STUDENT-SUPERVISOR RECORD MANAGEMENT SYSTEM FOR FINAL YEAR PROJECT

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DECLARATION

I hereby declare that the material in this thesis is my own except for quotations, equations, summaries and references, which have been duly acknowledged.

10 FEBRUARY 2022

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ABSTRACT

Final year project (FYP) is one of the important part in the normal course of education globally. It is necessary for a higher education student to complete a project by their final year. It is an important component of higher education degrees that helps to solidify the students' learning by providing opportunities to them for applying their knowledge into a real-life problem. It plays an exceptional role in showing the efficacy of the study of the outcomes of the modules that students have taken during the course of their studies. In order to produce a great FYP course, a FYP management system has to be built to manage and decrease work processes for students, supervisors and coordinators. So, the main goal of this project is to create a record management system for storing and managing final-year student projects and information. It will be constructed as a web application, with access currently limited to just Faculty of Computing and Informatics Universiti Malaysia Sabah, Kota Kinabalu, to ensure that the data is accessible at all times. Current manual system, students were asked to find their supervisors where they need to meet with academic staff or to contact them through email to have their permission to be supervised and find out what topics they are offering or to discuss their project ideas. They also required to submit every of their report updates through email manually. Some of the task from the FYP also need to be submitted through Google Drive. All these final year project preparation process will be easier if this management system is built. Thus, a web application for Final Year Project is very crucial as students can easily submitting projects and contact with their supervisor in one system.

Keywords – final year project, management system

ABSTRAK

SISTEM PENGURUSAN REKOD PENYELIA-PELAJAR

Projek tahun akhir (FYP) adalah salah satu bahagian penting dalam perjalanan normal pendidikan di seluruh dunia. Pelajar pengajian tinggi perlu menyiapkan projek menjelang tahun akhir mereka. Ia merupakan komponen penting dalam ijazah pendidikan tinggi yang membantu mengukuhkan pembelajaran pelajar dengan menyediakan peluang kepada mereka untuk menggunakan pengetahuan mereka ke dalam masalah kehidupan sebenar. Ia memainkan peranan yang luar biasa dalam menunjukkan keberkesanan kajian hasil modul yang telah diambil oleh pelajar semasa pengajian mereka. Untuk menghasilkan kursus FYP yang hebat, sistem pengurusan FYP perlu dibina untuk mengurus dan mengurangkan proses kerja untuk pelajar, penyelia dan penyelaras. Jadi, matlamat utama projek ini adalah untuk mewujudkan sistem pengurusan rekod untuk menyimpan dan mengurus projek dan maklumat pelajar tahun akhir. Ia akan dibina sebagai aplikasi web, dengan akses kini terhad kepada hanya Fakulti Pengkomputeran dan Informatik Universiti Malaysia Sabah, Kota Kinabalu, untuk memastikan data itu boleh diakses pada setiap masa. Sistem manual semasa, pelajar diminta mencari penyelia mereka di mana mereka perlu berjumpa dengan kakitangan akademik atau menghubungi mereka melalui e-mel untuk mendapatkan kebenaran mereka untuk diselia dan mengetahui topik yang mereka tawarkan atau membincangkan idea projek mereka. Mereka juga perlu menyerahkan setiap kemas kini laporan mereka melalui e-mel secara manual. Beberapa tugas daripada FYP juga perlu diserahkan melalui Google Drive. Semua ini proses penyediaan projek tahun akhir akan menjadi lebih mudah sekiranya sistem pengurusan ini dibina. Oleh itu, aplikasi web untuk Projek Tahun Akhir adalah sangat penting kerana pelajar boleh menghantar projek dengan mudah dan menghubungi penyelia mereka dalam satu sistem.

Kata kunci – projek tahun akhir, sistem pengurusan

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CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter introduces general information about this project. This project aims to improve the existing student-supervisor record management system for Faculty of Computing and Informatics, Universiti Malaysia Sabah, Kota Kinabalu. Problem background, problem statement, project objectives, project scope, limitations and report organization will be explained on this chapter in details.

1.2 Problem Background

Universiti Malaysia Sabah has required that most of undergraduate programmes need to develop, present and defend a Final Year Project (FYP). Its goal is to show the skills and expertise that the students have learned in their studies. This FYP is a project or academic task that must be carried out independently by most undergraduate student of the program in order to receive attributions for graduates. In this sense, FYP plays a central role in the teaching-learning process. It is also a way of evaluating a student's ability to complete an industrial project or conduct applied research in a knowledge discipline. This task can also be seen as an encouragement for students, since it helps them to choose methods, tools and decision during the development. However, some students do not yet have the skills necessary to successfully complete the FYP, which means extra work for their supervisors. Academic staff plays an important role in project development as a student coordinator, ensuring that the project is produced properly. The system that

will be developed basically help the students to manage their project properly with other functionalities that will help to make the final year project process easier.

1.3 Problem Statement

In current manual system of Faculty of Computing and Informatics Universiti Malaysia Sabah, the students who are doing FYP were asked to find their supervisors where they need to meet the academics staff or email them to have their approval for being supervised by them and discuss the topics offered or their own project idea. The students have to email and sending a request to their potential supervisor manually. This may take some time as the students have to wait for the supervisor to reply whether they are still available or not. If the supervisor is unavailable, they have to email another lecturer and going through the same process again until they found the available supervisor. Until sending an email to a potential supervisor, students need to do some study background to their potential supervisor to look into their area of expertise whether or not it is matched with their interests. The manual system took some time for the students as they have to do some research background to the potential supervisor on FCI website before emailing them.

Other than that, the current system needs the students to submit their project report task through email and Google Drive application. This makes the process of handling FYP a little bit difficult for the students as they need to go through different application when it comes to submitting the work. The FYP coordinator's process, which involves registering, grouping and appointing the supervisor and assessor manually, can take a long time and be repetitive, particularly when a large number of students are involved. The coordinators might spend a lot of time monitoring missed names and putting together a list of the most recent.

There have been many difficulties with the FYP process when it was done manually, such as when assigning the student supervisor, as there might be redundancy in student names or a missed list. The coordinators have to spend much time monitoring missed names and coming up with the current list of supervisors. It can be a daunting situation because there are too many data to organise and too many students have different programmes to manage. These issues lead to a slow

progression in the supervision and management process between coordinators, supervisors and supervisees, which has an impact on the performance of the course itself.

1.4 Project Objectives

i. To design the system modules for final year project student-supervisor within FCI KK
ii. To develop a web-based record management system for Final Year Project
iii. To evaluate the functionality and usability of the proposed system by using usability metrics approach

1.5 Project Scope

This project is focus on managing FYP student and supervisor in FCI KK. The proposed method seeks to ease the administration roles of the main office personnel in monitoring and allocation process by allowing the retrieval of information quicker, smoother and more effective relative to the existing manual system. The Student-Supervisor Record Management System for Final Year Project's target user will be FCI students, supervisors and FYP coordinator. This system will be built in a web-based application as it is easily access by the users from any computer that connected to the Internet. It would significantly reduce the time taken by students to complete their projects or dissertations by implementing this system without time and place constraints.

1.6 Expected Outcome

By the end of this project, it is expected all the modules shown in Table 1.1 is done to improve the current FYP System in UMS.

Table 1.1: Scope Modules of Student-Supervisor Record Management System for Final Year Project

Module	Description
1. Register	The system will allow the user (student and supervisor) to register as a user in the website.
2. Log in	Admin and users are required to login before using the website.
3. Search projects	Users can search for FYP projects made by other students or supervisors based on area of interest or types of projects.
4. Student panel	Student can add and view their own project when they uploaded their project here. They also can edit their personal information on this module.
5. Supervisor panel	Supervisor can add past students' project and view their student's submitted project under their supervision. Supervisor also can edit their personal information when needed.
6. Admin panel	Admin can manage users such as view, update, delete or approve the users' registration and project request.
7. Create and view message	Student can create messages to their supervisor or to other students. Student also can receive messages from other students and supervisor. For supervisor, they can create and receive message from the students and from other supervisors.

This project is expected to produce a student-supervisor record management system for final year project. It will be built as a web-based system which will ease both student and supervisor as everyone in FCI have no problem with computer or laptop devices. Other than that, this project is also expected to come out with relevant and desirable output needed by the user. The system expected to produce a quick and accurate information so the third objective of this project can be achieved.

1.7 Report Organization

This project consists of 7 chapters:

Chapter 1: Introduction gives overview of the project. The chapter introduces the project by explaining the problem background, problem statement, project objectives project scope and expected outcome of the project.

Chapter 2: Literature Review explains all studies and technologies which are related to the current project. Other than that, this chapter also review existing or similar system to the current project.

Chapter 3: Methodology explains the method that will be used to carry out the project.

Chapter 4: System Design illustrates the design of the system. System design is presented with diagrams to give picture on how the system will be.

Chapter 5: Implementation shows how the project is being implemented. A prototype is developed based on the system design.

Chapter 6: Testing and Evaluation will show how the system will be test and evaluate. Result of the test will be shown in this chapter.

Chapter 7: Conclusion summarizes the project and future potential enhancements are discussed for future use.

1.8 Conclusion

In conclusion, this project is planned to improve the existing Student-Supervisor Record Management System for Final Year Project. The improvements including adding the message module into the website where students do not need to go to other application to contact with the potential supervisor. It is expected that this project will increase the system's functionality and usability, thus helping students, supervisors and coordinators for the process.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

People nowadays want their lives to be more convenient Santana et al. (2005). They want to get stuff done quickly while maintaining a high level of quality. People, for example, want updated information anytime they need it. Information technology will benefit people and make their lives simpler in this situation. People prefer to automate tasks and disseminate information rather than using a conventional manual method because it saves time while maintaining efficiency. The previous studies shown various ways to improve Final Year Project Record Management System and some are reviewed as the backing idea to come out with this project. The FYP management system has widely implemented in other university including UMS KK. However, the proposed system was differ from the existing systems in terms of functionality, framework, execution and processes.

This chapter will be discussed about the studies that is related to the proposed system. Topic discussed includes the study of the programming language used and the similar existing system which is a Multimedia University (MMU) FYP website. This system has similar background as the proposed system where users are using the system to manage and record the FYP progress.

2.2 Record Management System

Every organisation that wishes to succeed in this information age must focus on data management. Business elements depend vigorously on user and item information handling to support their dynamic with regards to choosing the right market. Since precise data is basic for every understudy's scholarly record, instructive foundations, especially tertiary schooling organizations, require a data management system to work appropriately.

A database management system (DBMS) is utilized to address this issue. A DBMS is characterized by Ramakrishnan et al. (2000) as programming that guides in the administration and utilization of huge informational indexes. As per Rob et al. (2004), DBMS is an assortment of projects that oversee data set construction and control admittance to the information put away in the data set. The Department of Information Systems utilizes a DBMS to control and oversee data, yet in addition to give fast and reliable recovery of that data to react to any inquiries regarding students' final year projects.

A DBMS enjoys a few benefits, including proficient information access, information uprightness and security, information organization, simultaneous access, and crash recuperation Ramakrishnan et al. (2000). These advantages, when joined with a server-side web prearranging language, will give the fundamental structure squares to the framework to be created. MySQL was picked as the data set on account of its flexibility and far and wide use in current web improvement. It's otherwise called "one of the most broadly utilized and strong information bases on the web today" Deitel and Deitel et al. (2009).

Aside from the technical aspects of the system development, user-friendliness and usability are significant parts of this framework. Subsequently, there are connection point plan standards and all the more explicitly, web architecture standards, like the Eight Golden Rules Shneiderman et al. (1998) and Sklar's et al. (2009) web composition standards, which are utilized in the plan of the UI. The followings are the Eight Golden Rules: (1) decrease momentary memory load, (2) support inside locus of control, (3) take into account simple activity inversion, (4) give mistake avoidance and straightforward blunder dealing with, (5) plan exchanges

to yield conclusion, (6) give useful criticism, (7) permit successive clients to utilize alternate routes, and (8) take a stab at consistency.

Sklar et al. (2009) proposes a site that spotlights on the user as well as the screen or computer medium. All in all, the user should feel calm while perusing the website, despite the fact that the plan's basic role is to create web pages for the computer medium. Coming up next are a portion of the plan ideas that relate with the proposed system: (1) make sure to have straightforward admittance to the information. Sort out content in an applicable manner with the goal that it very well might be gotten to as an assortment of traversable information. (2) make sure the material is introduced in an unmistakable and succinct way. Utilize engaging tones and typography to make route simple. (3) create a climate that supports connection. Make perusing more straightforward and content more coordinated. (4) maintain a level authoritative design. Layers of site route ought to be streamlined.

2.3 Review and Study of Existing or Similar System

2.3.1 Comparison on User Interface Design

Every of the university has their own uniqueness in their UI plan and the courses of action of the components. At the glance, we can see that the point of interaction the board entrance of UMS is the more straightforward contrast with the MMU.

The MMU's interface is almost identical to the UMS, with a large number of texts. In any case, the MMU page is more disorganised because the links are scattered around the page. According to Friedman et. al (2008), the interface should be kept simple so that the user can focus on finding the information they need rather than looking at the design. In terms of the colours used, the text dimension, the layout of the elements, and the contents, the design for the two universities is predictable. The route bar for the gateways is kept at a comparable area on each page, which is particularly important in terms of consistency. Collis et al (2008) stated that it is a good practise for the route bar to remain in the same location so that the route may be completed efficiently.