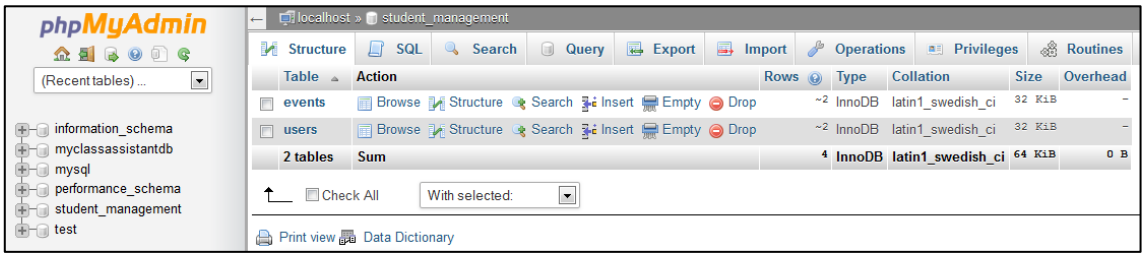

Figure 2.45: Database structure inside StudentManagement

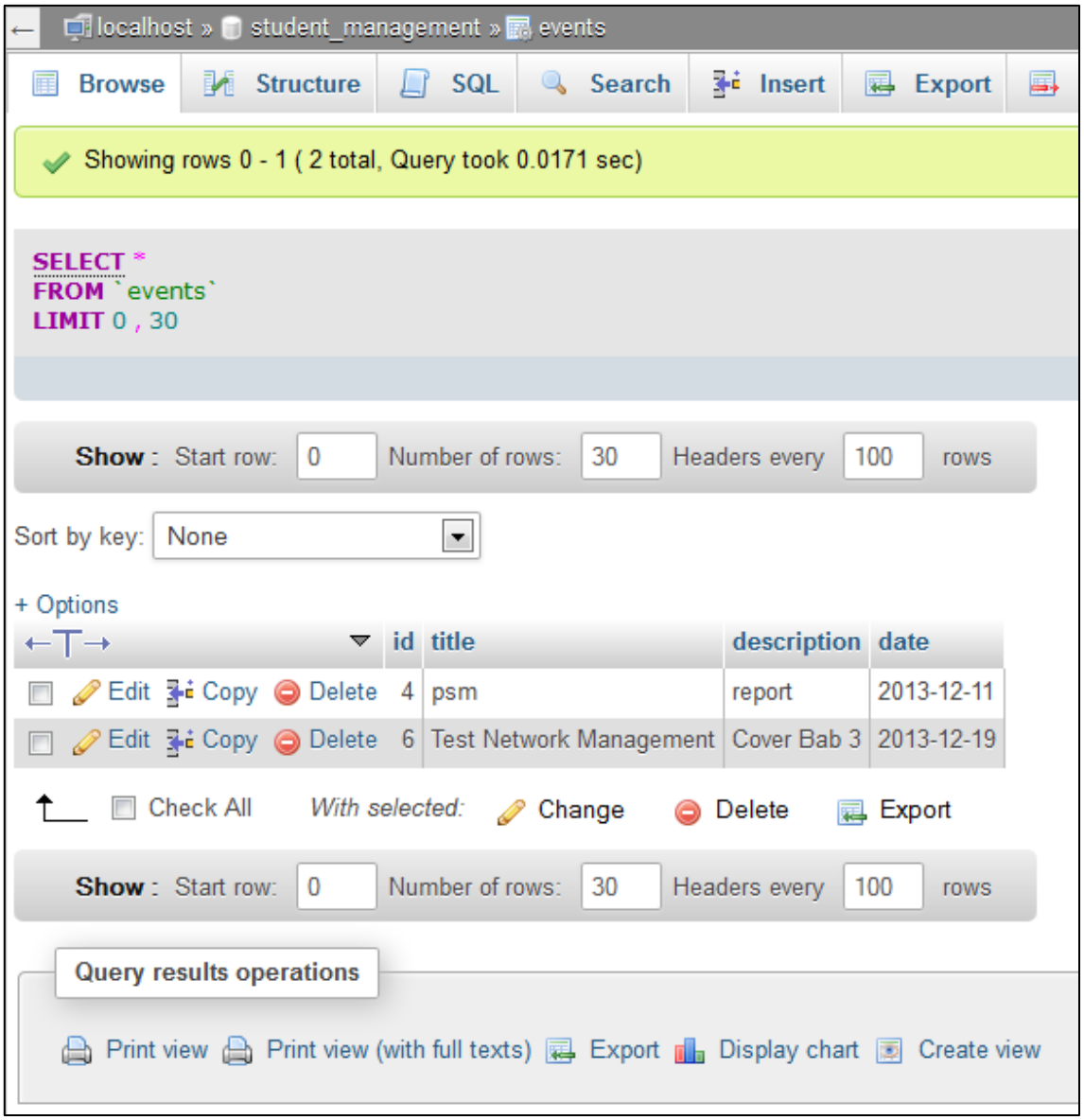

Figure 2.46: Event table that stores the data of events

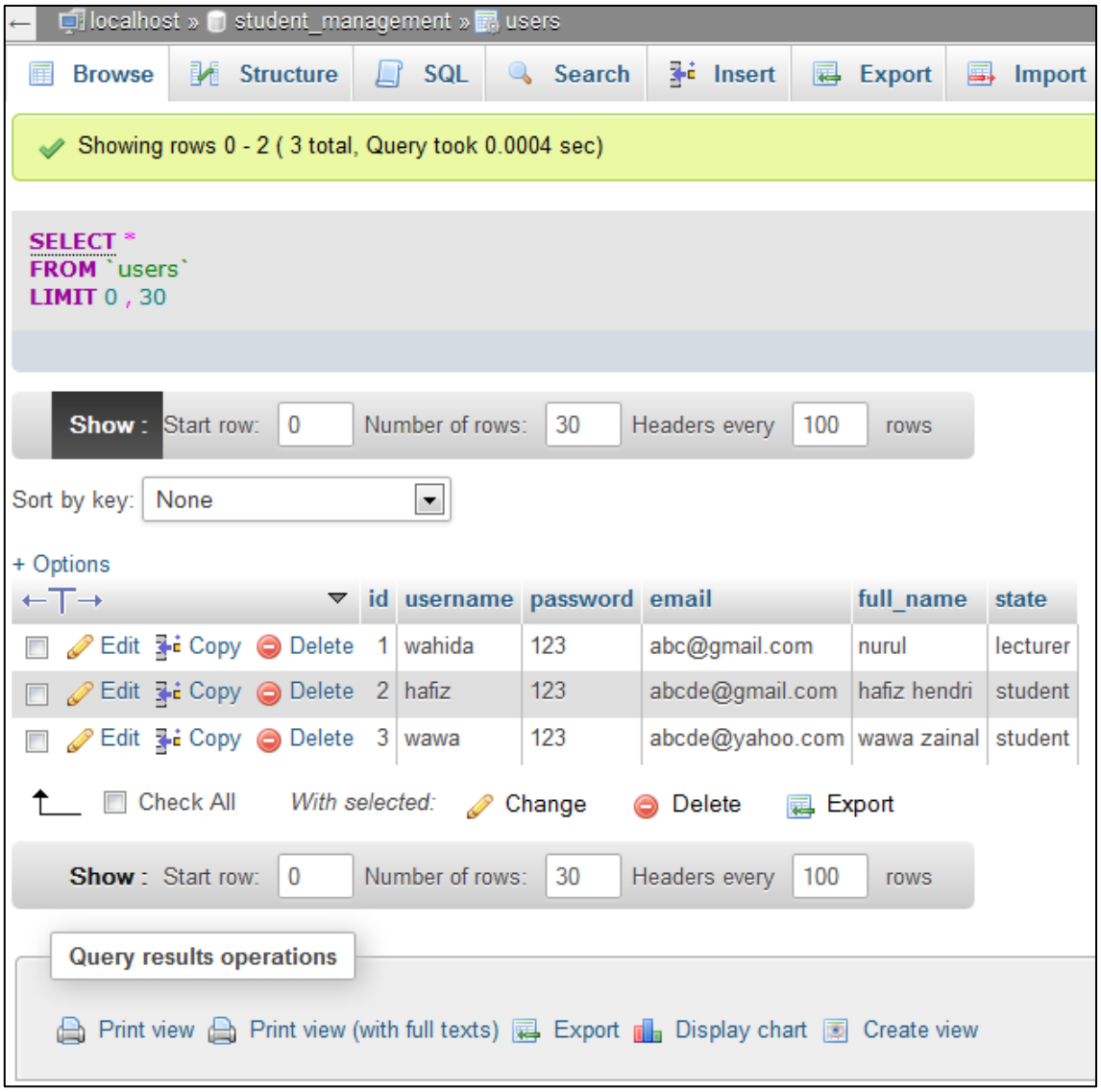

Figure 2.47: Users Table that stores all users' data

2.5 Conclusion

As a summary of this part, a typical approach to SDLC is understood to have many phases. These phases are established to provide an effective tool for controlling projects under development phase. The SDLC provides a straightforward review mechanism that enables the developer to monitor and assess progress, performance, and status of the project. At times, it is necessary to reevaluate, reschedule, or terminate the development project. The SDLC approach also includes frequent reporting to top management. Problems that are found are discussed and resolved together with the lecturers and supervisor as the user.

PART 3

CONCLUSION

3.1 Future Enhancements

This project is developed as a beginner application for creating tasks. It can be further developed to provide rich user interface as this application can be developed to enable location aware services using Google maps for any task that is required to reach any location. This would help to find the particular location if Students are required to visit.

In addition, this application can be added with the usage of Calendar for the notification. When selecting the calendar from the application, it can be further developed to add one more section where user can add more email id to invite or notify more people depending upon the task. So people can be notified along with the owner who sets up the meeting to invite more people. And it can be further developed to provide more features like settings themes and fonts for the application.

3.2 Conclusion

Main objective of the project is to build a simple and user friendly task viewer application for Students to view and schedule their tasks and finish them on time based on the given date. So the users will be benefited to get the announcements/events in their i-Lecturer application. Application is built using Android SDK and Eclipse IDE as the development environment based on its design standards. This application is very simple to use that it displays all tasks or events wise and clears based on the Lecturer's post. I-Lecturer application has been tested on Android Samsung Galaxy S III device which having Android 4.1.2. The results from this project would be an integrated system which capable of receiving input from Lecturers through the mobile application, manipulating the received data and outputting them to Students via the mobile application installed on their smartphone. With this application, we can learn to facilitate another way of communication among lecturers and students through the usage of new technology of mobile environment on Android platform.

REFERENCE

The following documents and websites have been referred to while writing this report.

[1]Rajiv Ramnath, *Android 3 SDK Programming for Dummies*, PhD, The Ohio State University, 2011, http://www.dummies.com/go/android3sdkprogramming.

[2]Jerome (J.F) DiMarzio, *Android a Programmer's Guide*, Central Florida, 2008, http://www.mhprofessional.com/computing/downloads.

[3]ANDROID DEVELOPERS, *User interface*. Android Developers, http://developer. android.com/guide/topics/ui/index.html, accessed July 2013.

[4]ANDROID DEVELOPERS, *What is Android 2011?* Android Developers, http://developer.android.com/guide/basics/what-is-android.html, accessed October 2013.

[5]Rumini Ku Ahmad, *Integrating Technology into Teaching and Learning*, Concepts and Applications: A Malaysian Perspective, Ministry of Education, Malaysia, 2011, http://www.academia.edu/528134/Integrating_Technology_into_Teaching_and_Learning, accessed March 2013.

[6]Amit Gautam, *Ten Must-Have Features in a Mobile LMS*, 2010, http://www.upsidelearning.com/blog/index.php/2010/06/11/10-must-have-features-in-a-mobile-lms/, accessed March 2013.

[7]Nancy L. Russo, *The Use and Adaptation of System Development Methodologies*, Northern Illinois University, 1995, http://www.andrews.edu/~vyhmeisr/papers/sdm.html, accessed May 2013.

[8]Keith Landa, *Learning Management System Review*, 14 February 2011, http://www.academia.edu/459487/Learning_Management_Systems_Review, accessed May 2013.

[9]A. CONSTANTINOU, *Mobile operating systems: The new generation*, VisionMobile, http://www.visionmobile.com/rsc/researchreports/Mobile_Operating_Systems_The_New_Generation.pdf, accessed June 2013.

[10]A. GASIMOV, C. H. TAN, C. W. PHANG, AND J. SUTANTO, *Visiting mobile application development: What, how and where*, in Proceedings of the Ninth International Conference on Mobile Business, Athens, Greece, 2010.

APPENDIX A: USER MANUAL

This part provides information about setting the development environment for an application such as information on getting started and installation of the application.

Development environment for Android

There is a specific development environment set up for every Android application to install on the device. The steps to set up development environment are given in the Android developer website for developers to develop the application. This application can be developed on any platform with java and Android software. The steps for setting development environment are:

- Installing the SDK.
- Install Eclipse IDE.
- Install Java Development Kit (JDK 5 or 6).
- Install ADT plugin for Eclipse for Android Development.
- Setting up SDK using Android SDK and AVD manager.

Installing application on the Android device

Android applications are in .apk format. We can download .apk files from android market or download applications from unknown sources. Downloading applications from Android market is a direct approach it's just one click and run the application on the device. But for this project, we can directly copy .apk file on SD card and enable the application settings to run the application. Figures below illustrate the manual instructions to install the application.

1) Click Package Installer

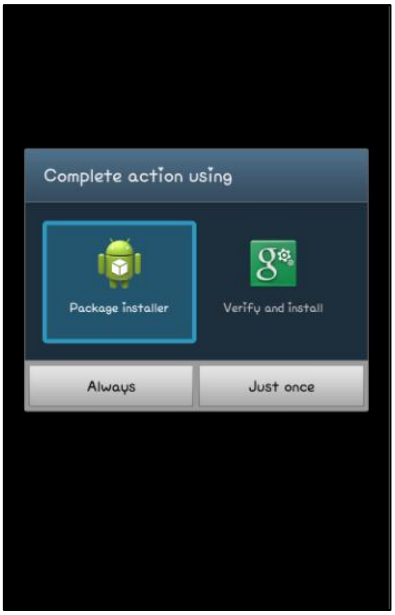

Figure A1: Package Installer

2) Click Install

Figure A2: Install application

3) Once the application installed, click Open

Figure A3: Open application

How to use i-Lecturer application

There are two categories of user can use the application which are Lecturer and Student. The steps below show the instruction to use the application for both categories of user.

- **Lecturer Section**

a) First of all, in order to use the application, user must register by providing their username, password, email, full name and choose their level of access which is Lecturer or Student as shown in Figure A4. Once the account has been created, user can proceed to the Login page.

Figure A4: Register page for Lecturer

b) Before user can get into the main interface, user must first been verified by entering username and password in Login page.

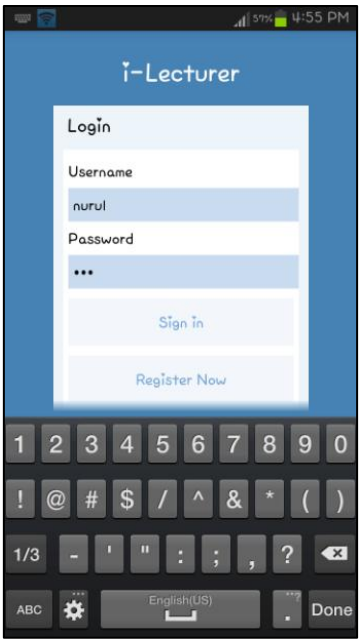

Figure A5: Login page for Lecturer

c) Once the verification has success, users are able to get into main page. Lecturers are able to create a new event, view list of registered student and delete event. The main page is as shown below:

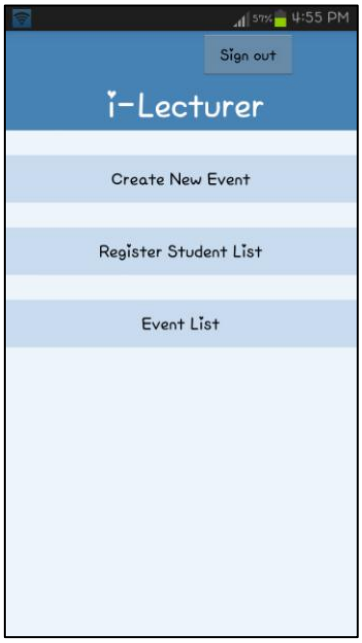

Figure A6: Main page for Lecturer

d) Steps to create a new event:

- Key in the Title
- Key in the description of the event.
- Enter the date. The date must be in the following format; (yyyy/mm/dd)

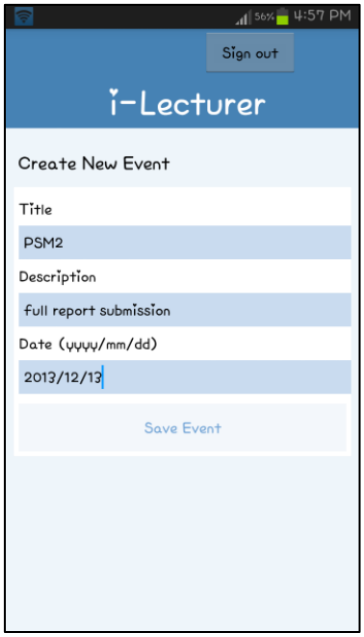

Figure A7: Create new event for Lecturer

e) View list of registered students

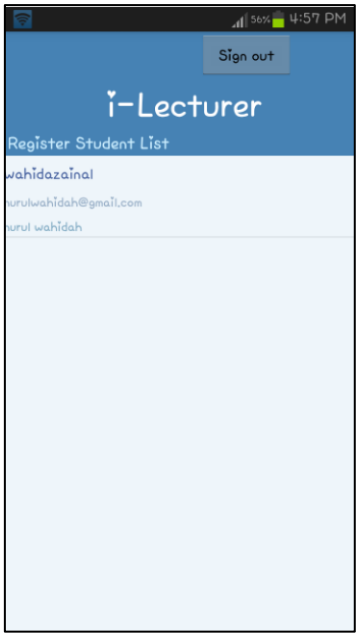

Figure A8: Registered Student List

f) View list of events

Figure A9: List of upcoming events

g) Delete event by clicking on the specific event

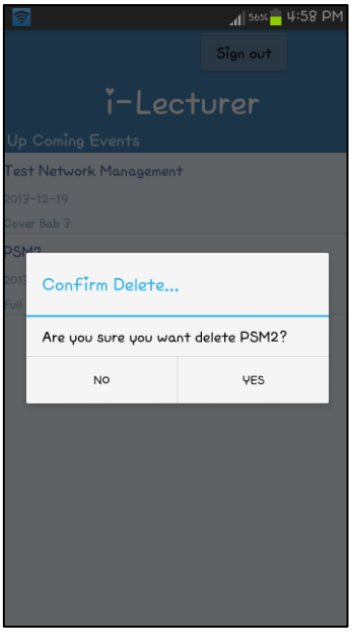

Figure A10: Delete event

h) Delete student by clicking on the specific student

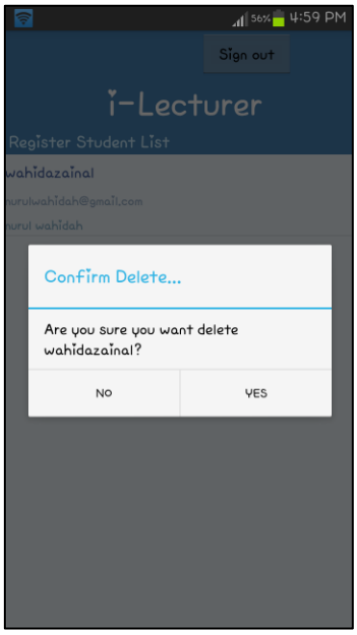

Figure A11: Delete student

- **Student Section**

a) User must register first by providing their username, password, email, full name and choose their level of access which is Student as shown in Figure A12.

Figure A12: Register page for Student

b) Before user can get into the main interface, user must first been verified by entering username and password in Login page.

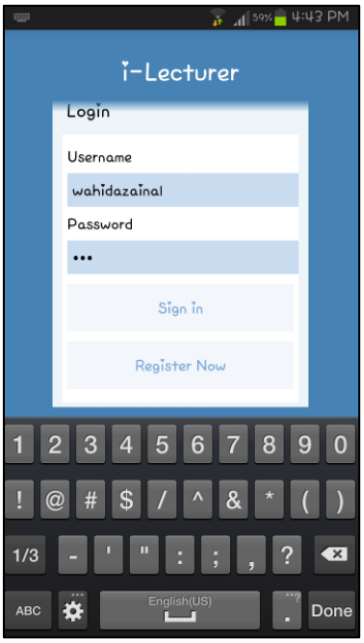

Figure A13: Login page for Student

c) User is directed to the main page of Student which can only view the list of upcoming events.

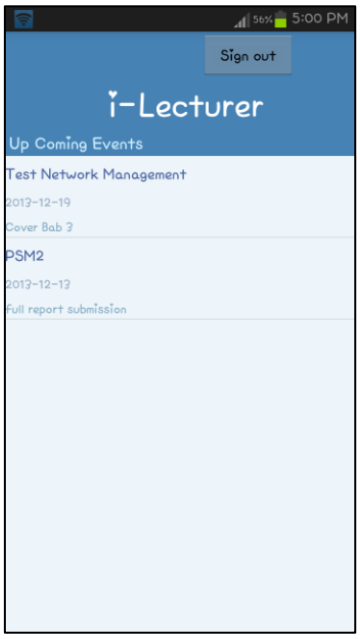

Figure A14: View list of event for Student

APPENDIX B: PROJECT GANTT CHART

Gantt chart was created to keep developer on track, providing a visual timeline for starting and finishing specific tasks. By providing a visual overview of milestones and other key dates, these charts are thought to offer a more understandable and memorable method of maintaining timescale-based tasks and deliverables whether tracked on a daily, weekly, monthly or yearly basis. Below diagrams show the project timeline starting from February 2013 (PSM1) until December 2013 (PSM2).

Gantt Chart

	Task Name	Duration	Start	Finish	Predec
1	**Planning Phase**	**26 days?**	**Mon 18/2/13**	**Fri 22/3/13**	
2	Project title selection	5 days?	Mon 18/2/13	Fri 22/2/13	
3	Project Research	11 days?	Mon 25/2/13	Sun 10/3/13	2
4	Discussion with Supervisor	1 day?	Thu 28/2/13	Thu 28/2/13	
5	Project Proposal preparation	16 days?	Fri 1/3/13	Thu 21/3/13	4
6	Project Proposal Submission	0 days	Fri 22/3/13	Fri 22/3/13	5
7	**Analysis Phase**	**27 days?**	**Mon 25/2/13**	**Sun 31/3/13**	
8	Feasibility study	11 days?	Mon 25/2/13	Sun 10/3/13	
9	Research the detail of project	16 days?	Mon 11/3/13	Sun 31/3/13	8
10	**Design Phase**	**39 days?**	**Mon 1/4/13**	**Wed 22/5/13**	
11	Determine the requirements needed	11 days?	Mon 1/4/13	Sun 14/4/13	
12	Decide what tools and software	11 days?	Mon 1/4/13	Sun 14/4/13	
13	Create an interface design (sketch)	26 days?	Mon 15/4/13	Sun 19/5/13	12
14	Documentation of PSM1 Report	16 days?	Wed 1/5/13	Tue 21/5/13	
15	Presentation of PSM1	0 days	Wed 22/5/13	Wed 22/5/13	14
16	**Development Phase**	**137 days?**	**Sat 1/6/13**	**Sun 8/12/13**	
17	Develop detailed specification	44 days?	Sat 1/6/13	Wed 31/7/13	
18	Implement Java coding in Eclipse IDE	87 days?	Thu 1/8/13	Fri 29/11/13	17
19	Setting up a Wamp Server for Database	44 days?	Tue 1/10/13	Fri 29/11/13	
20	Source code and executable	11 days?	Mon 25/11/13	Sun 8/12/13	
21	**Testing Phase**	**23 days?**	**Mon 25/11/13**	**Sun 22/12/13**	
22	Finish up the project to .apk file	11 days?	Mon 25/11/13	Sun 8/12/13	
23	Test the project functions	6 days?	Mon 9/12/13	Sun 15/12/13	22
24	Presentation of PSM2 Project	0 days	Mon 16/12/13	Mon 16/12/13	23
25	User acceptance and usability testing	6 days?	Mon 16/12/13	Sun 22/12/13	24
26	**Maintenance Phase**	**5 days?**	**Mon 23/12/13**	**Fri 27/12/13**	
27	Fixed the bugs and errors	2 days?	Mon 23/12/13	Tue 24/12/13	
28	Documentation of Final Report PSM	5 days?	Mon 23/12/13	Fri 27/12/13	

Figure B1: Project Tasks

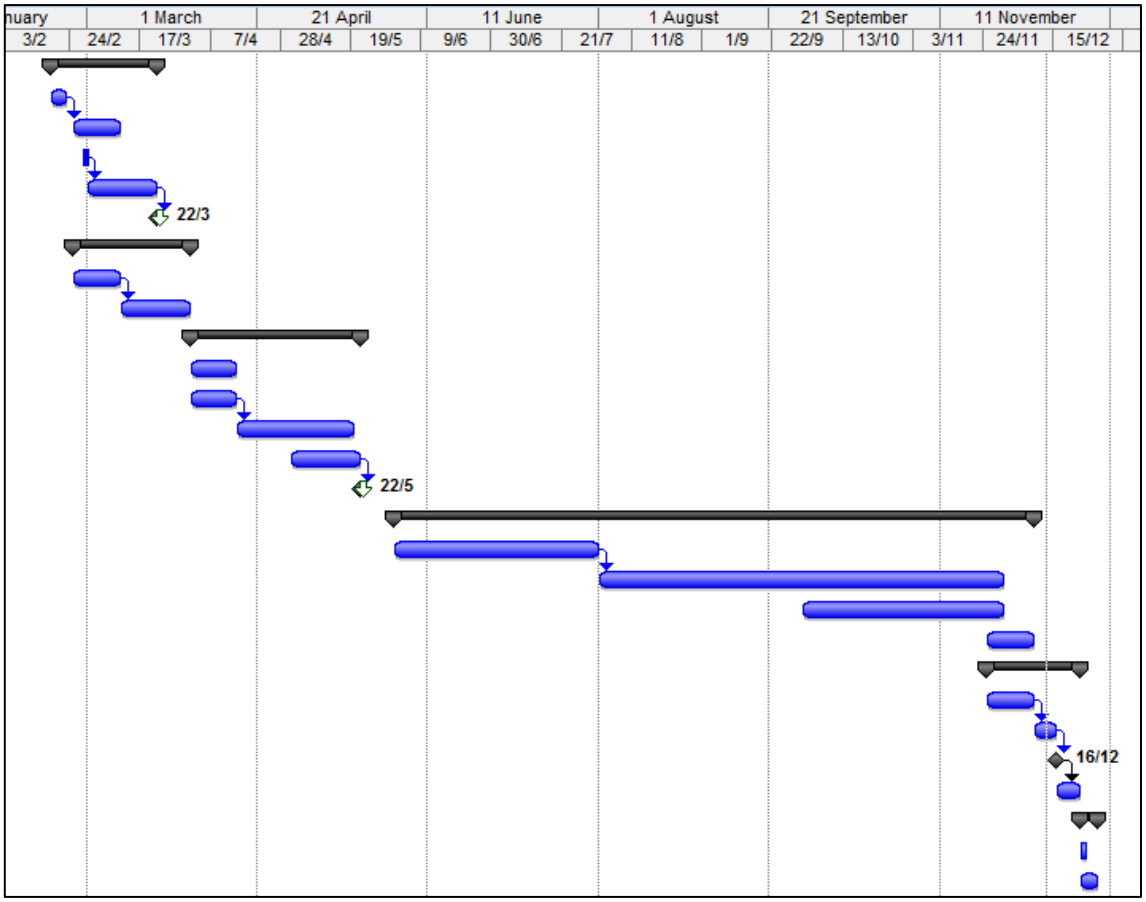

Figure B2: Project Timescale

APPENDIX C: TURNITIN REPORT

turnitin

Your digital receipt

This receipt acknowledges that Turnitin received your paper. Below you will find the receipt information regarding your submission.

Paper ID	383223167
Paper title	CA11001_FINAL REPORT
Assignment title	Final Report
Author	Nurul Wahidah Zainal Al Abidin
E-mail	nurulwahidah35@gmail.com
Submission time	13-Dec-2013 12:14AM
Total words	9759

First 100 words of your submission

PART 1 INTRODUCTION 1.1 Overview Current development of the technology is currently a benchmark for a nation to be declared as a contemporary nation. The facilities provided through info technology is not solely expedite even save time, prices will even amendment the approach teaching either at college, college, or any institution. Rapid technological developments have begun to amendment direction and also the ancient method of teaching. Ancient teaching relies on the book, diagrams and charts. This manner practiced since past times from condemned by technology-based teaching strategies like computers. This can be as a result of the pc has the flexibility to form simulations and integrate...

Figure C1: Turnitin Report