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E-SOCIETY

LEE SHUN YUNG

A thesis submitted in fulfillment of the requirements for the award of the degree of
Bachelor of Computer Science (Computer Systems & Networking)

Faculty of Computer Systems & Software Engineering

University Malaysia Pahang

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AUTHOR'S DECLARATION

I declare that this entitled "e-Society" is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

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DEDICATION

To my beloved father and mother,

also my dear little brother.

For your infinite and unfading love,

sacrifice, patient encouragement, and best wishes.

ACKNOWLEDGEMENT

In preparing this thesis, I was in contact with few people, researchers, and lecturers. They have contributed towards my understanding and thoughts. In particular, I wish to express my sincere appreciation to my main thesis supervisor, Mr. Mohd Nizam bin Mohmad Kahar for his encouragement, advice, guidance, critics and friendship. Without his continued support and interest, this thesis would not have been the same as presented here.

My fellow seniors should also be recognized for their support. My sincere appreciation also extends to all my colleagues and others who have provided assistance at various occasions. Their views and tips are useful indeed. Unfortunately, it is not possible to list out all of their names in this limited space.

I acknowledge my sincere debt and gratitude to my parents for their love, dream and sacrifice throughout my life. I cannot find a appropriate words to describe properly of my appreciation for their devotion, support, and faith in my ability to attain my goals and studies. They encouraged me to carry on my studies to make sure I have a good achievement in future life. I am very grateful to all my family members.

ABSTRAK

Kebanyakan universiti dan kolej masa kini menggunakan perkhidmatan rangkaian sosial, iaitu satu platform dalam talian yang menghubungkan pelajar-pelajar antara satu sama lain begitu juga dengan pensyarah, professor, dan kakitangan dalam universiti dan kolej. Tujuan utama perkhidmatan rangkaian sosial adalah untuk memberi tumpuan dalam pembinaan dan pemantauan rangkaian sosial di kalangan orang dengan perkongsian idea, peristiwa, minat, dan aktiviti di dalam rangkaian masing-masing. Beberapa contoh laman web social yang popular pada hari ini adalah Google+, Facebook, Twitter, MySpace, dan Biblo. Dengan perkembangan dalam bidang teknologi maklumat dan komunikasi ICT di Malaysia, akademik portal yang digunakan oleh universiti-universiti tempatan membolehkan pelajar bukan sahaja untuk memaparkan maklumat akademik peribadi, tetapi juga boleh berbual, berkongsi gambar, memuat naik atau turun fail dan buat komen. Ia digunakan oleh pensyarah dan pelajar sebagai alat komunikasi yang serupa dengan laman web perkhidmatan sosial. Dengan adanya e-Society, pelajar, pensyarah, dan professor Fakulti Sistem Komputer dan Rangkaian Perisian (FSKKP) di Universiti Malaysia Pahang (UMP) mampu untuk berinteraksi dalam satu kumpulan untuk melanjutkan perbincangan dalam kelas dengan membuat komen, berbual secara langsung, memuat turun atau naik fail, gambar dan video menggunakan laman web sosial ini untuk membantu kerja-kerja waktu kelas habis. E-Society juga membolehkan pelajar-pelajar berhubung dengan orang yang mempunyai persamaan dalam minat dan aktiviti dalam tidak kira sama ada dalam bidang pendidikan, ekonomi, dan sempadan geografi. Privasi bagi system ini adalah berkenaan di kalangan pengguna dengan mengehadkan pengguna terlampau memaparkan maklumat peribadi. Pengguna sistem ini harus juga berwaspada terhadap pengguna yang tanpa izin daripada mengakses ke dalam akaun peripadi mereka.

ABSTRACT

Most of the university and colleges nowadays are using social networking service, which is an online platform that connects aspiring students with one another as well as with lecturers, professors, and staffs. The main purpose of social networking service is to focus on building and reflecting of social networks among people by sharing ideas, events, interests and activities within their individual networks. Some examples of popular social networking sites widely used today are Google+, Facebook, Twitter, MySpace, and Bibo. With the growing of Information and Communicate Technology ICT in Malaysia, academic portal in local Universities have enabled students not only to view personal academic information, but also to chat, share picture, upload or download files and post comments. It is being used by lecturers and students as a communication tool which is similar to a social networking site. With e-Society, students, teachers and professors of Faculty of Computer Systems and Software Engineering (FSKKP) in University Malaysia Pahang (UMP) are able to interact in group to extend their classroom discussion by posting comments, chatting live, uploading document files, photos and videos on this social networking site to assisting with homework outside of the classroom setting. E-Society also makes us possible to connect people who share interests and activities across education, economic, and geographic borders. Privacy of this system is concerned among its users by limiting users give out too much of personal information. Users of this system also need to be aware of unauthorized user from accessing their information.

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LIST OF ABBREVIATIONS

API	Application Programming Interface
ASP	Active Server Pages
DFD	Data Flow Diagram
ERD	Entity-Relationship Diagram
FSKKP	Faculty of Computer Systems & Software Engineering
FTP	File Transfer Protocol
HTML	Hyper Text Markup Language
HTTP	Hypertext Markup Language
NNTP	Network News Transfer Protocol
GUI	Graphic User Interface
IIS	Internet Information Server
JSP	JavaServer Pages
OS	Operating System
PHP	Hypertext Pre-processor
RAD	Rapid Application Development
SDLC	Software Development Life Cycle
SMTP	Simple Mail Transfer Protocol
SQL	Standard Query Language
UMP	University of Malaysia Pahang
WWW	World Wide Web
XML	Extensible Markup Language

Chapter 1

INTRODUCTION

In this chapter, a background of eSociety, which is a web-based social networking site, will be presented, followed by the problem statement, objectives, scope of the system, and thesis organization.

1.1 Background

Social networking is the way how 21st century people around the world communicate together today. It's a social network structure that made up of individuals which is connected into some specific groups, similar to a small rural community or a neighborhood subdivision. Nowadays, the social network service has become a popular online platform, service, or website that focuses on creating and reflecting of social network relations among people around the world. It is the easiest way to keep in touch with relatives and friends which they do not live closed with us or even just roommates. The most popular

social network sites widely used today are Google+, Facebook, Twitter, Bebo and MySpace.

Social networking services allow its users to share thoughts, interests, ideas, events, and also activities within their individual networks. Mostly the social network services are designed in web-based form and provide the medium for its users to interact over the internet by e-mailing and using instant messaging platform. Besides this, it is also enable users to keep up-to-date on news information more quickly. Furthermore, having a social networking account allows users to keep informed on recent happening and discuss on it with people in their network.

With the existing of internet, all individuals from around the world are allowed to access to any social networking sites from web. In other word, everyone from different nations, languages, cultures and religions are easily to develop an online friendship with people around the world. The social networking service is developing rapidly until today as technology changes with new mobile dimensions and features.

eSociety is an online social network site for students, lecturers and staffs of FSKKP use in UMP. This service can take the form of an information system which students, lecturers and staffs of FSKKP can post contents where only a restricted number of people can initiate posts. Other than that, it used social network separately or in combination, like text-based chat room and blogs that use text message, voice or video text.

1.2 Problem Statement and Motivation

In UMP, most of the students are communicate through instant messengers and mobile phone. They prefer to use instant messengers such as

Yahoo! and Windows Live Messenger, to chat and share files with their colleagues, course mates and lecturers. UMP communication portal only would be used by students to download notes and study materials which are uploaded by lecturers but not for the communication purpose. Hence, this motivates me to develop a new communication portal which is named as e-Society for students, lecturers and staffs of FSKKP use. This proposed system is a sharing portal for its user to share anything included files, photos, audios, and videos.

1.3 Objectives

The aim of this project is to improve the current existing UMP communicate portal. The objectives are:

1. To develop and implement a web-based social networking site for Faculty of Computer Science and Software Engineering (FSKKP)'s students, lecturers, and staffs in UMP use.
2. To provide a special medium for users not only to share thoughts, interests, hotlines, but also share lecture files or notes, photos, audios, videos and chat live within the group of FSKKP's users efficiently.

1.4 Scope

The target users of this system are students, colleagues, staffs and lecturers of FSKKP in UMP which enable them to share ideas, activities,

events, interests, coursework, and suggestion. Besides this, it is also to interact or communicate among them by using web browsers through online. The programming language uses to develop this system is PHP while HTML will be the markup language for the website. The main tool to develop this social network site system is Adobe Dreamweaver CS5.

1.5 Thesis Organization

This thesis has divided into 5 chapters and each chapter discussed the system development processes and issues of the project.

Chapter 1

Present the introduction of project which includes background, problem statement, objectives, and scope of the project.

Chapter 2

This chapter presents the research and literature review which are related to the project. Besides this, previous works relating to research problem are also reviewed here. In order to understand and investigate the research problems, sources like journals, conference, report, books, newspapers, thesis, magazines and internet have been used as the references for developing this system.

Chapter 3

Methodology of this system is implemented and explained in this chapter. It explains how data was collected or generated and analyzed. Methodological problems and their solutions are also explained in this chapter.

Chapter 4

Expected results and discussion on results for this system are made here. The results in previous research have compared and the effects of methods used on the data are obtained.

Chapter 5

The purpose of conclusion is to give a summary of what was learned, remains to be learned and the shortcomings of what was done from this project. This chapter also mentions the benefits, advantages, application of the research and recommendations of the system.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

2.1.1 Social Network Sites

Danah, Boyd, Ellison and Nicole (2007) defined social network sites as web-based services [1] that allow individuals to:

1. Construct a public or semi-public profile within a bounded system.
2. Articulate a list of other users with whom they share a connection.
3. View and traverse their list of connections and those made by others within the system.

Today, social networking site has become a platform or medium of communication among young people. It allows online users to create their own public or semi-public profiles within that website and form relationships with other users of the same website who can access to their profile. Social network site can also be describes as community-based website, online discussion forum or chat room. The social network site users are connected with others by sharing their news, information, interests, events, activities, and ideas within their individual networks [1]. Most of the services are web-based and provide means for users to communicate through internet. The examples of popular social network sites which are widely used today are Facebook, MySpace, Twitter, Friendster and Google+.

2.1.2 The Benefits of Social Network Sites

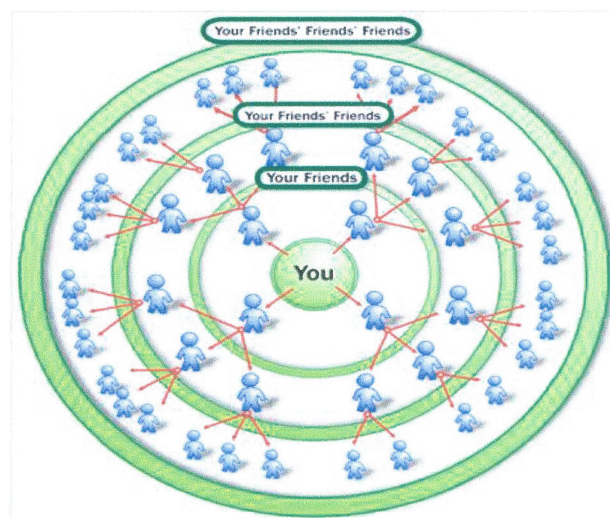


Figure 2.1: Social Network

Leuchovius (2008) stated one of the social network benefits is that youth can expand their circle of friends and even communicate more often with extended family [2]. It is very easy to gain a large number of people to join our own friends list in social networking sites. Users can simply register

an account, establish profile and start adding friends from different networks and communities into the sites. These can help youth get better understanding about the different cultures, nations, and races from different peoples.

It may be easier for teens to initially approach a student with a disability on a social networking site instead of face to face [2], Leuchovius (2008) concluded. Most of the disability teens are poor in sociality skill because of their less confidence. They do not like to speak and make friends in their society. With the social networking sites, they no need to be nervous and shy during communication with people. Instead of reply instantly during direct conversation, teens that have difficulty on speaking can have time to think about the response. This may also bring teen's personality to the forefront, because when disability teens communicate on social networking sites, the communicating people do not see their disability.

Teens have to be adapted to the world which functions getting more and more with complex technologies. Most of the jobs in today's world require computer and technology skills. Using networking sites at a younger age may make the transition from high school to college easier, stated by Leuchovius (2008). This enables teens to practice their social skills before they started to involve themselves in real world of society.

2.2 Existing Systems

2.2.1 MySpace



Figure 2.2: MySpace

MySpace [15] is a popular social networking service that allows people to meet their friends' friends. It offers an interactive user network of friends, groups, blogs, music, photos, and videos internationally. It is designed to incorporate everyone: friends who talk online; single people meeting other singles; family tree creation, business links, reunions with lost friends; and connecting classmates and study partners. MySpace is very popular having over 110 million active users monthly. On average 300,000 of users' signed up every week. Up until June 2008 the site held the record for the most amounts of page views in one day - 4.5 billion. There are over 60,000 artists and bands on MySpace Music Acts, many of whom have been discovered through the application [15].

2.2.2 Facebook



Figure 2.3: Facebook

Facebook [16] is a social networking service or website that launched in February 2004, start operated and privately owned by Facebook, Inc. In July 2011, Facebook has reached more than 800 million active users. Users must register before using the site, after which they may create a personal profile, add other users as friends, and exchange messages, including automatic notifications when they update their profile. Moreover, users may join a group with same interest, group within workplace, college or university, or other characteristics, and categorize their friends into lists such as "People From Work" or "Really Good Friends". The name of the service stems from the colloquial name for the book given to students at the start of the academic year by some university administrations in the United States to help students get to know each other. Facebook allows any users who declare themselves as to be at least 13 years old to become registered users of the site.

According to previous research by Goh and Silverman (2008), Facebook is the second most trafficked social media site, with over 80 million active users [16]. From January 2007 to January 2008 Facebook had over 60

million active monthly users, an average of 250,000 new registrations a day and an average 3% growth a week over the past year. It has over 65 billion page views a month and half of its users visit daily spending an average 20 minutes on the site.

The disadvantages of Facebook are:

- i. Spaming. Many Facebook users may receive emails from anonymous users everyday asking to chat and date on other websites.
- ii. Scamming. An ordinary recognized trick could be through a phishing website which lookalike to Facebook and fools users in believing that they are still on the official Facebook website.
- iii. Threat of viruses. Hackers send viruses to Facebook users and steal their data.
- iv. Not compatible in university environment.

2.2.3 Twitter

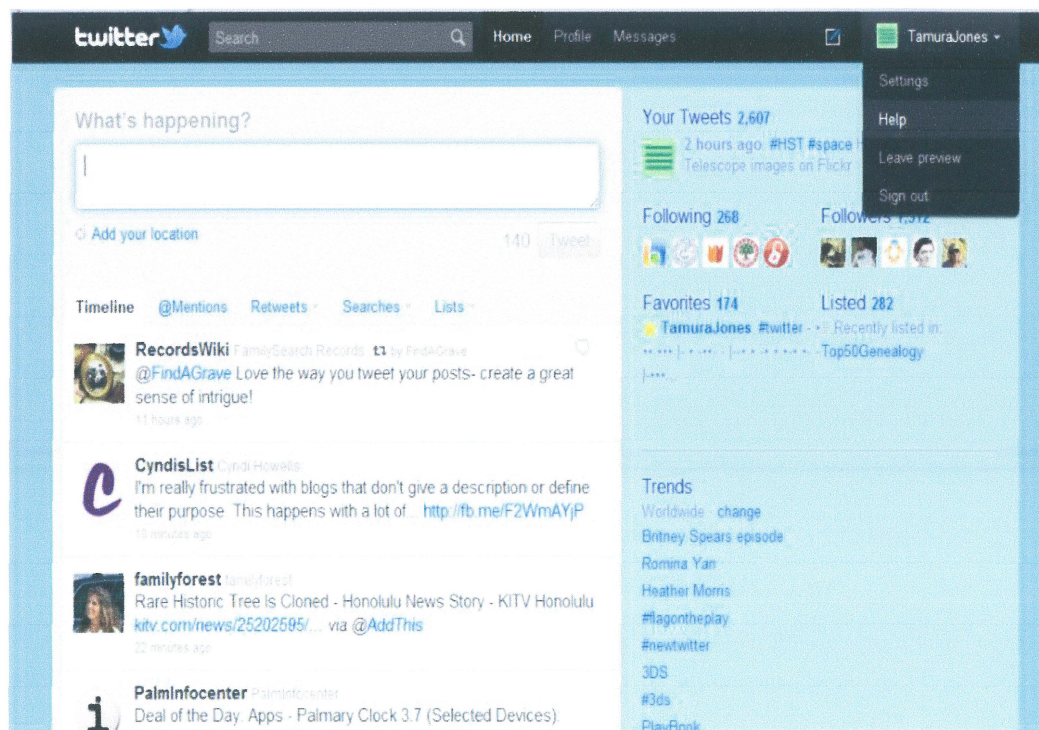


Figure 2.4: Twitter

Twitter [20] is a real-time information network that connects people to the latest information about what they find interesting. This service enables its users to send and read text-based posts of up to 140 characters. It was created and launched by Jack Dorsey in 2006. The service has rapidly grown in worldwide popularity, with over 300 million users in 2011.

The disadvantages of Twitter are:

- i. Reducing Compassion: it is possible to numb a person's level of compassion. The information is passed too quickly through the Twitter platform and causes human brain unable to think the true emotional content of one's comment.

2.2.4 FSKKP E-Learning Portal

The screenshot displays the FSKKP E-Learning Portal interface. At the top, it shows the portal name and the user's login status. The left sidebar includes a 'Main menu' with 'Site news', a 'Navigation' section with links to 'My home', 'Site home', 'Site pages', 'Blogs', 'Tags', 'Calendar', 'Site news', 'My profile', and 'My courses', and a 'Settings' section with 'My profile settings'. The main content area is divided into three columns. The first column, 'Site news', contains a message that no news has been posted yet. The second column, 'My courses', lists several courses: 'BCN3203 WAN TECHNOLOGY' (Teacher: PUAN WAN NURULSAFWATI, BINTI WAN MANAN), 'BCN3133 COMPUTER ETHICS AND POLICIES' (Teacher: PUAN ROSMALISSA BINTI JUSOH), 'BCN3023 NETWORK MANAGEMENT' (Teacher: ENCIK CHE YAHAYA BIN YAAKUB), 'BCN2093 NETWORK ANALYSIS & DESIGN' (Teacher: JAMALUDIN SALLIM), and 'BCI3913 Structured Query Language' (Teacher: ASSOC. PROF. RUZAINI BIN ABDULLAH ARSHAH). The third column, 'Calendar', shows a calendar for December 2011 with the 28th highlighted.

Figure 2.5: FSKKP E-Learning Portal

FSKPP E-Learning Portal is a web-based learning system currently used by students and lecturers of FSKPP in UMP. This portal is introduced by UMP to enhance the current teaching and learning techniques by providing the knowledge completely and efficiently to students. This system is powered by Moodle, which is a free and open source e-learning software platform. It helps educators create online courses by focusing on interaction between lecturers and students and collaborative construction of contents.

The disadvantages of FSKPP E-Learning Portal are:

- i. Limited file size: the maximum size of the file to upload is only 10MB. Lecturers have to separate or compress the large file before upload into the portal.
- ii. Slow access speed: When many users access to the portal in one time, the connection speed to the portal could become very slow.
- iii. Chatting: does not support instant messaging in the portal

2.3 Development Tools

2.3.1 HTML

Hyper Text Markup Language (HTML) is the predominant markup language for web pages. It has been in continuous evolution since it was introduced to the internet in the early 1990s. HTML elements are the basic building-blocks of all webpages.

Example of HTML element:

```
<html>
<head>
  <title>Hello HTML</title>
</head>
<body>
  <p>Hello World!</p>
</body>
</html>
```

The advantages of HTML are:

- i. Easy to learn and use even for a novice programmer.
- ii. Supported on every web browser such as Internet Explorer, Google Chrome and Mozilla Firefox.
- iii. Similar to XML syntax, which is increasingly used for data storage.

2.3.2 PHP

PHP stands for “Personal Home Page”, it is now said to stand for “PHP: Hypertext Pre-processor”. PHP [7] is a scripting language that is widely-used in general-purpose especially suited for developing website and can be embedded into HTML. It is created by Rasmus Lerdorf in 1995 and was renamed in version 3.0 when released in June 1998.

PHP [7] is a server side scripting language used to create and design dynamic web pages, similar to ASP and JSP. It is designed to use along with HTML. This mean the HTML can be tags inside the PHP cade. Usually PHP used along with MySQL database, but still it can be programmed to interact with any other database.

Example of PHP code:

```
<html>
  <head>
    <title> My First PHP Page</title>
  </head>
  <body>
    <?php
    Echo "Inside PHP";
    ?>
  </body>
</html>
```

The advantages of PHP are:

- i. **Reduced Development Time:** PHP helps to develop web applications very rapidly and efficiently.
- ii. **Speed:** During complex process like database interaction, it takes considerably less time.
- iii. **Platform Independent:** PHP supports many platforms like Windows and Linux.
- iv. **Easy Syntax:** Anyone with a basic programming knowledge can easily learn the syntax of PHP.
- v. **Database Connectivity:** PHP can be connected to several different databases.
- vi. **Open Source:** The user is given a free license to reuse PHP.

2.3.3 ASP.NET

ASP.NET [9] is the next version of Active Server Pages (ASP) developed by Microsoft which allows programmer to use a full featured programming language such as C# or VB.NET to build dynamic web sites, web applications and web services easily. It was first released in January 2002

with version 1.0 of the .NET Framework and is the successor to Microsoft's ASP technology. The latest version of PHP, version 4.0 was released in April 2010.

Example of ASP.NET code:

```
<head>
  <title>Hello World</title>
</head>
  <asp: Label id="myLabel" runat="server" />
</body>
</html>
```

The advantages of ASP.NET are:

- i. Drastically reduces the amount of code required to build large applications.
- ii. It is purely server-side technology. ASP.NET code executes on the server before it is sent to the browser.
- iii. Use of the widely known Visual Basic programming language, which has been enhanced to fully support Object-Oriented Programming (OOP).
- iv. The ability to create new, customized server controls from existing controls.
- v. ASP.NET makes for easy deployment. There is no need to register components because the configuration information is built-in.

2.3.4 JSP

JavaServer Pages (JSP) is a Java technology that provides a simplified and fast way to create dynamic web pages based on HTML, XML, or other document types. JSP technology enables rapid development of Web-based applications which are platform independent. It separates the user interface from content generation, enable designers to change the overall page layout without altering the underlying dynamic contents. It was first released in 1999.

Example of JSP code:

```
<html>
<head>
<%! Int serverInstanceVariable = 1;%>
<% int localStackBasedVariable = 1; %>
<table>
<tr><td><%= toStringOrBlank( "expanded inline data " + 1 ) %></td></tr>
```

The advantages of JSP are:

- i. Use JSP technology without having to learn the Java language.
- ii. Extensible JSP language: reduces the amount of code needed to write powerful Web applications.
- iii. Easily write and maintain pages: no extra backslashes, double quotes or lurking Java syntax.

2.4 Database

2.4.1 MySQL

MySQL is a relational database management system (RDBMS) that runs as a server providing multi-user access to several databases. The SQL phrase stands for Structured Query Language. It is used in some of the most popular websites on the internet, such as Flickr, YouTube, Wikipedia, Google, Facebook and Twitter. Any one of the MySQL development project has its source code made available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. It was owned

and sponsored by a single for-profit firm, and now has been owned by Oracle Corporation.

The advantages of MySQL are:

- i. **Secure:** All password traffics are encrypted when connecting to server. A privilege and password system which is very flexible and allows host-based verification.
- ii. **Cost Free:** MySQL is an open-source system and developers can use it at no cost as long as the associated projects are also open-source.
- iii. **Stability:** MySQL default table, MyISAM databases leave a small footprint using little disk space, memory and CPU.

2.4.2 Microsoft SQL Server

Microsoft SQL Server is a relational database server developed by Microsoft. The main function of this software product is to store and retrieve data as requested by other software applications. The latest version is SQL server 2008 R2 which is released in July 2011.

The advantages of Microsoft SQL Server [8] are:

- i. **Stored Procedures:** Code centralized, so troubleshooting bad database requests can be detected by a database administrator.
- ii. **Scalability:** As the business grows, SQL Server able to handle the new volume of database requests with millions of records and transactions.
- iii. **Security:** Allow administrators to specify which tables and stored procedures users are able to access and query.

2.4.3 Oracle

The Oracle Database is an object-relational database management system developed and marketed by Oracle Corporation. Software Development Laboratories (SDL) developed the original version of the Oracle software. The name Oracle comes from the code name of a CIA-funded project. The Oracle was first released in 1979 which is Oracle V2. The latest version of Oracle named Oracle Database 11g R2.

The advantages of Oracle are:

- i. Available on multiple platforms: Windows, Unix, IBM, Sun, Digital, HP, Sequent, etc.
- ii. Administrators able to restrict, detect and set up different security levels.
- iii. Better performance, scalability and redundancy

2.5 Web Server

2.5.1 Apache HTTP Server

Apache HTTP Server is web software which playing a key role in the initial growth of World Wide Web (WWW). It is developed and maintained by an open community of developers under the auspices of the Apache Software Foundation. The application is available for variety of operating systems such as Unix, Linux, Microsoft Windows and Mac OS X. The pre-release versions (before 0.6.2) of the Apache web server software was created by Robert McCool and was released in April 1995.

The advantages of Apache HTTP Server are:

- i. **Administration:** Apache configuration files are in ASCII, have a simple format, and can be edited using any text editor. They are transferable, so one can effectively clone a server. One can control the server from command line, which makes remote administration very convenient.
- ii. **Extensible:** Apache server and API source code are open to public. If there is any feature that you want but does not exist in Apache, you can write your own server module to implement it.
- iii. **Stability:** Apache's source code is open to public. When any bugs are found, they are often quickly communicated, and rapidly fixed. Updates are made and announced thereafter. This has resulted in Apache becoming more and more stable, and hence reliable, server over the time.

2.5.2 Microsoft IIS

Microsoft IIS (Microsoft Internet Information Server) is a web server application and set of feature extension modules created by Microsoft. It supports HTTP, HTTPS, FTP, FTPS, SMTP and NNTP. It was first released in October 2009.

The advantages of Microsoft IIS are:

- i. **GUI interface:** make installation easier.
- ii. **Crash protection.**
- iii. **Good technical support from Microsoft.**

2.6 Comparison and Discussion

2.6.1 Social Networks

	Facebook	MySpace	Twitter
Launched Date	February 2004	August 2003	July 2006
Users (Year 2011)	800 million	30 million	300 million
Function	Users can join networks organized by city, workplace, school, and region to connect and interact with other people.	With interactive, user network of friends, blogs, personal profiles, groups, music, photos, and videos for people.	Allow users to write, send and post to the Internet short messages via devices.
Features	Wall, Photos, Status, Pokes, Gifts, Like, Messaging, Classified section, upload options and others.	Customized profile options, Bulletins, Group MySpaceIM, MySpaceTV, MySpace Mobile, and News, Classified section, Karaoke section, Polls and forums.	Tweet - 140 character limit, follow, Twitterific, Summize, Twhirl, tweeps, music recommendations and News
Available in	Multilingualism	15 Languages	Multilingualism

Table 2.1: Comparison between Facebook, MySpace and Twitter

CHAPTER 3

METHODOLOGY

This chapter explains the process and research methods used to develop the system. A substantial part of this chapter is devoted to an overview of the procedures and outcomes of the system. This is followed by the details about procedures during the system development phase as well as the discussion of each phase.

3.1 Overview

There are few methods of creating or altering the developing information system, such as waterfall method, Systems Development Life Cycle (SDLC), Software Development Process, Spiral Method, Rapid Application Development (RAD) and Iterative and Incremental Development Method. This is followed by a discussion of practicalities of how the data gathering was conducted and the approaches taken to data analysis. Some of the methods work pretty good for specific types of project, but the most important factor for the success of a project in the final analysis may be how

closely the particular plan was followed. System Development Life Cycle (SDLC) is a process method that used to develop eSociety system. It is consists of 7 stages, planning, requirements analysis, design, development, integration or test, implementation, and operations or maintenance.

3.2 System Development Life Cycle (SDLC)

SDLC is a conceptual method used in project management that describes the stages involved in an information system development project, from an initial feasibility study through maintenance of the completed application. It is one of the methodologies mechanisms to assure that software systems meet established requirements.

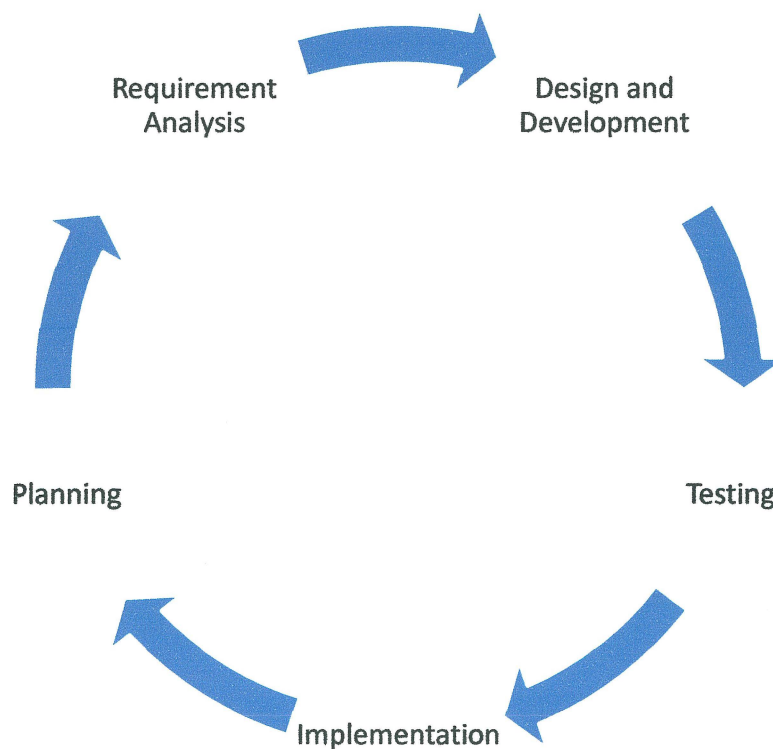


Figure 3.1: SDLC

System Development Life Cycle Phases:

3.2.1 Planning

Planning is the first phase in System Development Life Cycle. This phase is to define the objective, problem statement and the scope before developing a system. Also, establish a high-level view of the intended project and identify its goals. Provide the basis for acquire the resources needed in order to achieve a solution. Do research on the existing system which is related to our system first. After identified the objective, scope and problem statement, search all the resources and information regarding to the social networking sites. All the important information that related to this system is obtained from articles, journals, websites, and thesis through internet to be as the references. Divide and arrange all the system development tasks. This can be done by drawing a Gantt chart to schedule the time and works.

3.2.2 Requirement Analysis

In this second phase, refines project goals into defined functions and operation of the intended system. Make sure to analyze end-users information needs and their desired requirements by creating detailed functional required documents. Do study on the current existing system and compare all its articles. Determine the problems faced in the current existing system, then analyse them. The goal of system analysis is to create a new system which has fixed all the problems in the current systems and improved its application. The feature of the system, eSociety is included with directed text-based chat, send or receive message, detectable user's status, download or upload large files, smileys according to user's mood and sharing news or information.

Below are the software and hardware that required in developing this system and its purpose.

i. Software:

Adobe Dreamweaver CS4 and Notepad ++ – Create and design web page using PHP

XAMPP – Web Server

MySQL – Database

Apache – HTTP Server

Microsoft Word 2010 – Documentations

Microsoft Visio 2010 – Flow chart design

Microsoft Project 2010 – Gantt chart design

ii. Hardware:

DELL INSPIRON laptop – develops system and project report

Western Digital Hard disk 320GB – Backup and store project data

Kingston Pendrive 4GB – Transfer data

3.2.3 Design and Development

In third phase of SDLC, the functions, features and application of system are to be designed and described in detail. The designing phase takes as its initial input of the requirements tht identified in the approved requirement analysis phase. For each requirement, a set of one or more design elements will be produced. Designing phase describes the desired software features in detail, includes flow chart diagram, entity-relationship diagram, data flow diagram and block diagram.

Login module: User login to the system by entering the login ID and password to start using the system.

Download and view module: Allow students to download study materials and view profile or any types of information data from the system.

Upload and Post module: Enable lecturers to upload study notes for students to download. Any announcement or memo can be post by lecturers and staffs. The users of this system can also post their comments and make discussion related to their studies.

Chat module: Direct text-based chat with other users and use smiley to make chatting more interesting. Check the status of user whether is online, busy, away or offline.

Logout module: Users logout the system after used to make sure the user account is secured from anonymous.

Admin module: System administrator has the permission on adding user into the database and manages the system.

Database module: Storing, managing and retrieving data records. It is divided into five entity relationship diagrams which are admin, student, lecturer, staff and system. Admin database manages the ID and password. Databases of student, staff and lecturer manage their profile and personal information. The database system manages the medium of chatting, messaging, uploading or downloading file, and posting any types of information.

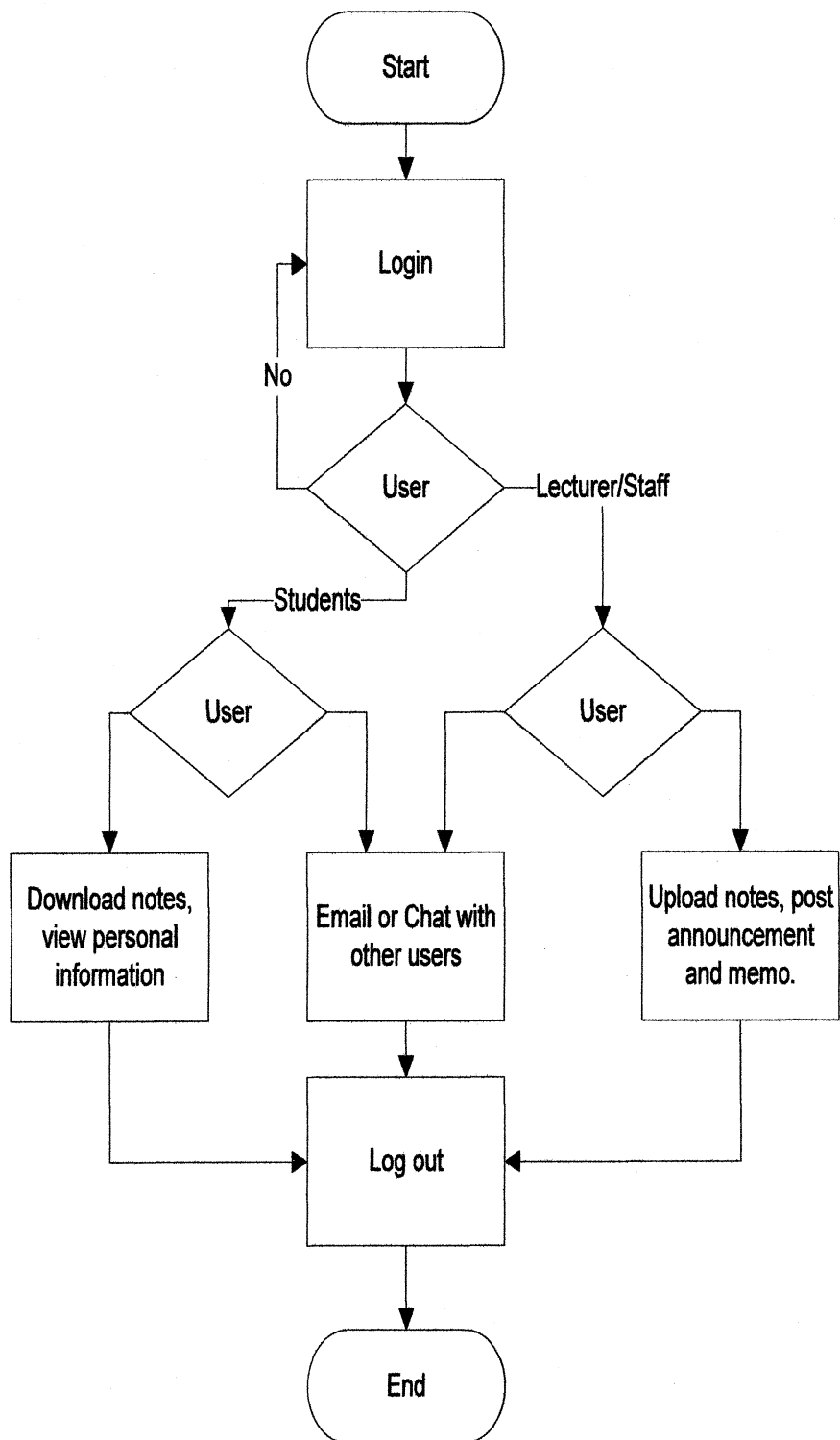


Figure 3.2: Flow chart of the system

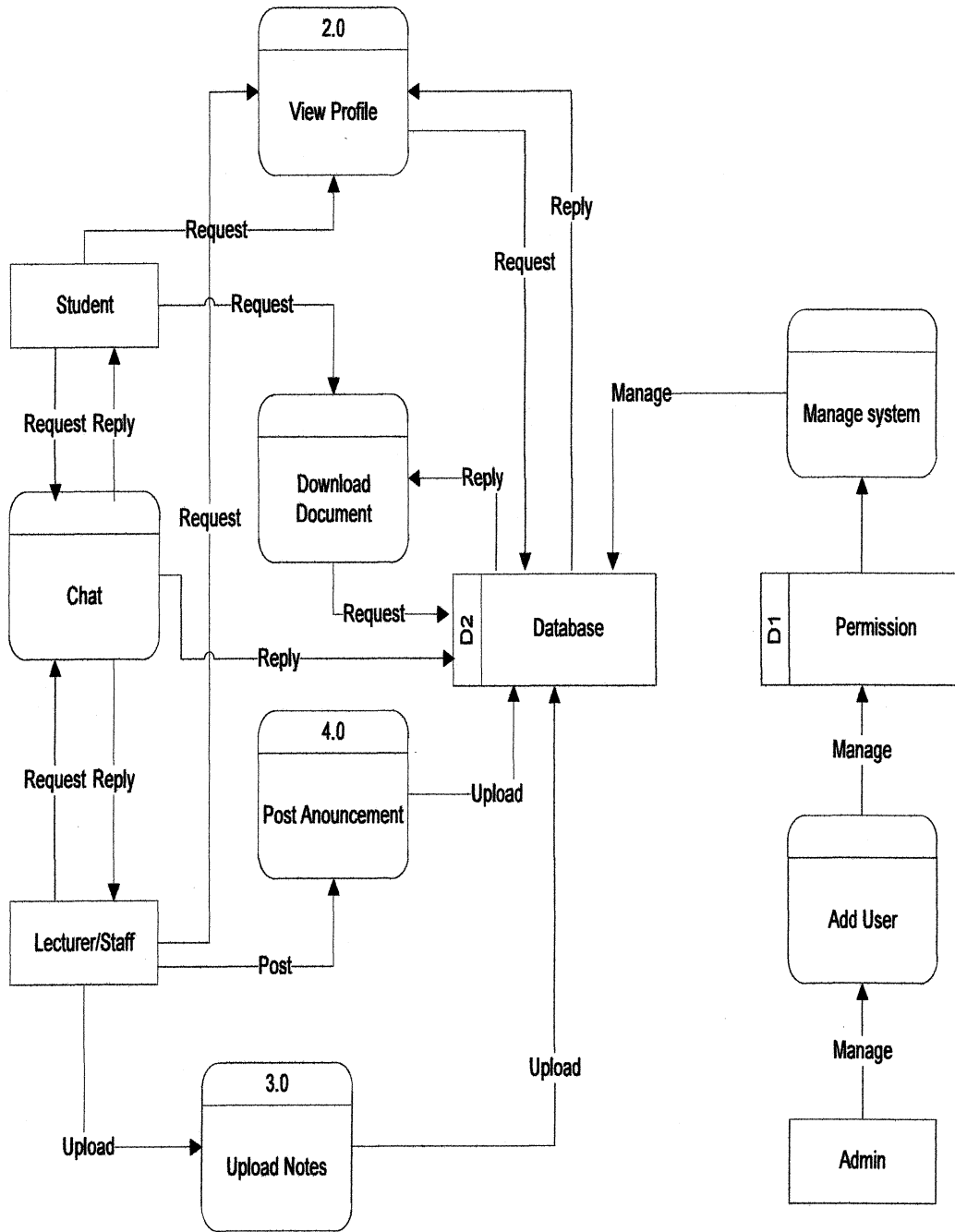


Figure 3.3: Level 1 Data Flow Diagram

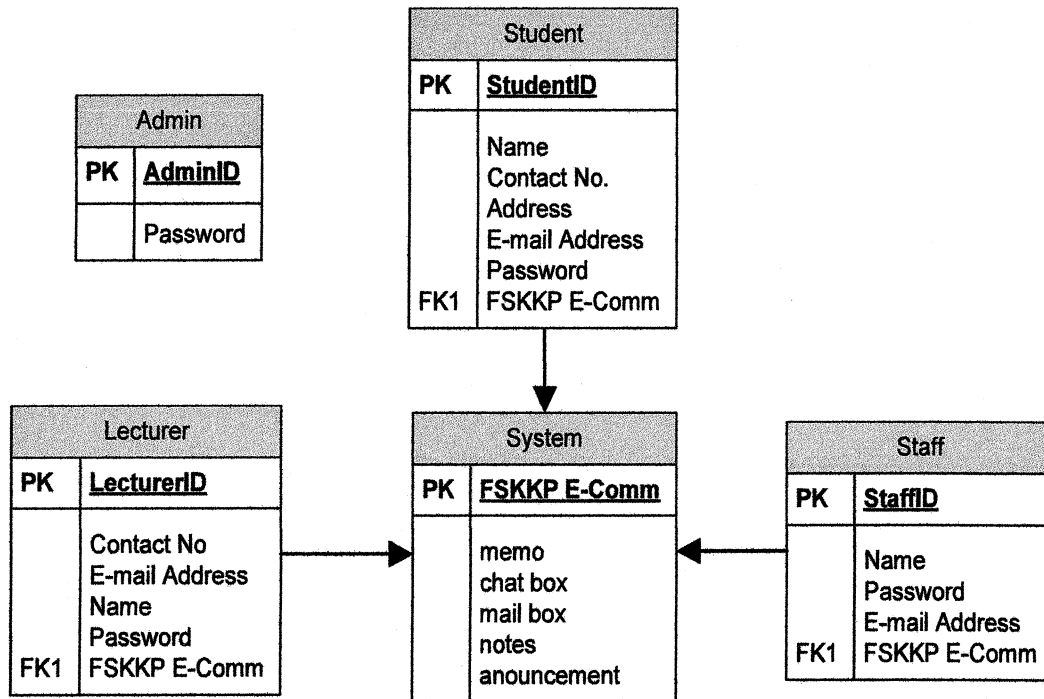


Figure 3.4: Database Entity Relationship Diagram

In development phase, design is converted into a complete information system includes acquiring and installing systems environment. System developer needs to create and test the databases system. Beside this, preparing the test case procedures or files, refining programs, performing test readiness review and procurement activities also must be done in this phase.

There are six different modules in the system. Login module is develops for user to login according to their categories which are admin, lecturer and student. After login base on their categories, system will redirect them to their own module with different function ability.

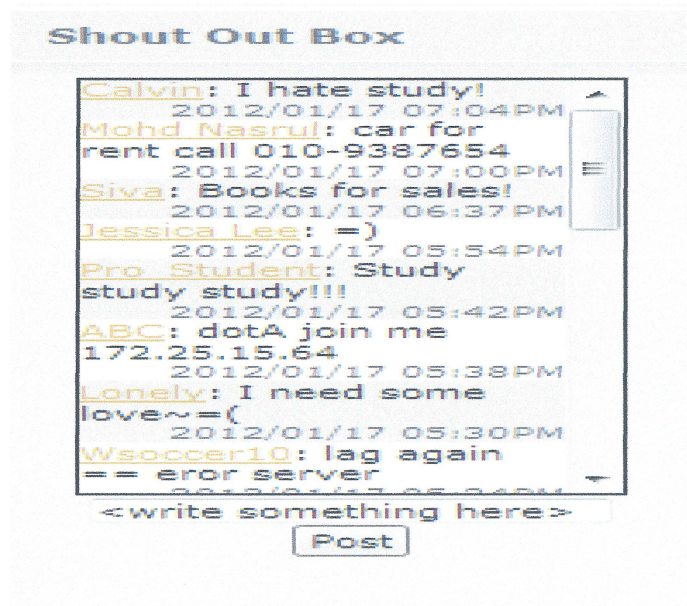


Figure 3.5: Shout Out Box

It's a box for users to shout and post their comments. Comment is posted with date and time.

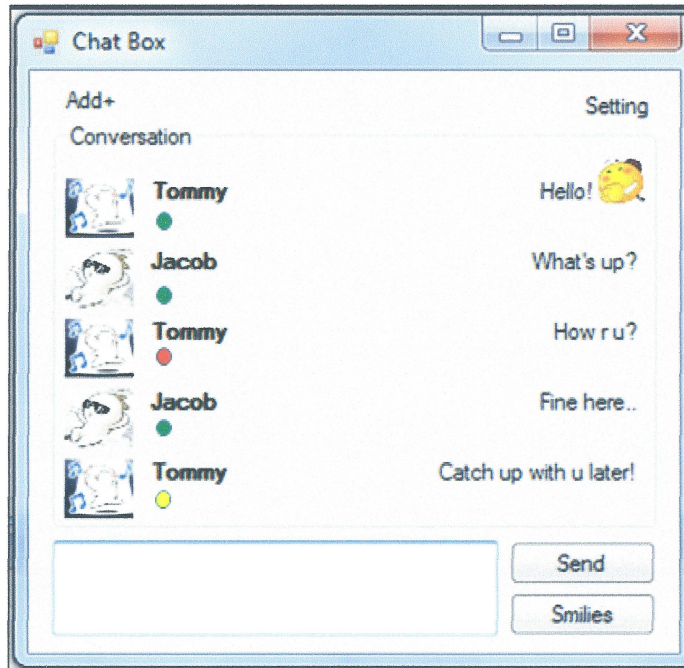
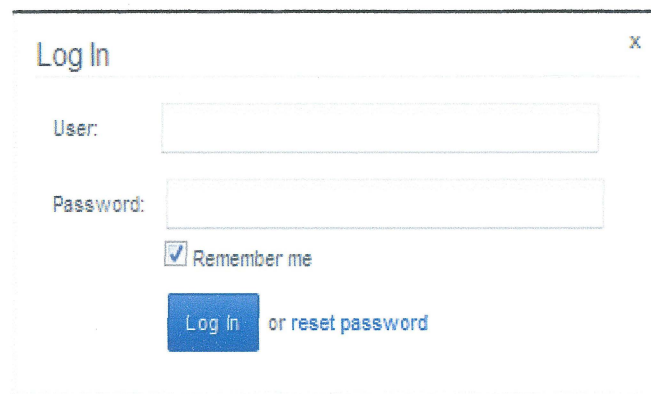


Figure 3.6: Chats Box

Allow users to chat with others. User status is shown, online, busy, away and appear offline.

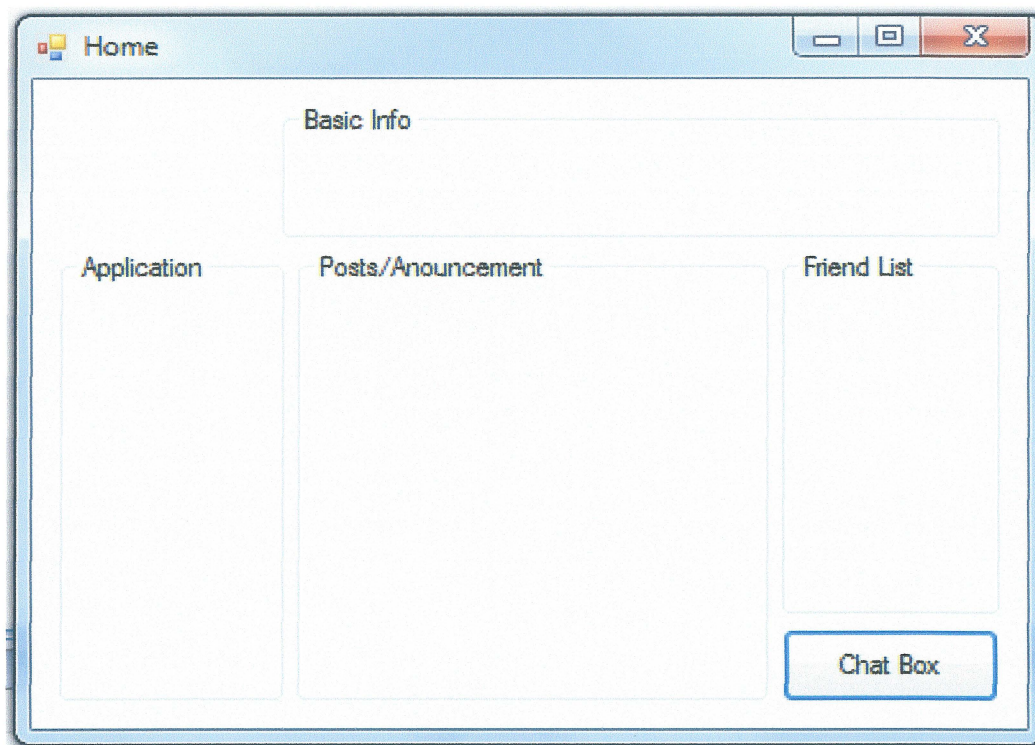


A screenshot of a web form titled "Log In" with a close button (x) in the top right corner. The form contains the following elements:

- A "User:" label followed by a text input field.
- A "Password:" label followed by a text input field.
- A checked checkbox labeled "Remember me".
- A blue button labeled "Log In" followed by the text "or reset password".

Figure 3.7: Log in box

User input username and password before entering the system.



A screenshot of a web application window titled "Home" with standard window controls (minimize, maximize, close) in the top right corner. The interface is divided into several sections:

- A "Basic Info" section at the top.
- An "Application" section on the left side.
- A "Posts/Announcement" section in the center.
- A "Friend List" section on the right side.
- A "Chat Box" button located at the bottom right of the main content area.

Figure 3.8: Home interface

Consists of profile picture, basic info, application, posts/announcement, friend list and chat box button.

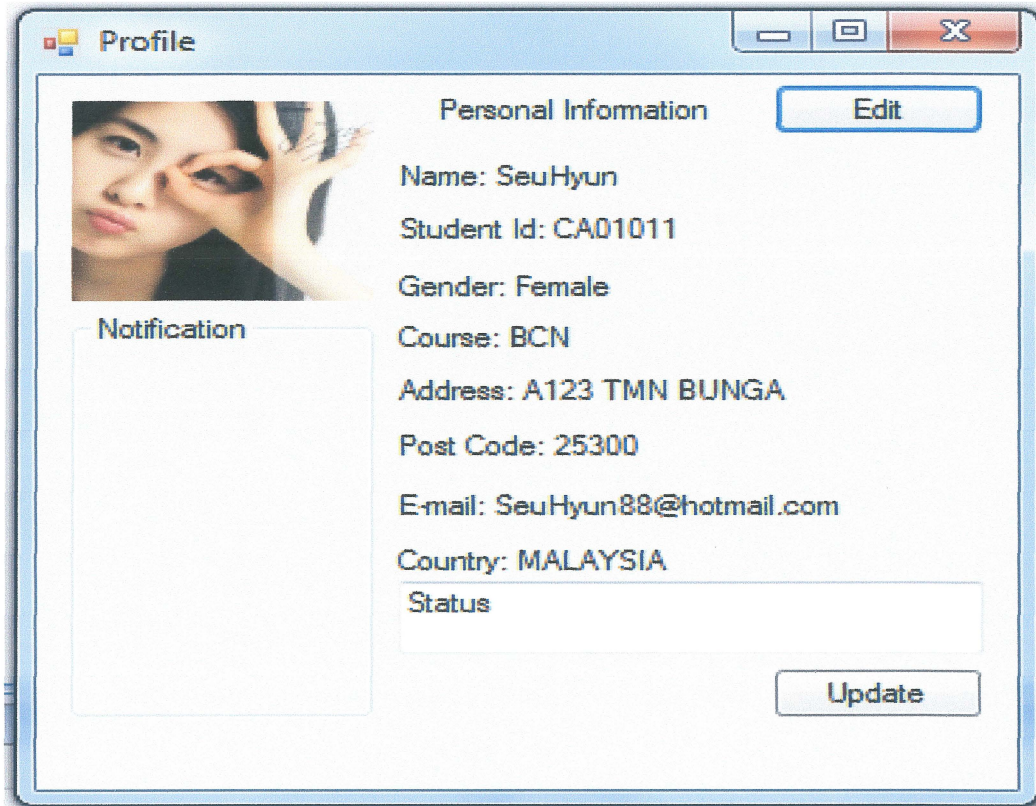


Figure 3.9: Profile interface

View of personal information and update a status.

3.2.5 Integration and Testing

Integration and Testing is the fourth phase in System Development Life Cycle. The developed system is brought into a special testing environment to checks for its errors, bugs and interoperability. This process is to ensure defects are recognized as many as possible. Firstly, test all the features designed in the system interface and input all relevant data into the interface. If failed to run, debug interface and check for the source code of the system. If the system operates well, proceed to the next step. Debug the database designed in the system. If there is error on the database, troubleshoot the problem and redesign the database. After the designed interface and database run with errors free, test and debug the interaction between of interface and database. Make sure both are linked and interface able to retrieve data from database. If it is functioning well, proceed to the implementation phase.

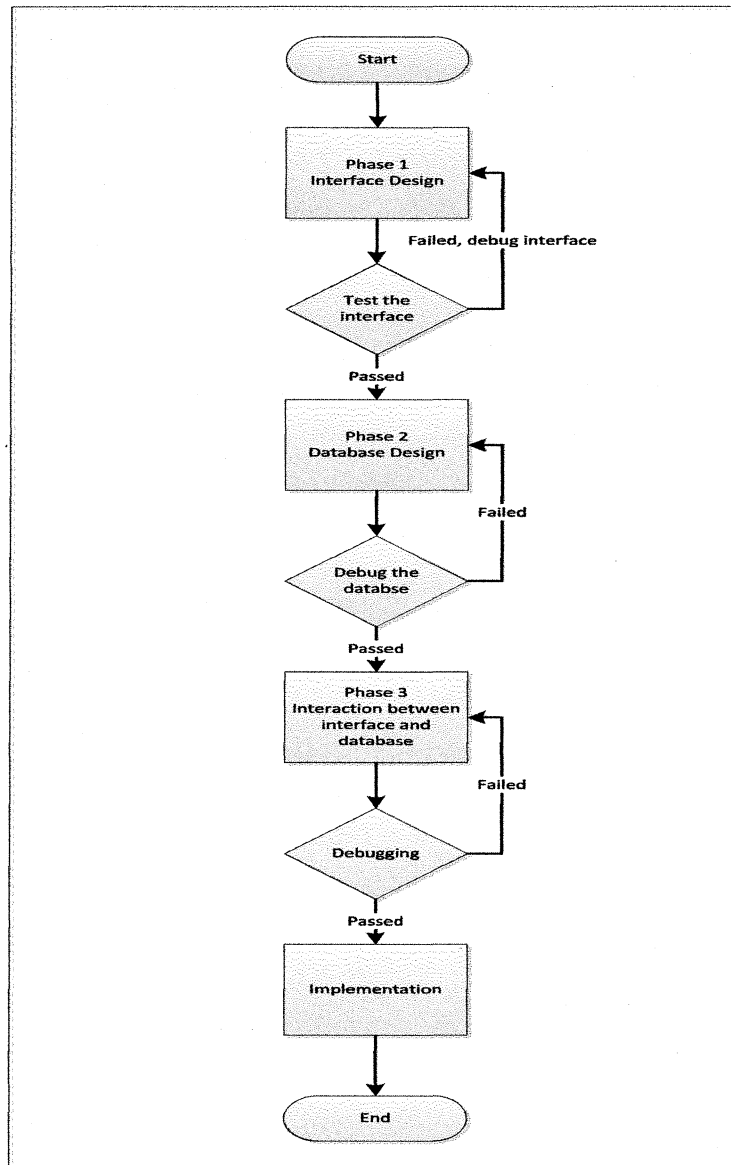


Figure 3.10: Test Procedure

3.2.6 Implementation

This phase includes implementation preparation, implementation of the system into a production of problems identified in the Integration and Test Phases. Model and subsystem programming code will be accomplished in this phase. The programming code for the eSociety system will be implemented. The server is implemented with Health Policy and Network Access Protection to secure the resources of database server while the network security system is protecting the server network performance. At the end of this phase, the system should be perfectly well operated without any errors or malfunction.

CHAPTER 4

IMPLEMENTATION

This chapter will explain the implementation system of database, interface, module, php scripts and JavaScripts.

4.1 Database Implementation

e-Society needs a database to store all the data and records for its users. PhpMyAdmin is used as MySQL database management system since it is a free and open source tool written in PHP. Two main modules implemented in this system, which are admin module for administrator use and user module for its user members.

There are several tables created in one database for this system, such as posts, comments, calendar, admins, members, photos, and user profile. Below figure 4.1 shows the tables of database used for the system and the query used to create table named 'user_members' in database.

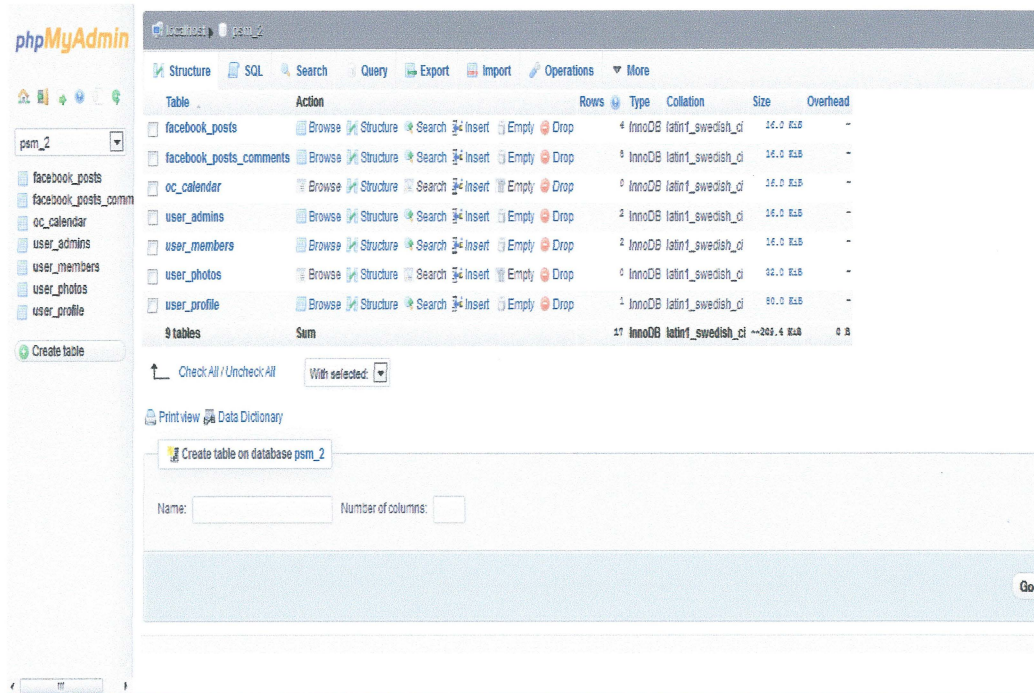


Figure 4.1.1: Tables of MySQL Database

```

CREATE TABLE IF NOT EXISTS `user_members` (
  `member_id` int(11) unsigned NOT NULL AUTO_INCREMENT,
  `member_login` varchar(7) NOT NULL DEFAULT '',
  `member_firstName` varchar(100) DEFAULT NULL,
  `member_lastName` varchar(100) DEFAULT NULL,
  `member_password` varchar(32) NOT NULL DEFAULT '',
  PRIMARY KEY (`member_id`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1 AUTO_INCREMENT=25 ;

```

Figure 4.1.2: SQL Query

4.1.1 Database and Server Connection

e-Society uses Apache HTTP server to host the website system and connects between the server and database by using the PHP and MySQL scripts. Figure 4.2 shows the script used to connect between MySQL database and HTTP web server. The script is saved in a file named 'db-user.php'.

```
<?php
$conn = mysql_connect("localhost","root","");
if (!$conn){
    die("could not connect to database");
}
mysql_select_db("PSM2",$conn) or die ("could not open products
database");
?>
```

Figure 4.1.1: Database and Server Connection Script

4.2 Web Interface

A user-friendly web page allows user to use the system in an easy way. The web page for this system is designed for students, lecturers, and staffs use in University. The tools used for developing the web page are Adobe Dreamweaver CS5 and Notepad++.

4.2.1 Main Page

The main page of eSociety is designed with banner, header, footer, and login form. The page shows the brief description about eSociety at the left middle part. The right part at the middle is a login form for user to log into the system.

e-SOCIETY



About eSociety

eSociety is an online social networking site used in UMP for students, lecturers and staffs of Faculty of Computer System and Software Engineering. eSociety provides a connecting medium for user to the latest stories, ideas, news and opinions.

The mission of eSociety is to give user the authority to share information inside UMP and connected with each other.

eSociety is a final year project developed and founded by Lee Shun Yung in February 13, 2012. This web-based service has more features to be enhanced in future.

Member login

Username

Password

Our Services

- 

eSociety enables users in UMP to share their ideas, activities, events, information, lesson, and interests within the networks. It's also allows users to keep up-to-date on news regarding in UMP quickly.
- 

Users of eSociety able to create their own account and edit their basic information as well as their profile picture. Beside than that, eSociety also allows the service of uploading photos into the website personally.
- 

eSociety contains a mp3 music player and a video player for user to play with it. It's offers a freely streamable audio and video content for users listen and watch.

Latest News

 Lee Design © 2012

Figure 4.2.1: Main Page

4.2.2 Latest News Module

This is the part where headline is displayed here. There are only five latest headlines shown in the page. The headline is only can upload by administrator.

Latest News

blink blink blink!

Today is the last day of mini project submission.

tomorrow is Monday, need to submit thesis!!!!!!

Today is Sunday!!!!!!!!!!

headlines

Figure 4.2.2.1: News Box

```
<?php
    include ("db-user.php");
    $sql="SELECT content FROM latest_news ORDER BY id DESC
LIMIT 5";
    $query=mysql_query($sql, $conn) or die("could not execute
query");
?>
<h1>Latest News</h1>
<div class="news">
<?php
    while ($row = mysql_fetch_array($query, MYSQL_BOTH)) {
        echo '<p class="news">'.$row["content"].'</p>';
    }
?>
```

Figure 4.2.2.2: Insert and View News

4.2.3 Login Module

There are two login modules use in this system, one is for administrator, and another one is for user. This module allows administrator and users to login into the system by input their username and password.

Figure 4.2.3.1: Login Module

```

$login = clean($_POST['member_login']);
$password = clean($_POST['member_password']);

//Create query
$qry="SELECT * FROM user_members WHERE member_Login='$login'
AND member_Password='".md5($_POST['member_password'])."'";
$result=mysql_query($qry);

//Check whether the query was successful or not
if($result) {
    if(mysql_num_rows($result) == 1) {
        //Login Successful
        session_regenerate_id();
        $member = mysql_fetch_assoc($result);
        $_SESSION['SESS_MEMBER_ID'] = $member['member_id'];
        $_SESSION['SESS_FIRST_NAME'] =
$member['member_FirstName'];
        $_SESSION['SESS_LOGIN'] = $member['member_Login'];

        session_write_close();
        header("location: user_Index.php");

        exit();
    }else {
        //Login failed
        header("location: login-user-failed.php");
        exit();
    }
}else {
    die("Query failed");
}

```

Figure 4.2.3.2: User Login Execution

4.2.4 Home Page

This is the home page which every time after user logged into the website. Users can post their status and comment on it. All the comments by e-Society users can be viewed on this page. Figure 4.2.4.2 shows how comments are inserted into database.

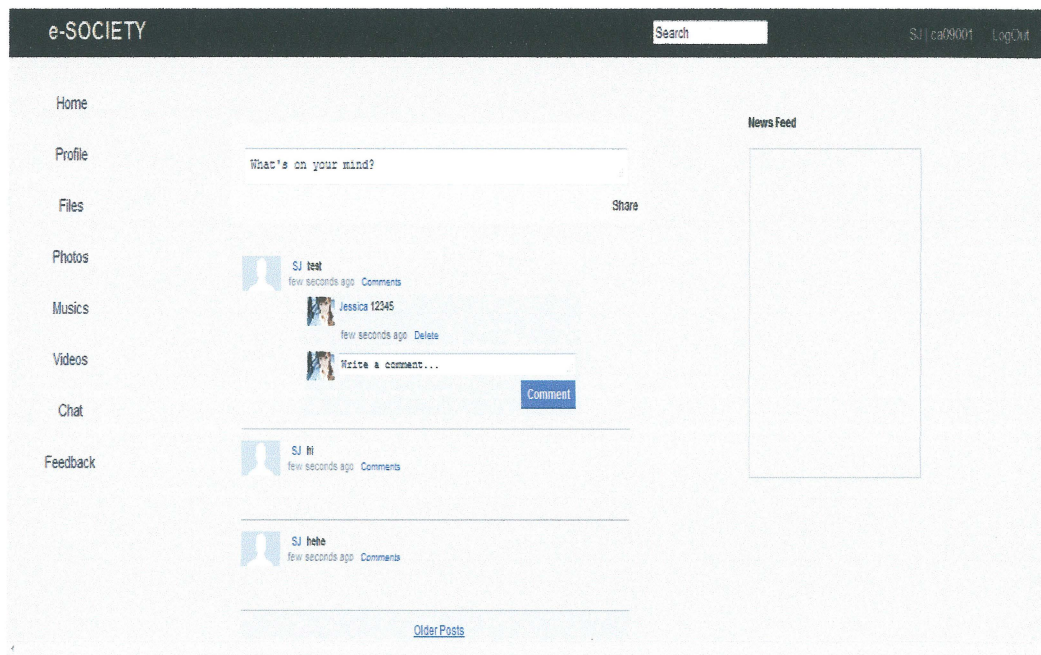


Figure 4.2.4.1: Home Page

```
<?php
    if (checkValues($_REQUEST['comment_text']) &&
        $_REQUEST['post_id'])
    {
        $userip = $_SESSION['SESS_MEMBER_ID'];
        $fname = $_SESSION['SESS_FIRST_NAME'];
        $sql = "SELECT picture_path FROM user_profile WHERE
userid = '$userip'";
        $query = mysql_query($sql, $conn) or die("could not
execute query");
        $row = mysql_fetch_array($query, MYSQL_BOTH);
        $path = $row['picture_path'];
```



```

mysql_query("INSERT INTO facebook_posts_comments
(post_id,comments,userip,date_created,fname,fimage)
VALUES('".$_REQUEST['post_id']. "','".$_checkValues($_REQUEST['comm
ent_text']). "','".$_userip. "','".$_strtotime(date("Y-m-d
H:i:s")). "','".$_fname. "','".$_path. "')");

$result = mysql_query("SELECT *,
UNIX_TIMESTAMP() - date_created AS CommentTimeSpent FROM
facebook_posts_comments order by c_id desc limit 1");
}
?>

```

Figure 4.2.4.2: Insert Comment

Figure 4.2.4.3 below shows the member searching feature using php script. User can search eSociety members' profile by key in their name or matric number into the searching box. Searching result will pop out for user to click to view the user profile.

```

<?php
include('db-user.php');
if($_POST)
{
$q=$_POST['searchword'];

$sql_res=mysql_query("select * from user_profile where matric_no
like '%$q%' or name like '%$q%' order by id_profile_pk LIMIT
5");
while($row=mysql_fetch_array($sql_res))
{
$path="images/";
$matric=$row['matric_no'];
$userid=$row['userid'];
$fname=$row['name'];
$img=$row['picture_path'];
$gender=$row['gender'];
$src=$path.$img;

$re_matric='<b>'.$q.'</b>';
$re_fname='<b>'.$q.'</b>';

$final_matric = str_ireplace($q, $re_matric, $matric);

$final_fname = str_ireplace($q, $re_fname, $fname);
}
?>

```

Figure 4.2.4.3: Searching for members

4.2.5 Profile Module

The profile picture and basic personal information of user are shown in this module. Basic information such as name, gender, birthday, language, religion, address, contact number, email, programme, and year of the user can be viewed on this page. The user profile picture can be uploaded through the page too. After user edit the basic information, click the button 'save' to upload the latest basic information into database.

	Matric No	ca09075
	Name	Jackie
	Gender	male
	Birthday	1989-06-19
	Language	English
	Religion	Buddha
	Address	B2900 JLN GAMBANG
	Contact No.	012-3456789
	E-mail	Jackie@gmail.com
	Programme	Bachelor of Computer Science (Software Engineering)
	Year	3

Figure 4.2.5.1: Profile Module

```
<?php

include('db-user.php');
require_once('auth-user.php');

$id = $_GET['id'];
$data = mysql_query("SELECT * FROM user_profile WHERE
userid=$id") or die(mysql_error());
while ($row = mysql_fetch_array($data, MYSQL_BOTH)){

$matric_no = $row["matric_no"];
$name = $row["name"];
$gender = $row["gender"];
$birthday = $row["birthday"];
$language = $row["language"];
}
```

```

$religion = $row["religion"];
$address = $row["address"];
$contact_no = $row["contact_no"];
$email = $row["email"];
$programme = $row["programme"];
$year = $row["year"];

$file_path = "images/";
$picture_path = $row["picture_path"];
$src=$file_path.$row['picture_path'];
}
@mysql_free_result($query);
?>
<form action="user_profile_edit.php" method="post">
  <table width="100%" border="0" cellpadding="5">
    <tr>
      <td width="24%"><b>Matric No</b></td>
      <td width="76%"><?php echo"$matric_no";?></td>
    </tr>
    <tr>
      <td width="24%"><b>Name</b></td>
      <td width="76%"><?php echo"$name";?></td>
    </tr>
    <tr>
      <td><b>Gender</b></td>
      <td><?php echo"$gender";?></td>
    </tr>
    <tr>
      <td><b>Birthday</b></td>
      <td><?php echo"$birthday";?></td>
    </tr>
    <tr>
      <td><b>Language</b></td>
      <td><?php echo"$language";?></td>
    </tr>
    <tr>
      <td><b>Religion</b></td>
      <td><?php echo"$religion";?></td>
    </tr>
    <tr>
      <td><b>Address</b></td>
      <td><?php echo"$address";?></td>
    </tr>
    <tr>
      <td><b>Year</b></td>
      <td><?php echo"$year";?></td>
    </tr>
  </table>
  <?php
  $id = $_SESSION['SESS_MEMBER_ID'];
  if($_GET['id'] == $id){?>
  <input id="edit" type="submit" value="edit" />
  <?php
  }
?>
</form>

```

Figure 4.2.5.2: View Profile Information

Matric No ca09075

Name Jackie

Gender Male Female

Birthday 1989-06-19

Language English

Religion Buddha

Address B2900 JLN GAMBANG

Contact No. 012-3456789

E-mail Jackie@gmail.com

Programme Bachelor of Computer Science (Software Engineering)

Year 3

Save Cancel

C:\xampp\htdocs\PSMZ Browse...

Figure 4.2.5.3: Edit Profile Module

```

<?php
include ("db-user.php");

extract($_POST);

mysql_query("UPDATE user_profile SET name='$name',
gender='$gender', birthday='$birthday', language='$language',
religion='$religion', address='$address',
contact_no='$contact_no', email='$email',
programme='$programme', year='$year' WHERE userid='$id'");

mysql_query("UPDATE user_members SET member_FirstName='$name'
WHERE member_id='$id'");
mysql_query("UPDATE facebook_posts SET f_name='$name' WHERE
userip='$id'");
mysql_query("UPDATE facebook_posts_comments SET fname='$name'
WHERE userip='$id'");
mysql_query("UPDATE user_docs SET uploader='$name' WHERE
uploader_id='$id'");
mysql_query("UPDATE user_photos SET fname='$name' WHERE
member_id='$id'");
mysql_query("UPDATE user_video SET uploader='$name' WHERE
uploaderid='$id'");

echo "<script type='text/javascript'>
window.location='profile.php?id=$id'</script>";
?>

```

Figure 4.2.5.4: Update User Profile Information

4.2.6 Files Module

Users are able to upload and download files or lecture notes on this page. The valid file format includes doc, docx, pdf, txt, and ppt. To upload a file, users are required to choose a file local machine by clicking on 'browse' button. Next, choose the category for the file, either BCS, BCS, BCN, or other. Then key in the code of the subject related to the file and click 'Upload' to upload the file.

Files

Upload your file here: BCS Format: doc, docx, pdf, txt & ppt only.

File name	Category	Date	Uploaded by
HOT1.docx	BCS1033	09-06-12	SJ
Chapter 1 - Introduction-2.ppt	BCN1033	09-06-12	SJ
PSM.pdf	otherPSM	09-06-12	SJ
Greds.txt	bcn1011	08-06-12	SJ

Figure 4.2.6.1: Files Module

```
include('db-user.php');

function getExtension($str) {
    $i = strrpos($str, ".");
    if (!$i) { return ""; }
    $l = strlen($str) - $i;
    $ext = substr($str, $i+1, $l);
    return $ext;
}
$extension = getExtension($doc_name);
$extension = strtolower($extension);

if (($extension != "doc") && ($extension != "docx") &&
($extension !=
"ppt") && ($extension != "txt") && ($extension != "pdf"))
{
    echo"<script
type='text/javascript'>onLoad=window.alert('invalid document
format.');

```

Figure 4.2.6.2: Valid File Format


```
<?php
    $userid = $_SESSION['SESS_MEMBER_ID'];

    //confirmation box

    if($row['member_id'] == $userid){
        echo '<a id="delete"
href="deletePhoto.php?id='.$row["photo_id"].'">Delete</a>';
    }
?>
<?php echo'</div>';
}
?>
```

Figure 4.2.7.2: Display Photos

4.2.8 Chat Box Module

The chat box shown below allows online users to chat with each other through it. The message is displayed with time and username every time user sends a message into the chat box. The messages of this chat box are stored in a XML file named 'log.html'. All online users are shown in user's status box.

Chat Box

(8:02 PM) User1: hello
(8:03 PM) User2: hi
(8:04 PM) User1: testing
(2:32 AM) User2: 12345
(1:01 PM) User1: abcdefg
(5:47 AM) User2: good job!

Figure 4.2.8.1: Chat Box

```

<?
session_start();

date_default_timezone_set('Asia/Kuala_Lumpur');

if(isset($_SESSION['SESS_FIRST_NAME'])) {
    $text = $_POST['text'];
    $fp = fopen("log.html", 'a');
    fwrite($fp, "<div class='msgln'>(" . date("g:i A") . ")
<b>".$_SESSION['SESS_FIRST_NAME']. "</b>:
". stripslashes(htmlspecialchars($text)) . "<br></div>");
    fclose($fp);
}
?>

```

Figure 4.2.8.2: XML File

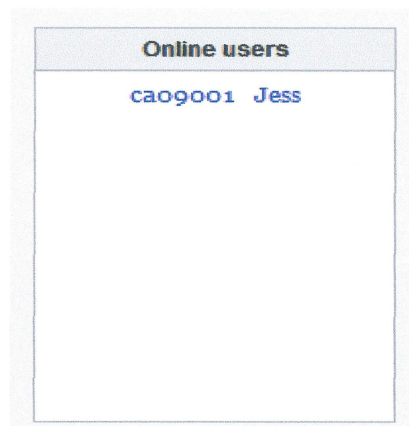


Figure 4.2.8.3: User's Status Box

```

<?php
$gap=10;
$tm=date ("Y-m-d H:i:s", mktime (date("H"),date("i")-
$gap,date("s"),date("m"),date("d"),date("Y")));
$ut=mysql_query("update user_members set status='OFF' where tm <
'$tm'");
echo mysql_error();
$qt=mysql_query("SELECT * FROM user_members WHERE tm > '$tm' and
status='ON'");
echo mysql_error();
?>
<div class="titlebox">
<b>Online users</b>
</div>
    <div class="list">

```



```

<?php
    while($row = mysql_fetch_array($qt, MYSQL_BOTH)) {
    ?>
    <a href="profile.php?id=<?php echo $row['member_id'];?>">
    <?php
        echo "$row[member_Login]&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;";
        echo "$row[member_FirstName]<br />";
    ?>
    </a>
    <?php
    }
    ?>

```

Figure 4.2.8.3: Online User Status

4.2.9 Music Player

When clicking on the 'music' link, a web browser embedded with music player will popup. The music player only supports the mp3 file. The player has the button previous, play, pause, stop, and next where user can click on it. User also can adjust the music sound lower or higher through the green bar. A playlist is provided for user to choose the song to play.



Figure 4.2.9.1: Music Player with Playlist

```

<?php

function getExtension($str) {
    $i = strrpos($str, ".");
    if (!$i) { return ""; }
    $l = strlen($str) - $i;
    $ext = substr($str,$i+1,$l);
    return $ext;
}

$target_path = "mp3/";
$target_path = $target_path .
basename( $_FILES['uploadedfile']['name']);

$filename = stripslashes($_FILES['uploadedfile']['name']);
$extension = getExtension($filename);
$extension = strtolower($extension);

if($extension == "mp3"){
if(move_uploaded_file($_FILES['uploadedfile']['tmp_name'],
$target_path)) {
    echo "The file ".
basename( $_FILES['uploadedfile']['name']).
    " has been uploaded";
} else{
    echo "There was an error uploading the file, please try
again!";
}
    echo"<script type='text/javascript'>onLoad=window.alert('mp3
audio uploaded.');

```

Figure 4.2.9.2: Upload mp3 File

4.2.10 Video Player

Flowplayer is plugged-in video player which user can display video from the page. This player supports most of the video format, such as .flv and .mp4. Video features includes play, stop, mute, adjustable volume, and full

screen display. User can choose the video link provided in the playlist at the right side of the video player and play it. A video folder is used to store all the uploaded video files.

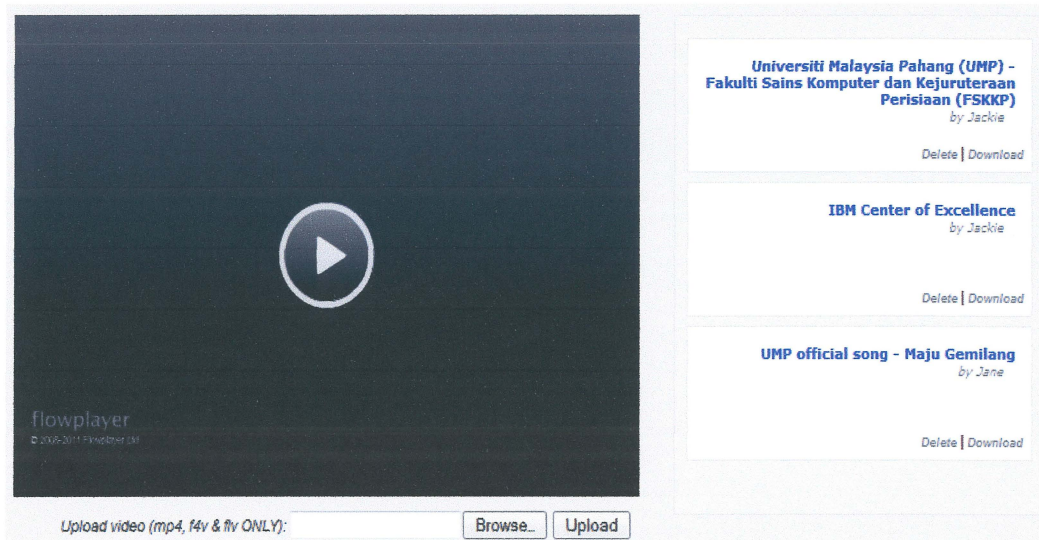


Figure 4.2.10.1: Video Player with Playlist

```
<?php
    $data = mysql_query("UPDATE user_video set video_path =
REPLACE(video_path, ' ', '_')");
    $data = mysql_query("SELECT * FROM user_video ORDER BY
video_id DESC") or
    die(mysql_error());

    $video_path = "video/uploads/";
    while($row = mysql_fetch_assoc( $data ))
    {
        $src=$row['video_path'];

        echo '<div class="box"><a
href= '.$src.'><strong>'.$row['video_name'].'</strong><em>by
'.$row['uploader'].'</em>'.$row['video_length'].'</a>';?>
        <?php
        $userid = $_SESSION['SESS_MEMBER_ID'];
        $videoid = $row['video_id'];

        //confirmation box
        echo '<script type="text/javascript">
function confirmation() {
var c = confirm("Are you sure you want to delete this
video?")
if (c){
    window.location = "deleteVideo.php?id='.$videoid.'";
}
}
</script>';
```

```

if($row['uploaderid'] == $userid){?>
    <b id="delete" onClick="confirmation()">Delete</b> |
<?php }?><b id="download" onClick="location.href='<?php echo
$src ?>'>Download</b>
    <?php
    echo '</div>';
    }
?>

```

Figure 4.2.10.2: Video Playlist

4.2.11 Feedback Module

This page is for eSociety members to fill in the feedback form. User can send the email address and select the category such as suggestion, comment, complaint, question or other to administrator through this form. Administrator can read the feedback from admin portal after user sent it.

Send Feedback

My website needs your feedback - help improve the website!

Thank you for using eSociety. I appreciate your interest and would be glad to receive your feedback and suggestions for improving this website. Please fill in the form below and click "Send Feedback".

Your Email (optional):

Select Category:

Enter your comments, complaints, or suggestions below:

Figure 4.2.11.1: Feedback Form

CHAPTER 5

RESULT AND DISCUSSION

This chapter presents the result and discuss the developed methods used in eSociety web-based social networking system. The chapter includes expected result, discussion, and conclusion. Every modules of the system are tested and make sure no errors come out from the system. All outputs are correct when key in the correct inputs. The advantages and constraint of this system are stated at the last part of this chapter. Conclusion also has been made in this at the end of this chapter.

5.1 User Testing Result

The website system is tested and determined whether it acquires the minimum acceptance of criteria. This system has to be confirmed that its users are satisfied with the features and functions of website system. The minimum criteria are based on the following statements.

- i. Features and functionalities
- ii. Web interface appearance
- iii. Accessibility
- iv. Capacity
- v. Reliability
- vi. Usability
- vii. Security
- viii. Exception handling
- ix. Manageability
- x. Scalability

The testing phase is carried out by testing on the forms input and output. Three testers have made the system testing on user login, user registration, and user profile edit module five times for each module. Two testers act as potential user members and another one acts as the administrator of the system. The system is tested according to the 10 criteria as shown on above.

Table 5.1 below shows the module category to be tested, correct output, and successful rate for the testing system based on its functionality. All modules are tested to make sure no errors occur in the system. The system is tested and no errors occurred.

Module Category	Correct Output (*/5)	Successful Rate (%)
Login	5/5	100
Registration	5/5	100
Edit Profile	5/5	100

Table 5.1: Testing Result

5.1.1 User Login Module Testing

Tester login to the system by input the username and password. The test result is shown in table 5.1.1 below.

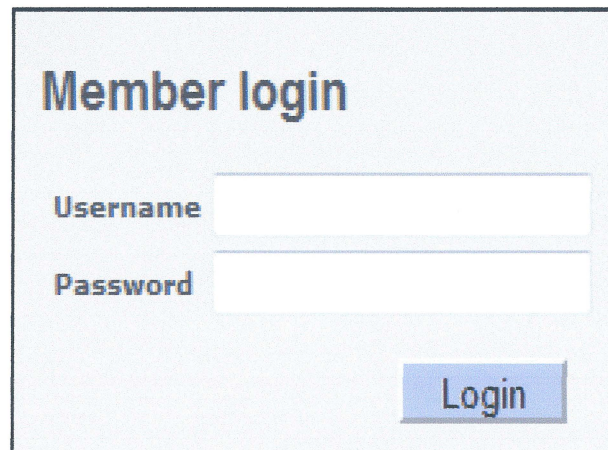


Figure 5.1.1: Member Login Form

No.	Input	Expected Output	Description
1	"ca09075","09075"	Login successful	User account exists in database.
2	"ca09000","09000"	Login Failed! Please check your username and password.	Wrong input of username or password. User account does not created in database.
3	"ca09075",""	Please enter your password.	User does not key in the password.

Table 5.1.1: User Login Module Tesing

5.1.2 User Registration Module Testing

Tester acts as administrator to create a new user member account into database. The test result is shown in table 5.1.2 below. Make sure administrator able to create a new account for user.

User Registration

First Name

Last Name

Login ID

Password

Confirm Password

Figure 5.1.2: User Registration Form

No.	Input	Expected Output	Description
1	"Jackie","Lee","ca09075", ",","09075",","09075"	Account successfully created.	User account created in database.
2	"User1","name","ca0907 5",,"123456",,"123456"	Login ID already in use.	Login ID exist in database.
3	"User1","name","ca0901 0",,"12345",,""	Please enter last name. Please retype password.	Last name does not input. Password does not match.

Table 5.1.2: User Registration Module Testing

5.1.3 User Profile Edit Testing

Tester edits the profile of an account created in database. The edited data should be updated and uploaded into the database after clicking the 'Save' button.

Figure 5.1.3: User Edit Information Form

No.	Input	Expected Output	Description
1	“”, “Male”, “1989-06-19”, “English, Malay, Chinese”, “”, “123, Gambang”, “012-3456789”, “”, “Diploma of Computer Science”, “1”	Basic information successfully updated.	User basic information changed or updated into database.
2	“User”, “Male”, “09-12-1988”, “”, “”, “”, “”, “”, “”, “Diploma of Computer Science”, “”	Invalid date format. Please retype your birthday using format YYYY-MM-DD.	Date cannot be uploaded with the wrong format.

Table 5.1.3: User Profile Edit Testing

5.2 Discussion and Outcomes Analysis

eSociety web-based social networking system has achieved its objectives. The first objective of eSociety is to develop a web-based social networking service for users of FSKKP. The website has been successfully designed and created for its users in UMP. The web interfaces of each part of the system modules has already shown in Chapter 4. The second objective also met where eSociety has provided a medium for its users to share thoughts, interests, or lessons more efficiently and quickly within the group of FSKKP users.

5.3 Advantages of System

- i. Provide a communication platform for students, lecturers and staffs of FSKKP in UMP.
- ii. Users from FSKKP of UMP do not need to share with a big amount users of social networking site with other faculties or departments in UMP. This could decrease the latency of using the application.
- iii. Users able to play mp3 files, display videos, download uploaded files and get the latest announcement from them.
- iv. Provide a medium for students and lecturers to discuss and sharing the knowledge or information
- v. Chat box allows eSociety user members to communicate more immediately and efficiently with other user members.

5.4 Constraints

There are few constraints of eSociety system:

- i. Different web browsers (Mozilla Firefox, Internet Explorer, and Google Chrome) have different layout or format in viewing eSociety website.
- ii. Website may unavailable to access during the maintenance of web server.
- iii. Size of profile picture uploaded cannot exceed 1MB.
- iv. Internet access needed for this system.
- v. Anonymous users cannot register by themselves. Only administrator has the authority to register for eSociety user.

5.5 Suggestion and Recommendation

Few suggestions are stated out to improve eSociety system. This social networking service still can add more new modules for users, such as account security setting, search user, create group, and send private message to user.

More new features also can be developed in future. For example, a notification button developed to notifies users on their updated post or comment. Links can be created for users to directly download the audio and video files from the website.

eSociety can be enhanced modifying and making it compatible with the use in any mobile devices such as android, smartphone, and PDA. Beside than that, the user upload capacity limitation (byte) can be increased too for user to upload larger the file size. The web interface of eSociety can be developed by using Flash design to make it more attractive.

CONCLUSION

As a conclusion, eSociety allows students, lecturers, and staffs from Faculty of Computer System & Software Engineering in University Malaysia Pahang to interact and share among each other. This web-based social networking site provides its users a medium to stay connected within the faculty in UMP. With the eSociety, students, lecturers, and staffs of FSKKP are able to share their thoughts, events, activities, information, lessons, and news more efficiently and quickly to every others member. Other than that, eSociety also provides entertainment services such as streaming mp3 player and video player for its users to play.

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APPENDIX A:

GANTT CHART

