



FSKKP BACHELOR'S DEGREE PROJECT TITLE MANAGEMENT SYSTEM

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ABSTRACT

Final year project (FYP) or Projek Sarjana Muda (PSM) title management process for Bachelor degree is conducted manually in the Faculty of Computer Science. This project intends to overcome the problems of PSM title management process faced by the students and lecturers. PSM title management system is a web based system that is designed to manage, organize and facilitate the process. This system comprises three modules namely students, lecturers and coordinators. Rapid application development methodology is used throughout the development of this project. The programming language tool employed for the development of this project is PHP and MySQL for the database. The main objective of this project is to computerized the existing manual system that can help to reduce the paper work. Functionality test and user acceptance test have been conducted for this system in regards to obtain the user satisfaction feedback. In future, there should be more research on this system and new functionalities should be implemented in this system.

Abstrak

Proses pengurusan tajuk Projek Sarjana Muda (PSM) bagi pelajar Ijazah Sarjana Muda dijalankan secara manual di Fakulti Sains Komputer. Projek ini bertujuan untuk mengatasi masalah pengurusan tajuk PSM yang dihadapi oleh pelajar dan pensyarah. Sistem pengurusan tajuk PSM merupakan satu system berasaskan laman web yang direka untuk mengurus, mengatur dan memudahkan proses pemilihan tajuk PSM. Sistem ini terdiri daripada tiga modul iaitu pelajar, pensyarah dan penyelaras. Kaedah '*Rapid Metodologi*' digunapakai sepanjang pembangunan projek ini. Sistem ini direka menggunakan bahasa persisian PHP dan MySQL sebagai pangkalan data. Objektif utama projek ini adalah untuk membaik pulih dan menukar sistem manual bagi pemilihan tajuk yang sedia ada kepada pemilihan tajuk berasaskan system berkomputer. Sistem baru ini akan menjadi lebih sistematik dan mampu mengurangkan kertas kerja. Ujian fungsi dan ujian penerimaan pengguna telah dijalankan untuk mendapatkan maklum balas daripada pengguna. Pada masa akan datang, perlu ada lebih banyak kajian pada system ini dan fungsi baru perlu dilaksanakan di dalam system ini.

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Chapter 1

Introduction

Bachelor's Degree Project (PSM) is a compulsory subject that needs to be taken by all the students of Faculty of Computer Science and Software Engineering to be awarded a degree in their undergraduate course. Furthermore, PSM is a course to develop student's skills in solving problems and to gain knowledge through the study or research project. The right title and supervisor chosen by the students are important in determining the success of the project.

Faculty of Computer Systems & Software Engineering (FSKKP) in University Malaysia Pahang still use the manual way to register the students for the topics and supervisors for the final year project. Thus, this final year project management system has been developed to help the students to not only access the information about PSM but also to choose the suitable title and supervisor for them. This is the major reason why this system has been developed.

Nowadays, students have to go and meet all the lecturer's to know who are available to be their supervisor. By using this system, students can know which lecturers are available and what topics are being proposed by the lecturer. Students can view the topics that have been done before by their seniors. This will help students to make their decision to choose the best topics and supervisor for them.

Furthermore, this system will also include all the latest information's about the PSM 1 that the students need to know. By this, the students will not miss the important dates and will be up-to-date with the current issues regarding their PSM 1. Additionally, the coordinator can also view the students who have already chosen their title and supervisor. As a result, one system called Title Management System will be developing to resolve all the current problems faced by lecturers and students.

1.1 Problem Statement

In the faculty of FSKKP, students must take undergraduate project as to fulfill their course structure before graduating. However, there are no official website to provide information for the final year students who have registered for Bachelor's Degree Project 1 (PSM1). There are lack of guidance for the students on selecting the right title and a suitable supervisor. Most of the students get confused on selecting the suitable title and they keep changing them. Students choose the lecturers who have ever taught them before or by getting information about the lecturer from their friends. Students are not aware of the title that the lecturer have. Besides that, using the manual system makes the PSM coordinator to have more paper work and consume time to convert the data in computer.

The system that is going to be developed to overcome the problem is a website for the Bachelor's Degree Project 1 students. This website consists of the overall system starting from the title and supervisor selection until the end of this project development. Moreover, this website has all the functions such as providing latest information, title and supervisor selection through online, list of past year project titles and many more. PSM coordinator will find it easy to use this website since they are able to view the students who have selected the title and supervisor.

1.2 Objectives

The objective of the system is:

- To develop a prototype for final year project title management system.
- To allow students to choose the right title and supervisor.
- To computerized the existing manual system that provides information for students.

1.3 Scope

The scope of this system is:

- Only student in Faculty of Computer Systems & Software Engineering (FSKKP) are able to use this system.
- This system only focus on students that registered PSM1 (proposing the title with suitable supervisor).
- This system will be developed using PHP software and Xampp MySQL as database.

CHAPTER 2

LITERATURE REVIEW

This chapter describes mainly about the review on existing techniques related with title management system which have being used by other universities. This chapter will explain about FSKKP title management, advantages of computerized system over the manual system, method and technique use to create this system, and finally describe the previous existing system.

2.1 Overview of Title Management

Faculty of Computer Systems & Software Engineering (FSKKP), University Malaysia Pahang uses the manual registration method for title and supervisor selection as shown in Figure 2.1. Students who have registered for the subject BCC3013 Undergraduate Research Project 1 are required to fill the project title proposal form from the faculty. There are five main parts in this form which are student information, project information, student confirmation, supervisor confirmation and lastly approval of evaluation panel. UMP students are required to meet the entire lecturer to find the supervisor who is available. Thus, some of the lecturers approve more students than they are supposed to approve.

F5M/ B01/F5KKP



**FAKULTI SISTEM KOMPUTER & KEJURUTERAAN PERISIAN
UNIVERSITI MALAYSIA PAHANG**

**PROJEK SARJANA MUDA I
(BCC 3012)**

BORANG CADANGAN TAJUK PROJEK

Seri/Senarai:

Arbiters: Sila lengkapkan Bahagian A, B, C dan kemudian serahkan borang ini kepada Pejabat Fakulti.

BAHAGIAN A: MAKLUMAT PELAJAR

Nama			
Tahun/Kursus			
No. KP		No. Matrik	
Email		No. Tel/HP	

No Cadangan ☐ (jika ia mengikut cadangan, sila tandai dengan tanda X; jika tidak, sila tandai dengan tanda X pada bahagian B.)

BAHAGIAN B: MAKLUMAT PROJEK

Nama Penyelia (jika ada)	
Tajuk Projek	

Objektif

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Skop Projek

Figure 2.1 Overview of project title proposal form

2.2 Advantages Computerized System over the Manual System

A computerized system can have more files arranged in an organized way compared to a non-computerized system. It is a process integrated with a computer system that upholds all the information. A computer system comprises of hardware and software which used to process data in a meaningful way.

FSKKP have no official websites or guidance for the students who are taking PSM 1 to choose the supervisor and title for their final year project. Manual system is being used by the faculty by distributing registration forms to the students to find their supervisor. Thus, having a computerized system in faculty for PSM 1 students has so many advantages than the manual system that is being practiced currently.

Advantage of using this computerized system is that it is not only easy for the students and lecturers but also saves the time for registration. Computerized system allow user for greater efficiency in carrying out specific tasks with more accurately and faster compared to paper work. Besides that, it also saves some space because it needs relatively small amount of space to store large collection of database and not file cabinet to store the same documentation.

Students can view what topics being offered by the lecturer and which lecturer is available to be their supervisor. This helps the students in choosing the suitable supervisor and they don't have to waste their time in going to meet all the lecturer in their room to find out whether they are available or not. Using this computerized system; student can view all the latest information and keep up-to-date with the important dates to submit their documentation. Additionally, there will be database of previous year PSM title for reference purpose.

Meanwhile, lecturers can update information on which students taking PSM under them through this system. Lecturers can also post important announcements to the students in this website. Lecturers who are in charge of this PSM can view how many students have already chosen their supervisor and title. This system will make their work easy and also save their time. It is proven that online system in computerized version is improved than the manual system.

2.3 Technique

This section reviews on the current technique of programming language that can be used to develop the system, and web server database.

2.3.1 Programming Language

Programming language is a language designed for computer programming. It is an important tool used in developing an interactive and usable system. Java, ASP.NET, HTML and PHP 5 are commonly used by many people as programming tools for graphical user interface (GUI).

2.3.1.1 Java

The Java is a programming language that has been broadly used for developing portable applications, toolkits and applets. Java is designed by James Gosling and Sun Microsystems and released in 1995. Java programming is portable that computer programs written in Java language should run correspondingly to the hardware or operating system platform. The syntax used in Java is mostly from C++. Java is constructed almost completely as an object-oriented language. Additionally, for the client-server web applications, Java is commonly used. ("JavaScript," 2001)

2.3.1.2 HTML

The Hypertext Markup Language (HTML) is the main markup language for web pages. It offers a means to create structured documents by denoting the structural semantics for text such as headings, paragraph, lists, quotes and other items. It permits the images and objects to be embedded and can be used to create interactive forms. ("HTML - Wikipedia, the free encyclopedia," 2014) In order to write the HTML, we need to add the "tags" in the text to create the structure. This will let the browser know how to display the text and graphics in the document we created. HTML is more to the structure than the appearance which results in files being more reusable. The interface of the document is seen by the end-user software.

2.3.1.3 PHP

PHP which is "PHP Hypertext Preprocessor" broadly used as open source scripting language designed for web development. Anyone can download and use PHP because it is free. It is developed by the PHP group and is free software released under the PHP License. PHP is a standalone shell that can be installed on most web servers. PHP able to create, open, read, write, delete, and close files on the server. On the database side, PHP can add, delete and modify data. PHP able to run on many platforms such as Windows, Linux, UNIX, Mac OS X and etc. ("PHP - Wikipedia, the free encyclopedia," 2014)

2.3.2 Comparison between Programming Languages

The table shows the comparison between the programming languages that can be used in development of this project.

Table 2.1: Comparison between Programming Languages

Features	Java	HTML	PHP
Security	High security	High security	Well recognized for safety performance
Platform incompatibility	Multiplatform	Multiplatform	Multiplatform
Operating efficiency	Higher	Higher	High

2.3.3 Web Server

A web server plays an important role to host websites, data storage, handling emails and many more. The entire web servers have an IP address and a domain name and when a user making a request for specific resource using HTTP, the server helps to respond accordingly to the request.

2.3.3.1 Microsoft SQL Server

Microsoft SQL Server can be used to build high performance project since it is easier to build and more cost effective. Other than that, it also provides faster insight of data that actually speeds up the operating time of the system. Transact-SQL is the primary query language of this database. Transact-SQL is an implementation of the ANSI/ISO standard Structured Query Language (SQL) used by both Microsoft and Sybase. ("Microsoft SQL Server - Wikipedia, the free encyclopedia," 2014)

2.3.3.2 MySQL

MySQL is second most generally used open-source database system used on the web and runs on a server. MySQL can be used for both minor and big applications. Advantage of using this MySQL is that it is very easy to use, fast and reliable. Other than that, it is also unrestricted to download and use. Developer of MySQL stands Oracle Corporation. ("MySQL - Wikipedia, the free encyclopedia," 2014)

2.3.4 Comparison between MS SQL Server and MySQL

The table shows the comparison between the web servers that can be used in development of this project.

Table 2.2: Difference between MS SQL Server and MySQL

	Microsoft SQL Server	MySQL
Developer	Microsoft Corp.	MySQL AB
Open-source Proprietary	Limited to a Sybase-derived engine. SQL Server is known to work better with other Microsoft products.	MySQL is an extensible. Open storage database engine, offering multiple variations such as Berkeley DB, InnoDB, Heap and MyISAM.
Technical Differences	Considered a complete relational database.	Does not provide full support for foreign keys.
Performance	Complexity and the hogging of resource leads to poorer performance.	Provide good performance since it uses less disk space, memory and CPU.
Security	Have sufficient security mechanisms that bear user to follow the directions.	MySQL uses security based on Access Control Lists (ALCs) for all connections, queries, and other operation.
Recovery	Able to retrieve back the process, even when the system shuts down unexpectedly.	Corruption and loss of critical data can occur due to power outage.

2.4 Existing System

This section reviews on the existing system that is being used in University Malaysia Pahang, University Tun Hussein Onn Malaysia (UTHM) and Multimedia University.

2.4.1 University Malaysia Pahang Moodle System

Currently, FSKKP use Moodle system as a main communicator between the PSM coordinator and students. Students are given the enrolment key so that they can enroll themselves to this BCC3013 Undergraduate Research Project 1. Moodle system is used by PSM coordinator to make announcement regarding meetings, deadlines of report submission and guidance of report writing. (“Course BCC3013 UNDERGRADUATE RESEARCH PROJECT I 2013 2014 2,” 2011)

There are many problems faced by lecturer and students who use this system. Students who are not registered for this subject are able to enroll using the enrolment key. There are no restrictions on this system on who can enroll to this subject. Next, the information displayed in this system is not arranged accordingly. It is hard for the students to read the important announcement due to the large content of words being displayed. All the announcements, information and meetings are posted in the same page. Additionally, most of the students are not up-to-date with the announcements made by the PSM coordinator. This is because not many students go and see what’s being posted in this page. Figure 2.4.1 shows the interface of the UMP Moodle system.

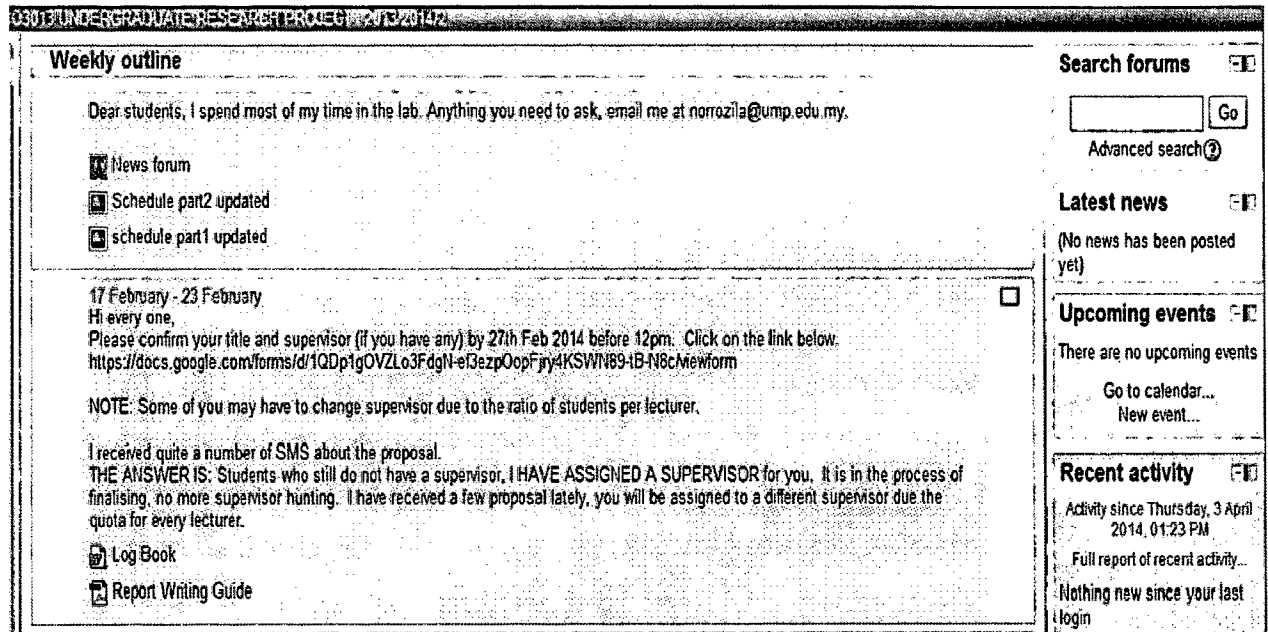


Figure 2.2 Overview of UMP Moodle System

2.4.2 Website Faculty of Civil and Environmental Engineering, University Tun Hussein Onn Malaysia (UTHM)

University Tun Hussein Onn Malaysia (UTHM) has their own website for the final year students of faculty of Civil Environmental Engineering who are taking the final year bachelor project as shown in Figure 2.4.2.2. This website is used to make important announcements, online registration of supervisor selection and title, important dates, and also to download important documents. Full guidance regarding this final year project is displayed for the new students and there is also frequently asked question (FAQ) section where the most commonly asked questions being answered. (“{ Final Year Project } FKAAS - Home,” 2014)

Registration of final year project through online and the supervisor selection takes place one or two weeks before the beginning of the new semester. Students can select their supervisor based on the selection list if the lecturers are still available. Selections of the lecturer are based on ‘first come first serve’ basis. Students are not allowed to select the lecturer who already acquired the maximum number of students.

Students can change their supervisor or title but this action is not encouraged by the faculty. Valid reason should be given by the student for changing the supervisor or title. Students need to fill in a form in advance before making any changes. Any changes to the title during the final year project 2 are not allowed. Students are required to submit their project title and summary via this website to be approved by the respective Head of Engineering Panel. Finally, the students can start working on their report writing.

The Civil Environmental Engineering students need to login in order to register for the supervisor and title as shown in Figure 2.4.2.1. They are logged in using their Matric no and password for security purpose so that only they can login to this system and not others. Students are advised to login using Internet Explorer 7.0 and above for a better view. Other than that, there are too much content in the home page. This is a drawback for the system because too many information will make the students not interested to read content.