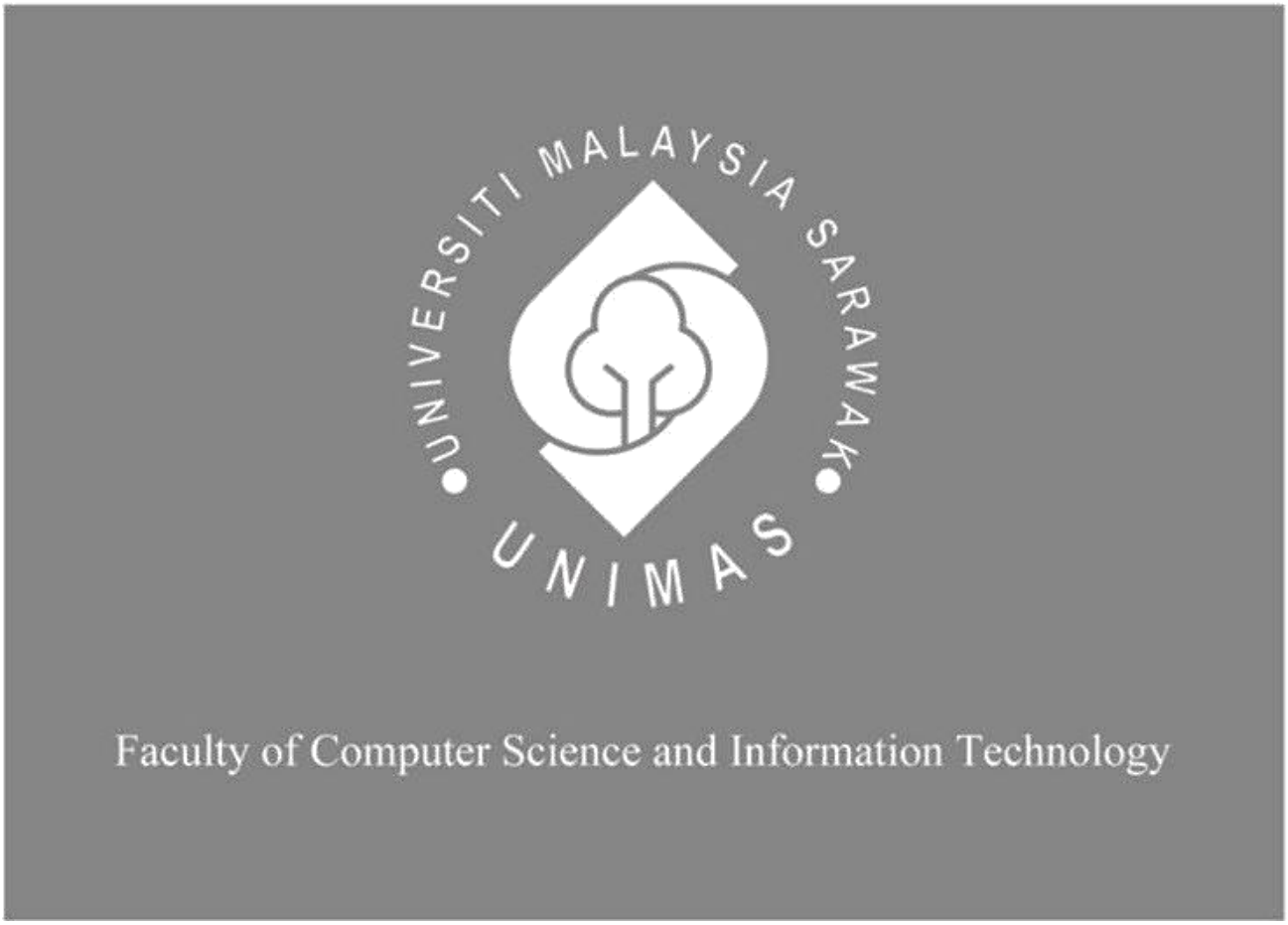

UNIMAS FCSIT FYP SUPERVISION TRACKING SYSTEM

Sharifah Afifah binti Wan Alwi

Bachelor of Computer Science with Honours
(Software Engineering)
2020

UNIMAS FCSIT FYP SUPERVISION TRACKING SYSTEM

SHARIFAH AFIFAH BINTI WAN ALWI

This project is submitted in partial fulfillment of the requirements for the degree of Bachelor of Computer Science with Honours

Faculty of Computer Science and Information Technology
UNIVERSITI MALAYSIA SARAWAK
2020

DECLARATION OF ORIGINALITY

I hereby declare that this research together with all of its content is none other than that of my own work, with consideration of the exception of research-based information and relative materials that were adapted and extracted from other resources, which have evidently been quoted or stated respectively.

Signed,

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Faculty of Computer Science and Information Technology 3 August 2020
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ABSTRACT

The Final Year Project (FYP) is a course that must be completed by all final year undergraduate student in UNIMAS as one of the requirements to graduate. For this course, the students from the Faculty of Computer Science and Information Technology (FCSIT) UNIMAS are require to apply their knowledge that they gains throughout their studies to a specific topic by proposing a project. The project which can be either a system or research and they need to find lecturers that are willing to guide them throughout the FYP process. Currently, the students and lecturers in FCSIT are facing problems with the existing manual system. Therefore, this proposed system which is the UNIMAS FCSIT Supervision Tracking System can solve the problems and issues that currently happen within the process of getting FYP supervisor in this faculty. This proposed system can provide a platform for the UNIMAS FCSIT students and their potential supervisor to keep track and ease of the process of supervision for FYP in this faculty.

ABSTRAK

Projek tahun akhir merupakan subjek yang perlu diambil oleh semua pelajar tahun akhir di UNIMAS sebagai salah satu syarat untuk bergraduasi. Untuk subjek ini, pelajar dari Fakulti Sains Komputer dan Teknologi Maklumat berpeluang untuk menyerlahkan ilmu kemahiran yang telah mereka pelajari semasa tempoh pengajian mereka dan mengaplikasikan ilmu tersebut bagi menghasilkan sesuatu projek sama ada sistem mahupun penyelidikan . Oleh itu , pelajar perlu mencari pensyarah yang sanggup menyelia mereka sepanjang proses Projek Tahun Akhir ini berlansung. Pada masa kini, pelajar dan pensyarah dari fakulti FSKTM ini mengalami pelbagai masalah dengan system manual yang wujud sekarang. Oleh yang demikian, UNIMAS FCSIT Supervision Tracking System dapat menyelesaikan masalah yang dihadapi oleh mereka. Sistem ini mampu menyediakan platform untuk pelajar dan juga bakal penyelia mereka dengan memudahkan proses penyeliaan untuk Projek Tahun Akhir di fakulti ini.

CHAPTER 1
INTRODUCTION

1.1 Introduction

Faculty of Computer Science and Information Technology (FCSIT) is one of the oldest faculty in UNIMAS. Established 1993, this faculty is situated at the UNIMAS campus in Kota Samarahan. During its early years, the faculty was known as Faculty of Information Technology but starting on 2003, the faculty has been renamed to Faculty of Computer Science and Technology. Final Year Project course for undergraduate students under this faculty can be divided into two semester which is FYP 1 and FYP 2 and they will be assessed individually. For that course, the student will need to find themselves a FYP supervisor which can be consists of any lecturer from that faculty whom are currently serving full time in UNIMAS. The FYP supervisor will guided them throughout the FYP process for both semesters.

1.2 Problem statements

The Final Year Project (FYP) is a course that must be completed by all final year undergraduate student in UNIMAS as a requirement to receive the bachelor's degree. For this course, the students from the Faculty of Computer Science and Information Technology (FCSIT) UNIMAS will be given two semesters to work on a task that is related to their field of interest and they need to find lecturers that are willing to supervise and guide them throughout the FYP process. The students and lecturer in FCSIT are facing problems with the currently existing system. Their problems include:

a) There is no current system for the UNIMAS FCSIT students to search and choose their FYP supervisor.
b) Student needs to contact the lecturer manually, for example, using email in order to know whether there is an available slot for supervision.
c) The lecturers need to accept and reject the student manually if their quota already full.

d) The lecturers may tend to overlook the student's email's request to supervise them.

1.3 Aims and Project Objectives

This project embarks the following objectives:

- To identify and analyse the problems that the user faced when searching for potential supervisor in FCSIT.
- To develop and design a system that can keep track the process of FYP supervision in FCSIT.
- To test and evaluate the system features until all user's needs are fulfilled and the system runs smoothly

1.4 Brief Methodology

For this project, the software methodology that being used is rapid application development (RAD) methodology. RAD is a system development strategy that prioritise the development speed through intensive user involvement in the rapid, iterative, and incremental construction of a series of functioning prototypes of a system, which will evolve into the final system (Whitten & Bentley, 2007). This methodology is chosen instead of the traditional System Development Life Cycle (SDLC) waterfall model because it has the flexibility to make changes to the requirements compare to the waterfall model that has low flexibility. There are four phases in this methodology which are:

Analysis and Quick Design Phase:

- During this phase, the questionnaire will be given to the target user to gather the information about the project. The result and the output from questionnaire will be analysed to identify problems and requirements of the target users.

Prototype Cycle:

- After the project's requirements and project plan are being identified and defined, the user design is being developed through multiple prototype iterations. A prototype of the system with distinct features and functions will be developed first and shown to the target user. The user can test the system and give his feedback. Based on the feedback, refinement process towards the prototype will be carried out and this iterative process continues until a satisfactory design is obtained.

Testing Phase:

- Unit testing and system testing are being implemented to ensure a reliable system is produced.

Implementation Phase:

- This final phase is responsible to implement the working model into a finished product. Data conversion, full-scale testing and user training are carried out in this phase. System testing still takes place to look for bugs before the system is being delivered.

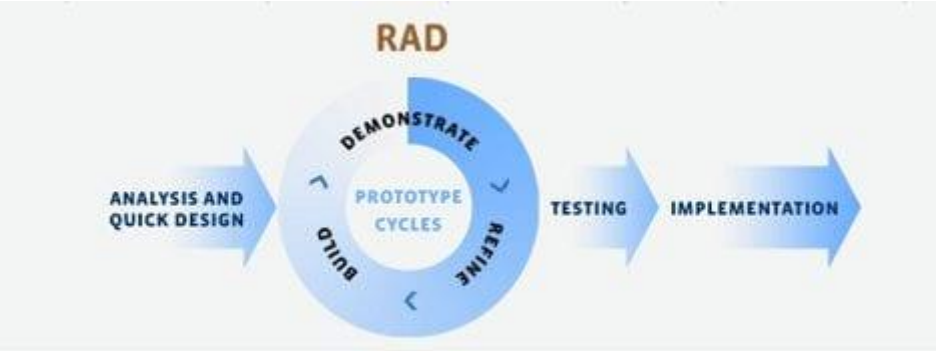

Figure 1.1: The phases in Rapid Application Development Methodology (Ghahrai, 2018)

1.5 Scope

Table 1.0: Scope of the project

Target user	Final Year students, lecturers and administrator from FCSIT
System Features	1. Student can search for potential FYP supervisor. 2. Student can see the supervisor's area of interest and expertise. 3. Student can see list of FYP title that provided by the supervisor. 4. Student can see whether their potential supervisor still have available quota or not. 5. Supervisor can see the student's information such as programme and academic performance. 6. Supervisor can accept and reject student supervises request automatically. 7. Student can contact the potential supervisor via messaging system.
Software System Requirement	Software 1. Sublime 2. XAMPP 3. LocalHost 4. Eclipse Hardware 1. Laptop 2. PC 3. Tablet
Programming languages	1. HTML 2. PHP 3. MySQL 4. CSS 5. JavaScript

1.6 Significance of Project

The significance of this project is to provide a platform for the UNIMAS FCSIT students and their potential supervisor to keep track of the process of supervision for FYP in this faculty. The system can facilitate and ease those process since its can be accessed anywhere as long as there is a stable internet connection and hardware devices that connected to it. Thus, this proposed system can solve the problems and issues that currently happen within the process of getting FYP supervisor in this faculty.

1.7 Project Schedule

The project schedule acts as a guideline and timeline for the project to reach for completion which can be adjusted according to the need of the system. A detailed project schedule is constructed using a timeline chart and attached in Appendix A of this project report.

1.8 Expected outcomes

The expected outcome of this project is a working online based system that can be accessed via personal computer, laptop and smartphones as it will bring benefit to all the students and lecturers in FCSIT. Besides, the system also be can be used in a long-term period and have user-friendly interfaces. The students can easily search and request for their potential supervisor while the supervisor can easily keep track of the upcoming request of supervision by the students. Next, the system will be able to meet user needs and requirements, so the system can be handled smoothly. Therefore, this proposed system can overcome the problems that had been faced by students and lecturers in FCSIT previously.

1.9 Project Outline

Chapter 1: Introduction.

This chapter provides general explanation about the project. It includes the problem statement, objectives, project scope, methodology, expected outcome, significance of the project, project schedules and thesis outline.

Chapter 2: Literature Review.

This chapter discusses the review and study done on similar existing systems. Comparisons between existing systems are made to evaluate the advantages and shortcomings of each system, thereby providing a clear view for the features and functionalities to be included in the proposed system.

Chapter 3: Requirement Analysis and Design.

Chapter 3 describes the methodology used in resolving the problem. This section also covers the analysis and design for the solution. The overall processes, functions, features and interface will act as guidelines for the whole project.

Chapter 4: Implementation and Testing.

This chapter discusses the implementation of the proposed system, providing details about the interface design and database design. The future review is required to improve and document the progress of the project.

Chapter 5: Conclusion and Future Works.

This chapter consists of summary of project, the limitations, future works and conclusion.

CHAPTER 2
LITERATURE REVIEW

2.1 Introduction

Final Year Project (FYP) is a course that required to be taken by all undergraduate students in Faculty of Computer Science and Information Technology (FCSIT) at Universiti Malaysia Sarawak (UNIMAS) as one of the requirements for them to graduate. Student who are taking Final Year Project 1 need to find supervisor and choose FYP title. Student can choose either to propose and use their own FYP title, use the FYP title that proposed by lecturer or discuss their own idea face-to-face with the lecturer. Besides, the students also need to find lecturer that are willing to supervise them. It is important for a student (supervisee) to have a good relationship with their lecturer (supervisor) in order to produce a well-developed project. However, many students having difficulty in finding a potential supervisor that suits them. Thus, UNIMAS FCSIT Supervision Tracking system is developed to assists undergraduate from this faculty in their quest for potential supervisor by providing a platform for the both students (supervisee) and supervisor to keep track of the process of supervision for FYP in this faculty.

This chapter will discuss five others existing systems that have similar or almost similar function with the proposed system. A research and analysis will be carried out to find out the key features, strength and weakness of these systems. This literature review is crucial in order to serve as a reference for developing a better system. The details of all five systems will be explained more on Section 2.2.

2.2 Review of Similar Existing Systems

This section will explain more about the features of the existing system. There are five similar existing systems chosen for review in this project which are:

a) Conventional Manual-based System
b) Universiti Kebangsaan Malaysia (UKM) Final Year Supervision System
c) Nanyang Technological University of Singapore (Final Year Project System School of Physical and Mathematical Sciences)
d) Multimedia University Faculty of Engineering and Technology Final Year Project Portal
e) FYP Management System Version 2.0

2.2.1 Conventional Manual-based System

Currently, the students and lecturers in FCSIT are still using the conventional manual-based system in in order to keep track of the process of FYP supervision. The flowchart below represents the general concept on the process of getting for FYP supervisor in FCSIT UNIMAS.

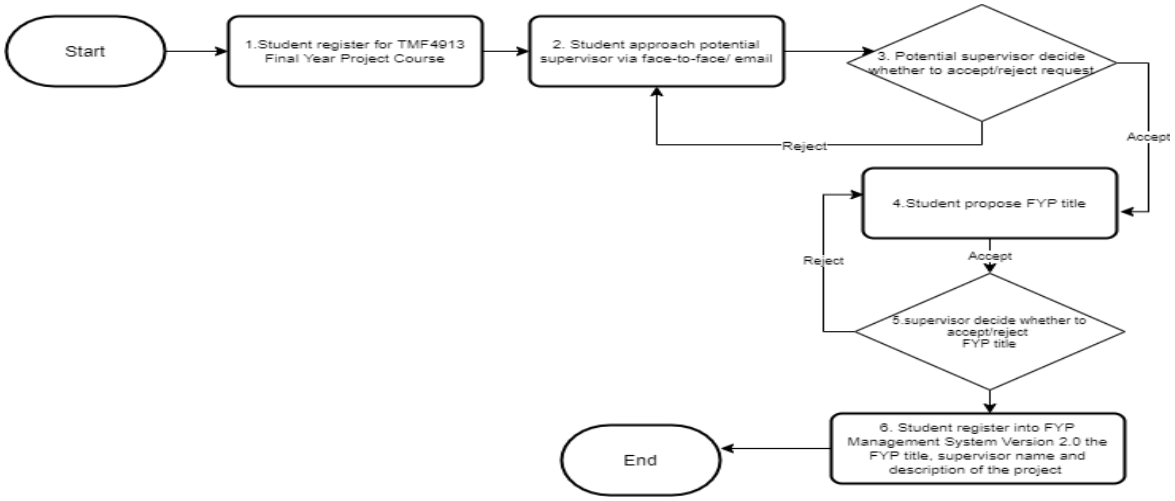

Figure 2.1: The flowchart of the conventional manual-based process of getting supervisor in FCSIT UNIMAS

Previously, the students need to search and approach their potential supervisor manually for examples using email or face-to-face interaction. Students can get the lecturer official email through faculty official guidebook or via UNIMAS Now Application. They also can walk into the lecturer office to search for their potential supervisor but there is a high chance that the lecturers are not in their workplaces because of their schedules and timing does not match. Besides, the students also need to select the title for their FYP and present it until they get an approval from their supervisor. Finally, after the project title have been approved, then they should be able to register in the FYP Management System.

This method is not only complicated and time-consuming but also inconvenient to both students and supervisors. For instances, the supervisor may tend to overlook the student's email's request due to many incoming requests or the email is being directed into spam section. Besides, the students also cannot view the quota availability of supervisee under the potential supervisor supervision. Therefore, the students need to ask their potential supervisor directly to ensure whether the quota is still available.

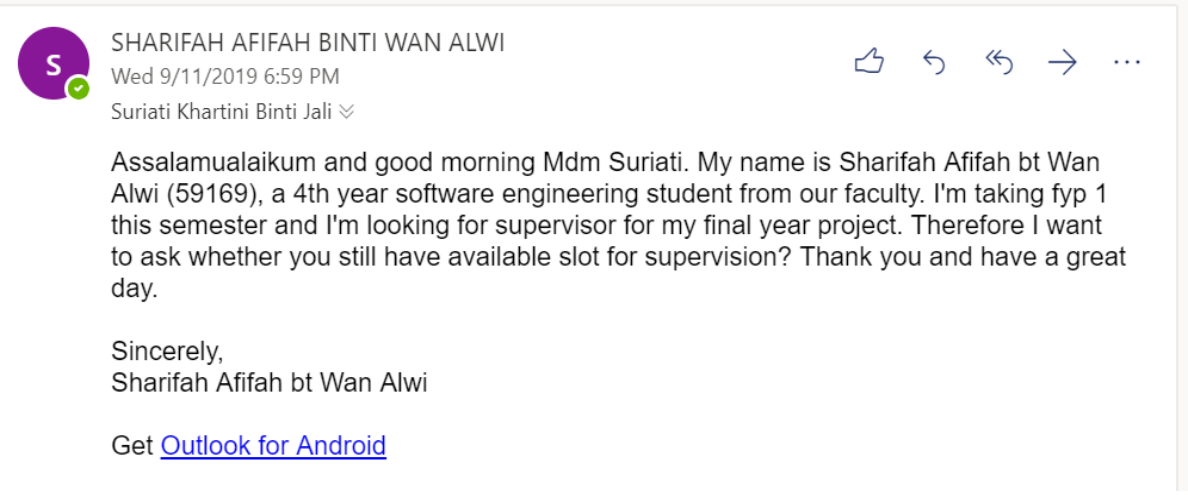

Figure 2.2: Screenshot of request email from student.

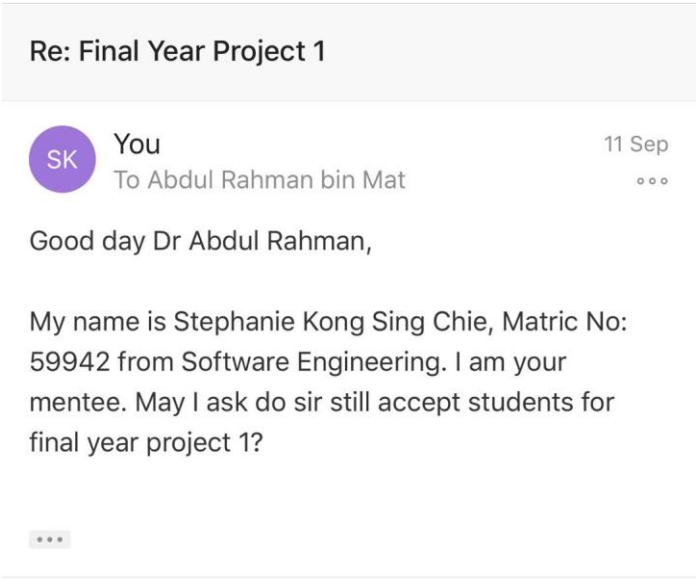

Figure 2.3: Another example of request email sent by the student to the lecturer

2.2.2 Universiti Kebangsaan Malaysia (UKM) Final Year Supervision System

Universiti Kebangsaan Malaysia (UKM) Final Year Supervision System is a web-based system developed by the Computer Science Department at the Faculty of Information Science and Technology from UKM. This system written in PHP and the user interface was designed using Macromedia Dreamweaver CS3. The purpose of this system to solve the problem that faced by the students, supervisors and head of the department of UKM which are to ease communications among all parties involved and to help in managing the supervision process of final year projects (Bakar, Jailani, Shukur, & Yatim, 2010)

The users of this system can be divided into three, which are students, lecturers and head of department or administrator. There are five modules all together, which are Appointment module, Students and lecturers profile module, Schedule monitoring module, Log book module, and Administrator module.