CHAPTER 1.   INTRODUCTION

1.1 Background of Study

Final Year Project (FYP) or thesis is generally an important part of any major in a degree program. This can be considered the most substantial project undertaken by an undergraduate during their degree, and mostly provides the first opportunity for students to work independently on a project for one year. (Gamage, 2018). The normal time to work on the FYP is two semesters and will be completed with the help of a supervisor who has been selected by the FYP coordinator or selected by the student. The student will select a topic he or she is interested in for the FYP and work on the introduction, literature review, analysis, and design in the first semester. In the second semester, students need to work on project implementation and testing. In the end, the completed project was presented for evaluation by three committee members. Students are required to submit several reports and forms for two semesters within the specified time (Malik, 2018). Achieving a passing grade for a final year project is essential; for example, if a student does not succeed in achieving a passing grade, they may not even be awarded an accredited degree.

Generally, the process of doing the FYP can be divided into three phases. First, choosing the title and topic phase where the student proposed the topic that they are interested in for FYP to their supervisor, the supervisor will then approve or suggest another topic. The second, supervision phase where the student has to make an appointment with their supervisor to show their weekly progress and the supervisor will review it, then give approval or ask for revision regarding that progress. The third, monitoring phase where the supervisor and coordinator will keep track of the student's progress to make sure the student can complete the FYP in time. Unfortunately, in UEU most of the phases are still done manually without systems. The only phase done with the system is choosing the title and topic phase. This leads to several problems for doing FYP.

Difficulty to make an appointment: student needs to contact the supervisor via email or WhatsApp which not every student have the supervisor contact information. It is also hard for students and supervisors to set the meeting date and time because the supervisor is busy and the student doesn't know the supervisor's schedule. And because the current system is students make an appointment by email or WhatsApp, sometimes the supervisor can forget about the appointment schedule because there is no reminder for the appointment.

Supervision phase is slow: the current method is student show their progress by sending file to supervisor email or WhatsApp. It is not efficient because sometimes supervisor forgot to check and review the progress due to the message that supervisor get not only from that particular student. Student also hard to understand supervisor review either because the message is to short or mixed with other messages. It is also hard to search the record of the progress, because student or supervisor need to scroll the message until they found it, we can say by using WhatsApp the record is not well structured.

Student fails to complete FYP: Due to the slow supervision phase, and also there are no systems that record all of that progress, supervisor, and coordinator can't monitoring the progress of each student. So it depends on the student itself how fast they want to progress. But because of lack of the pressure and no deadline or reminder from the supervisor or coordinator, this makes the students tend to postpone the project. They also often fail to estimate the time required to complete their task. They cannot accurately determine the current status of their project. So that many of them are often late without realizing it and cannot achieve FYP goals.

Project monitoring is one way to help the students in the process of working on the FYP. Project monitoring is an important part of project management. All project activities must be monitored carefully while the project is being accomplished. This helps the project manager to be kept informed of work progress and apply corrections on time. Project monitoring should be simple and not time-consuming. Project monitoring software can help simplify this process (Khazali, 2013).

The author wants to develop a Final Year Project Monitoring and Management System (FYPMMS) for helping in the process of doing FYP at Universitas Esa Unggul (UEU). FYPMMS is developed to make the process of doing the FYP is more efficient for student, supervisor, coordinator and also the administrator. There are three main modules in FYPMMS which are: Appointment Module where the student can apply the schedule for an appointment with the supervisor, and the supervisor can approve or reject it. The supervisor also can set the appointment according to his/her available time. Management Module where the student can show their weekly progress to the supervisor by uploading the file and notes if needed. Then the supervisor can read, comment or review and gives approval or revision for the file uploaded by the student. All of this progress is recorded and the administrator can manage it. Monitoring Module where each of the steps or progress that student needs to do have a specific deadline which by default set by the administrator, but can be edit by the supervisor according to the difficulty of the project and preferences. The system will give notification to the student and supervisor if the deadline is near, or already passed.

1.2 Problem Statement

Based on the background, the author can identify the problems to develop the systems as follows:

1)   How the system can help student in the process of doing FYP?

2)   How the system can help the student to propose topic they interested in and also choose their supervisor

3)   How the system can help student to submit weekly report and for supervisor to review this report and gives approval.

4)   How to design the system to be responsive in mobile phone?

1.3 Purpose of the Study

The Objectives of FYPMMS are as follows:

1)   To enhance the current manual FYP management system to be online system.

2) To help student to propose topic for FYP and choose the supervisor.

3) To develop a system where weekly progress submitted online and interaction with supervisors are more easily based on the functions provided.

4) To help the supervisor to gives approval for student topic and student weekly report, and also supervisor and student can comment the report to help revision process.

1.4 Limitation of the Study

The limitation for this system is as follows:

1) This system was made for students in Esa Unggul University, so there might some difference in problems or solution with other university.

2) This system was made in web-based application, so it is more recommended to use it on computer or laptop.

3) This system can only be used when connect to the internet.

4) This system only helping student, and supervisor in technical way like propose topic, upload weekly progress and review it, and gives approval.

5) There 3 user of this system which is: student, supervisor and admin.

6) Student, and Supervisor can login but can't register an account because their account will be created by administrator.

1.5 Benefits of the Study

Some benefits from this system are:

1) This system can replace the old method of doing FYP in Esa Unggul University.

2) The process of doing FYP can become faster, or at least the student doesn't need to worry about technical problems, they just need to focus on developing their project.

3) The supervisor can monitor progress of student in more easy way.

4) The administrator can manage the data related to FYP in more easy way than to use the old method.

1.6 Research Methodology

The methodology used in this research is Rapid Application Development (RAD) which is a part of Agile Software Methodology. The author chose RAD, because the authors only have limited time available to complete this research and also think that RAD were suitable to develop FYPMMS because of the need of user feedback. Rapid Application Development is an alternative of the typical Waterfall Development Model, which often focuses largely on planning and sequential design practices (Airbake.io, 2016). The approach of used RAD software methodology divides the process into four distinct phases (Martin, 1991):

1) Requirements Planning Phase

At this stage, the author does the analyze for applications requirement based on the problem, determine the user's need, the scope of the project, and planning for the system requirements.

2) Design Phase

During this phase, the authors design a system design that will be implemented into applications in the form of Unified Modeling Language (UML) such as Activity Diagrams and Use Case Diagrams, and also design the interface of the application.

3) Construction Phase

This stage will focus on program and application development based on the planning and 4 design done before. To construct the application, the author chooses several tools and technologies that support during the construction.

4) Implementation Phase

The implementation phase is doing the testing for the application that has constructed, consists of testing the interface design and also testing the black box for each function in the application.

1.7 Writing Structure

For the systematical structure, this thesis is divided into six chapters, with an explanation for each chapter is as follows:

CHAPTER 1. INTRODUCTION

This chapter, the author discusses the background of the study, problem identification, purpose of the study, limitation, and benefits of the study, research methodology, and schedules.

CHAPTER 2. LITERATURE REVIEW

This chapter the author discusses the basic theories that will be used as guidelines and references in making the system. This chapter also includes a literature review, which is about research that has been done before relating to the topic discussed and an explanation of the comparison between research that has been done before and the research that will be conducted

CHAPTER 3. ANALYSIS AND DESIGN

This chapter discusses the analysis and design of the system. Analysis of the current system, analysis of problem, implementation of the methodology, problem solving with analyze the system needs and conducting the system design to generate a new system.

CHAPTER 4. IMPLEMENTATION AND TESTING

This chapter discusses the implementation of the results of the analysis and design of the system into coding to produce an application that can be used by the user. Moreover, it also illustrates the user interfaces of the system and conducts testing of the system to determine whether the application is already done or still needs improvement.

CHAPTER 5. CONCLUSION

This chapter discusses this paper summary, conclusions that can be drawn, and recommendations for further development.