FINAL YEAR PROJECT MANAGEMENT SYSTEM FOR FACULTY OF COMPUTING

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FINAL YEAR PROJECT MANAGEMENT SYSTEM FOR FACULTY OF COMPUTING

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Thesis submitted in fulfillment of the requirements
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ABSTRAK

Dengan perkembangan teknologi pada masa kini, institusi kerajaan dan bukan kerajaan telah mula mengaplikasikan sistem pengurusan projek dalam operasi mereka bagi memudahkan pelaksanaan dan pengendalian. Bagaimanapun, pelaksanaan sistem pengurusan projek bagi projek tahun akhir di Fakulti Komputeran di Universiti Malaysia Pahang tidak sistematik dan menggunakan banyak aplikasi secara serentak. Pada masa yang sama, terdapat proses yang tertentu dimana sistem pengurusan projek yang masih belum di sistemkan.

Justeru, pembangunan Sistem Pengurusan Projek Tahun Akhir bagi Fakulti Komputeran akan menambah baik proses dan pengurusan projek tahun akhir untuk menjadi lebih sistematik, teratur, mudah dan berkomputer. Malah, ia dapat memenuhi matlamat 'Kampus Hijau' memandangkan Sistem Pengurusan Projek Tahun Akhir bagi Fakulti Komputeran akan menyumbang kepada aktiviti tanpa kertas.

Sistem Pengurusan Projek Tahun Akhir untuk Fakulti Komputeran akan dibangunkan menggunakan metodologi Agile untuk pembangunan dan peningkatan yang mudah. Dalam fasa penilaian, Sistem Pengurusan Projek Tahun Akhir Fakulti Komputeran akan diuji oleh pelajar tahun akhir, pensyarah, dan penyelaras PSM/PTA di Fakulti Komputeran bagi membuktikan sistem tersebut telah mencapai tahap pencapaian keperluan pengguna.

Secara ringkasnya, Sistem Pengurusan Projek Tahun Akhir bagi Fakulti Komputeran akan mencapai objektif dan matlamat sistem tersebut. Malah, sistem ini juga berjaya memenuhi kepuasan pengguna dan pentadbir melalui fungsinya.

ABSTRACT

With the development of technologies nowadays, the government and non-government institutes have started applying the project management system in their operation in order to make it easier for implementation and handling. However, the implementation of a project management system for the final year project in the Faculty of Computing at the Universiti Malaysia Pahang is unsystematic and utilises many applications simultaneously. At the same time, there is a certain process of a project management system that is still not computerized yet.

Hence, the development of the Final Year Project Management System for Faculty of Computing will improve the process and management of the final year project in becoming more systematic, organized, convenient, and computerized. In fact, it can fulfil the goal of a 'Green Campus' since the Final Year Project Management System for Faculty of Computing will contribute to the paperless activity.

The Final Year Project Management System for Faculty of Computing will be developed using the Agile methodology for the easily development and upgrading. In the evaluation phases, the Final Year Project Management System for Faculty of Computing will be tested by the final year students, lecturer, and coordinator of PSM/PTA in the Faculty of Computing in order to prove that the system has achieved the users' requirements.

In short, the Final Year Project Management System for Faculty of Computing will achieve the objectives and goals of the system. In fact, the system also manages to fulfil the user's and admin's satisfaction through its functionality.

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INTRODUCTION

1.1 Background of Study

Project management is the process to produce and deliver a valuable and meaningful project or product to be utilized by people. Basically, project management is more focused and prominence technical skills and soft skills (Pant & Baroudi, 2008). Soft skills are more like the ability in communication, organizational, team building and leadership (Pant & Baroudi, 2008). Differently, technical skill is the proficiency of the organization or individual that developing the project either in IT, engineering or pharmaceutical field according to the suitable development project (Demuth, Gold, Mavis, & Wagner, 2018). According to the *"The AMA Handbook of Project Management Third Edition"*, since project management is handled and developed by a professional organization or department hence, project management become the growth profession (PAUL C. DINSMORE & JEANNETTE CABANIS-BREWIN, 2011).

In Malaysia, governments and non-government of institutions are starting to utilize the Project Management systems in their operation and education in achieving the Fourth Industrial Revolution (IR4.0) (Mitrofanova, Burenina, Tukshumskaya, & Popova, 2020). In fact, the Project Management system has a significant role and supports business and education growth. For example, the Project Management system as the virtual assistant in helping the supervisor or lecturer to monitor or viewing the progress of a students' learning and assessment.

In this project, the Final Year Project Management System for Faculty of Computing is a system that helps the project operations of the institution become more convenient and systematic. This project will be developed for the final year student in taking and managing their final year project. This Final Year Project Management System for Faculty of Computing is mainly focusing on helping the lecturer or known as the supervisor to monitor and view the overall students or supervisee project progress in visualization. The visualization of the supervisee's project progress will be shown according to the submitted task that has been uploaded by the supervisee in this Final Year Project Management System for Faculty of Computing platform.

This Final Year Project Management System for Faculty of Computing has the specialization in providing the quota for each supervisor every semester. Therefore, this project was able to help the student to find and approach the respective supervisor that they wanted in a more systematic and convenience. In fact, the supervisor is also able to know about their quota and accept the total of students as their supervisees according to the quota provided. As a result, this Final Year Project Management System for Faculty of Computing is able to make the students' final-year projects more efficient, organized and systematic.

1.2 Problem Statement

There have various project management system in the market to make the progress of students' final year projects more efficient and systematic. However, the paid project management system consumes a lot of money. Meanwhile, the open-source project management system has many shortcomings. For instance, the open-source system did not have the functionality to view the supervisor quota and logbook record. Hence, it is difficult to find a project management system that fulfils all the requirements and functionality needed at a reasonable price or free.

Furthermore, the Faculty of Computing at the UMP did not have a system to record the supervisees' project progress in a more systematic. The project status and submission that relied on the email or WhatsApp platform is quite difficult for the supervisor to monitor and view the overall of their supervisee's project progress. This is because the supervisor did not have a real-time visualization of the supervisees' project progress and status once the supervisee submitted it through email or WhatsApp platform. Likewise utilizing the KALAM, the supervisor can only review whether their supervisee has submitted or not. Hence, the supervisor was not able to identify the status of their supervisee's project progression whether on track, off track or risk. In addition, record in manually is an ineffective way and requires a lot of time to retrieve and review each supervisee's project progress.

Moreover, the Faculty of Computing at the UMP was utilizing different platforms or applications in order for the supervisor to provide the task to the supervisee, fill in the form for the supervisor application, and review the supervisor quota and supervisor information. For instance, utilizing WhatsApp chat, Google Forms, Google Excel, Google Drive and website Faculty of Computing (FK). Hence, the project management becomes not systematic and need to open all platform in order to perform each task which causes inconvenience. For example, the students need to open Google Excel to review the supervisor quota and at the same time

needs to open the FK website to review the supervisor's expertise and group. Only then, the students able to select a suitable supervisor for their final-year project.

Apart from that, the Faculty of Computing did not have the application platform for the final year student, staff, and coordinator to retrieve the alumni final year project information. The alumni final year project information is important for the final year student to review, analysis and obtain the idea or guideline for their final year project. In fact, the final year student also is able to continuous the alumni final year project by making the upgradation in function or module from retrieving the alumni final year project information

In conclusion, the development of a Final Year Project Management for Faculty of Computing system for the final year students and lecturers is able to make project management becomes more systematic, convenient, efficient and easy to access. Thus, the supervisor and coordinator also do not need to utilize many platforms or applications in order to easier manage the operation of the final-year project.

1.3 Objective

The Final Year Project Management for Faculty of Computing system has three objectives that need to be achieved which are:

i. To identify the functionality and design elements in the existing project management system.

ii. To develop a Final Year Project Management System for Faculty of Computing.

iii. To evaluate the effectiveness and functionality of the project management system.

1.4 Scope

- User
    i. Supervisees that involve final year students that take the final year project in the Faculty of Computing at the UMP.
    ii. Supervisor that involves the lecturers in the Faculty of Computing at the UMP.
- Admin
    i. Coordinators of PTA and PSM in the Faculty of Computing at the UMP.
- System

i. The system that can be utilised by the final year students and lecturers in the Faculty of Computing at the UMP only.
ii. The system that covered the process of supervisor approach and application, supervisor approval, the communication between supervisor and supervisee, the overall progression of the supervisee's project task, final year project library, and the evaluation of the supervisees' project.

❖ Development

i. The system that contains the real-time visualization of information.
ii. The system will be developed using programming languages such as PHP, JavaScript, and Laravel Framework.
iii. The database of the system will be developed using phpMyAdmin.

1.5 Thesis Organization

This thesis consists of five chapters. Each chapter has a different discussion. Chapter one discusses the introduction or background of the Final Year Project Management for Faculty of Computing system. Besides, in chapter one also discuss the issues or problem statement that needed to be solved, the objective and scope of the Final Year Project Management for Faculty of Computing system.

Chapter two was about the literature review. The literature review discusses the existing project management system. For example, the process of existing project management system work. In addition, the literature review also includes a comparison of the existing project management systems in order to improve the functionality and design of the Final Year Project Management for Faculty of Computing system that will be developed. At the end of chapter two will discuss the impact or significant gain from the analysis between the developed Final Year Project Management for Faculty of Computing system and the existing project management system including the summary of chapter two.

Chapter three will discuss the methodology. This chapter will discuss the selected SDLC of the Final Year Project Management for Faculty of Computing system in more detail for each phase. Chapter three also will include the project requirement which contains the project-based requirement and user requirement. Moreover, chapter three will consist the propose design and data design. The proposed design was including the flowchart, context diagram, use case diagram and explanation. Meanwhile, the data design contains the ERD design and database dictionary. At the end of chapter three will include the testing or validation

plan, the significance of the Final Year Project Management for Faculty of Computing system development, and the Gantt Chart.

In addition, chapter 4 will be discussed about the development process and interfaces of the Final Year Project Management System for Faculty of Computing. This chapter will be explained about the create, update, delete, and retrieve (CRUD) functions in each modules of the proposed system for the development process. In fact, the database implementation such as name of the table and attributes in each table also will be explained in this chapter. Furthermore, the special and CRUD coding will be discussed in the coding implementation parts. For the interfaces, this chapter will explain in more detail for each module interfaces in the 3 users which are supervisee, supervisor, and coordinator. Lastly, this chapter will be discussed about the testing and result. The testing process will be tested by the supervisee, supervisor, and coordinator. Once the testing has completed, the tester will fill up the User Acceptance Test and the test form will be attached in this chapter for the result discussion.

Lastly, chapter 5 will be discussed about the conclusion and recommendation of the Final Year Project Management System for Faculty of Computing. The conclusion will be discussed whether the development system manage to achieve the objective and solve the problem statement or not. Meanwhile, the recommendation will discussed about the future improvement of the Final Year Project Management System for Faculty of Computing that obtain from the feedbacks of the tester and evaluator.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In the era of technologies nowadays, there are many project management systems in the market. However, all the existing project management systems cannot be the perfect system that fulfils all the users' needs and requirements. Each of the existing project management systems in the market has its own specialized features, advantages and disadvantages. Hence, this literature review will contain information and comparison features between three existing project management systems. As the result, the comparison features between the three existing project management systems are able to analyse the pros and cons of that system. In fact, it is able to improve the functionality and feature of the proposed system including solving the problem and disadvantages that be extant in the existing project management system. Based on the study and analysis, the thesis about the Decision Support System for Final Year Project Management, Asana system, and Trello system are suitable and similar related to the proposed project management system.

2.2 Existing Systems/Works

2.2.1 Decision Support System for Final Year Project Management

The Decision Support System for Final Year Project Management is a web-based system or application (Ibukun.T. Afolabi, Ayodele A. Adebiyi, 2019). The Decision Support System for Final Year Project Management is the decision support system that is able to help the final year student in solving the problem and decision-making tasks. For instance, the system is able to determine and make the decision for the final year student in choosing the suitable project title and supervisor.

Basically, the Decision Support System for Final Year Project Management will provide the accurate prediction decision for the final year student based on their Cumulative Grade Point Average (CGPA), results from the courses of Software Engineering, File Processing, Artificial Intelligence and Project Management (Ibukun.T. Afolabi, Ayodele A. Adebiyi, 2019). Moreover, the Decision Support System for Final Year Project Management

also needs the skills and expertise of the supervisor in order to make the accurate decision prediction for the students in selecting a suitable supervisor.

Once the system has obtained all the required data, the system will make the prediction using the Java-Server Pages (JSP) in the NetBeans IDE and the machine learning algorithms which is the Naïve Bayes algorithm (Ibukun.T. Afolabi, Ayodele A. Adebiyi, 2019). Figure 2.1 shows the main page of the Decision Support System for Final Year Project Management.

Figure 2.1 The main page of Decision Support System for Final Year Project Management

2.2.2 Asana system

The Asana system is a web-based and mobile application for project or work management. The Asana system was developed by Asana Inc (*Asana, Inc. 2021 Annual Report (Form 10-K)*, 2022). The Asana system is able to organize, assign and track the work or task in a more systematic ("Understand Asana's core features," 2022). In addition, the Asana system was utilize its own programming language which is Scala (Wentzel, 2021).

Scala language is a strong statically typed language that is compatible with object-oriented programming (OOP) and functional programming (Odersky & Rompf, 2014). The Scala language can be used in various application domains. Basically, Scala language is able to run and compiled on Java and JavaScript platforms (Odersky, 2006).

Besides, the Asana system is also being built using the Amazon Web service and Luna framework for the user interface design and development as shown in Figure 2.2 (Wentzel, 2021). The Luna framework is the in-house framework which is can be used within an Asana

Inc. only (Wentzel, 2021). Apart from that, the Asana system implements MySQL with InnoDB for the database in order to store the work information and so on.

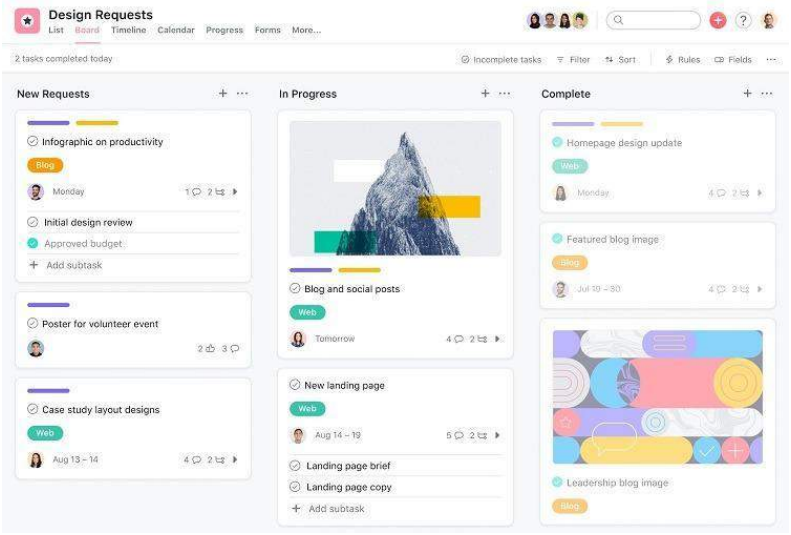


Figure 2.2 The example of Asana system interface

2.2.3 Trello system

The Trello system is a web-based application that has been developed by the Trello Enterprise ("Trello limits teams on free tier to 10 boards, rolls out Enterprise automations and admin controls," 2019). Trello system is able to unify the group members, manage the projects and organize the tasks in one platform using visualization features. The process and workflow of the Trello system is more implementing the Kanban style as shown in Figure 2.3. The Kanban style is applying several stages to represent the progression of the project work or task (Gross & McInnis, 2003).

For example, in the Trello system, there are three stages which are the 'To Do' stage, 'Doing' stage, and 'Done' stage. Each stage has a different process. The 'To Do' stage was used to provide the project task using the Trello cards to the particular team members. Meanwhile, the 'Doing' stage significantly shows the project task in the progression to be completed by that particular team member. Once the project task has been completed, the project task on the Trello card will be moved to the last stage which is the 'Done' stage.

Trello system was developed using CoffeeScript, JavaScript, Backbone.js, HTML5 language and mustache template (Kiefer, 2012). Mostly, the Trello system will utilize CoffeeScript and compiles it with JavaScript (MacCaw & Ashkenas, 2012). Moreover, the Trello system was developing the user interface using the mustache template.

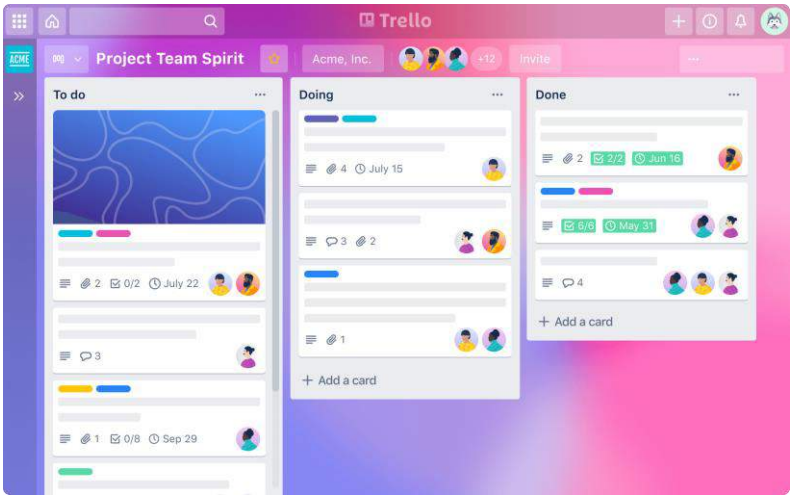


Figure 2.3 The example of Trello system interface

2.3 Comparison of Existing System

The three existing systems which are the Decision Support System for Final Year Project Management, the Asana system, and the Trello system will be analysed and compared based on their design, module, features, integration system that be used, and technique or method of the systems. Table 2.1 shows the summarise comparisons of three existing project management systems.

2.3.1 Decision Support System for Final Year Project Management

The Decision Support System for Final Year Project Management is a static and dynamic web-based system. The system is a static web-based system because of all the users will obtain the same interface and information on the main page once the user successfully login the system and the Decision Support System (DSS) interface. The dynamic web-based system can be seen in the prediction result interface since the data will be displayed differently based on the user's input and activities.

Besides, the design of the Decision Support System for the Final Year Project Management is simple but not attractive as shown in Figure 2.4. The system has used a lot of colours and each interface uses a different colour. However, the Decision Support System for Final Year Project Management is able to make the user understand the operation of the system since its implements a simple and common metaphor. Figure 2.5 shows the example of metaphor in the system.

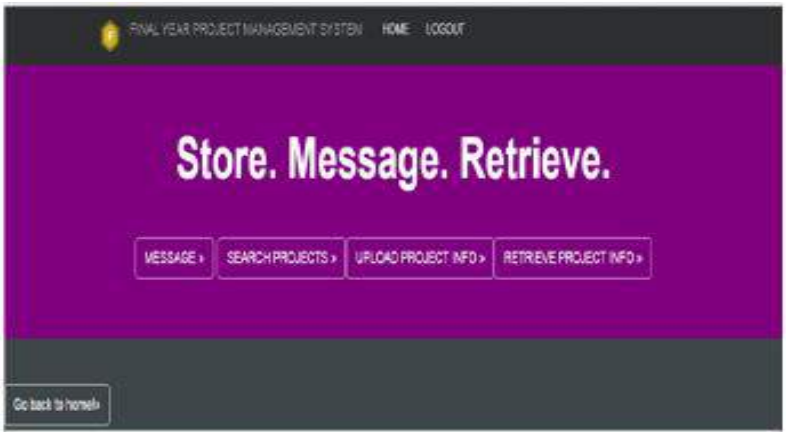


Figure 2.4 The design of the Decision Support System for Final Year Project Management

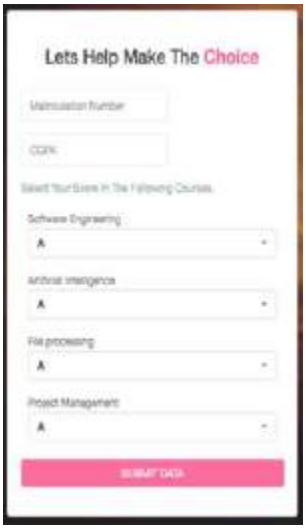


Figure 2.5 The example of a metaphor in the Decision Support System for Final Year Project Management

The Decision Support System for Final Year Project Management has 4 features. The first feature is the Message. The message is the communication platform between the student, supervisor and institution. The second, third and last feature is the function for the project information. For example, the student can find the previous students' projects by selecting the Search Projects feature. Besides, the student also allows to upload and retrieve their project information in the system once their project has been completed using the features of Upload Project Info and Retrieve Project Info. Figure 2.6 shows the features provided in the system.

Figure 2.6 4 features in the Decision Support System for Final Year Project Management

For the module, the Decision Support System for Final Year Project Management has 7 modules. The first module is the main page as shown in Figure 2.7. The main page contains

4 functions which are Message, Search Projects, Upload Project Info and Retrieve Project Info. Each function will directly bring the user to the other modules.

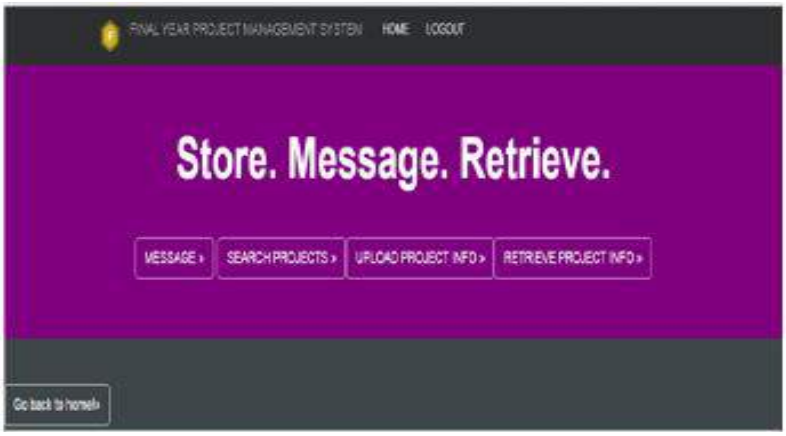


Figure 2.7 Main page module

The second module is Decision Support System (DSS) module. In the DSS module, the system has provided the form for the student or user to fill in the required data in order to help the system in making the prediction about the project title and supervisor for the student. Hence, the student needs to insert their metric number, CGPA and result of Software Engineering, Artificial Intelligence, File Processing and Project Management as shown in Figure 2.8.

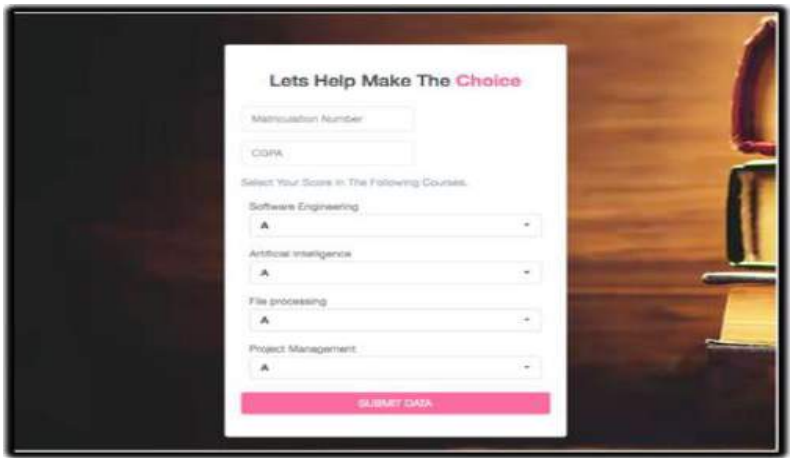


Figure 2.8 DSS module

The third module is the Suggestion module. The prediction result for the project title and supervisor will be shown in the Suggestion module. Figure 2.9 shows the interface of the suggestion module in the Decision Support System for Final Year Project Management.

Figure 2.9 Suggestion module

As mentioned before, in the Message module, the student is allowed to communicate with their supervisor. Moreover, the student also has the ability to find the previous project, upload and retrieve their project in the Search, Upload Project and Retrieve Project modules. Moreover, The Decision Support System for Final Year Project Management has integration with machine learning algorithms which is the Naïve Bayes algorithm. Figure 2.10 and Figure 2.11 shows the formula of the Naïve Bayes algorithm.

$$P(C_i|\mathbf{X}) = \frac{P(\mathbf{X}|C_i)\ P(C_i)}{P(\mathbf{X})}.$$

Figure 2.10 Naïve Bayes algorithm

$$P(\mathbf{X}|C_i) \approx \prod_{k=1}^{n} P(x_k|C_i).$$

Figure 2.11 Continue of Naïve Bayes algorithm

Lastly, The Decision Support System for the Final Year Project Management has been developed using the Naïve Bayes algorithm approach to make the accurate prediction and Java-Server Pages (JSP) by executing in the NetBeans IDE to create the interface.

2.3.2 Trello system

The Trello system is a dynamic web-based application. This is because all the information in the Trello system will be displayed dynamically according to the user data and behaviour. For instance, all the user's workspace or boards will be different based on their set style and information. Even, the user's recent view also changes variance according to the user's past activities.

Besides, the interfaces of the Trello system are very simple and interactive as shown in Figure 2.12. This is because the interface of the Trello system is not crowded with many information at one interface. Each feature and function of the Trello system is very neatly organized and appealing on the interface. Moreover, the Trello system was use the common language (metaphor) as can be seen in Figure 2.13. Hence, the user is able to understand the flow or function of the system without user guidance. In fact, the Trello system managed to achieve a flexible and user-friendly system.

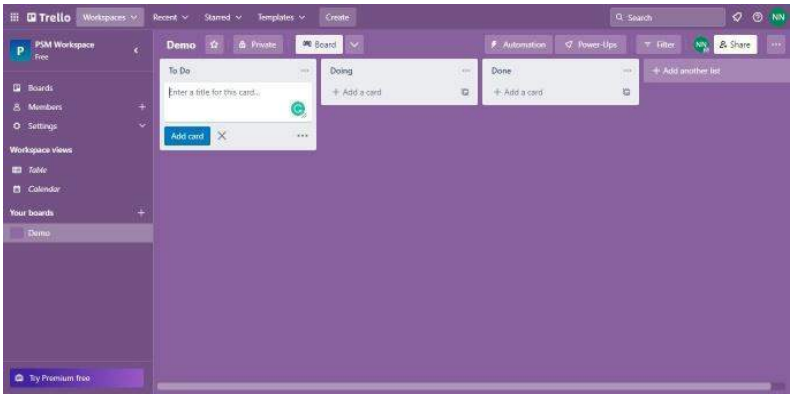


Figure 2.12 The design of the Trello system

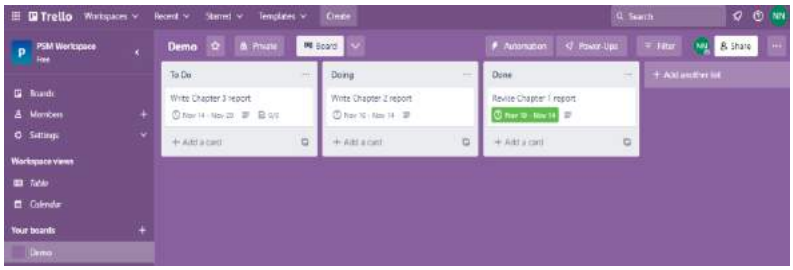


Figure 2.13 The example of a metaphor in the Trello system

Furthermore, the Trello system has proper and flexible features. Each feature in the Trello system is useful and related to project management. For instance, the Trello system has a feature to add group members, labels, and checklists in order to accomplish the project. In addition, the Trello system also has a calendar feature to create the due date for the task. The user is able to attach the important file, pictures or folders by utilizing the attachment function. The Figure 2.14 shows the certain features in the Trello system.

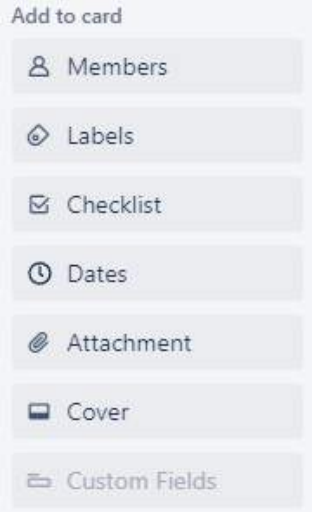


Figure 2.14 List of features to add in the task card

Apart from that, the Trello system has provided many action functions for the user to manage each project task as shown in Figure 2.15.

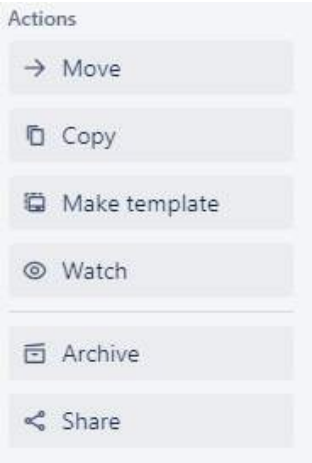


Figure 2.15 List of action features

The Trello system has 12 modules which are Home, Template, Board, Table, Calendar, Highlights, Views, Members, Setting, Automation, Power up, and Description modules. Each module has different information and functionality. Even though, the Trello system has 12 modules but, there has 4 modules that are important and need to be highlighted. The first module is the main page called the Home. The Home module contains information of the project task as shown in Figure 2.16. For instance, the due date of the task and two functional buttons. If the user successfully completes the project task, the user can click the ‘Complete’ button or otherwise.

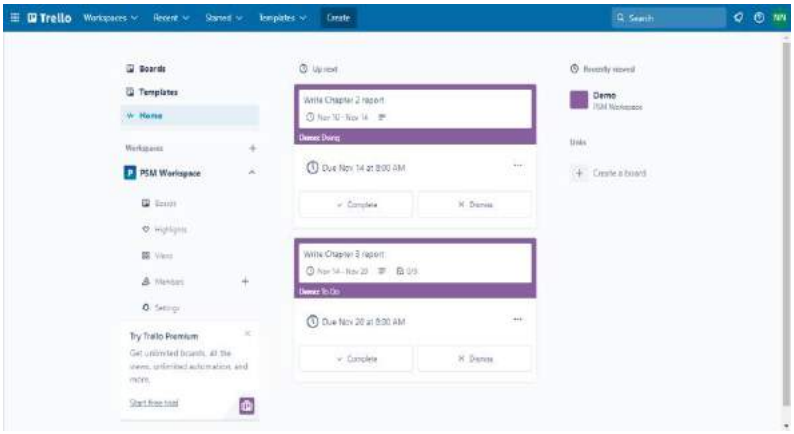


Figure 2.16 Home module

The second module is the Template module. In the Template module, the Trello system allow the user to utilize the template provided for the project board. Hence, it becomes one of the attractions for the user to use Trello system since they can decorate their project board based on their preference. Figure 2.17 shows the template provided in the module. Meanwhile, Figure 2.18 shows an example of the templates provided.

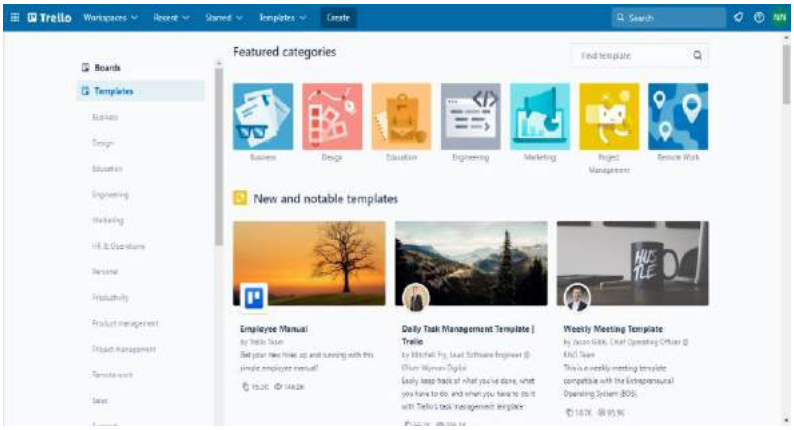


Figure 2.17 Template module

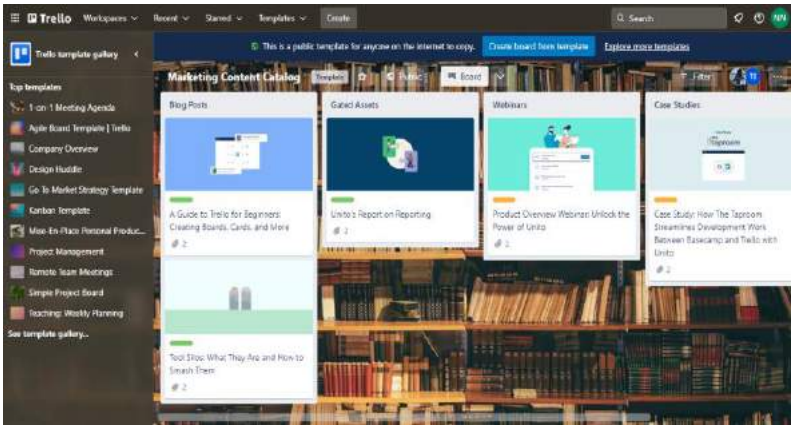


Figure 2.18 Example of the template provided

The third module is the Board module. The user is able to provide and view the task of the project on each list at the Board module. Basically, the Trello system will prepare the three basic lists such as ‘To Do’, ‘Doing’, and ‘Done’ lists as shown in Figure 2.19. However, the user is able to change the three basic list names or build another list. Besides, the user is also able to drag the task to the other list. For example, the user is able to drag the task from the ‘Doing’ list to the ‘Done’ list once they successfully complete the task.

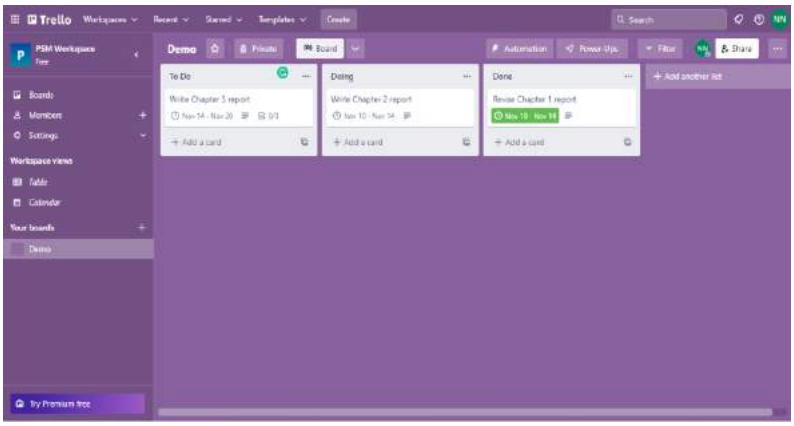


Figure 2.19 Board module

In the Description module as shown in Figure 2.20, the user is able to write the description of the task in more detail, assign the group members to the task, create the due date of the task, and attach the files or folders for their project reference. In addition, the user is also able to create a checklist and label in order to highlight the important work thus, ensure the task is done completely without missing anything. Besides, the Trello system allows the group members to leave comments about the task. Hence, the Trello system makes it convenient for the group members to communicate with each other. The action functions are in the Description module.

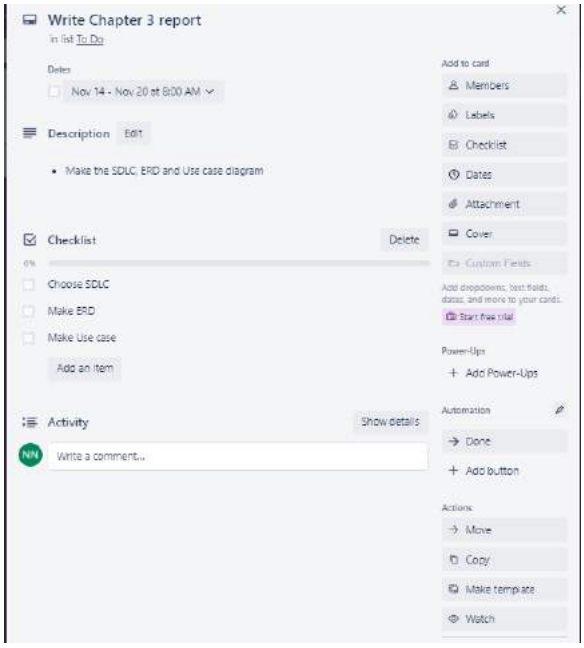


Figure 2.20 Description module

In the addition, the Trello system has developed the 'Power-Ups' function to make it conducive for the user to make the combination between their project progression with other software tools. The other tools that allow integration and work with the Trello system are Box, Jira. GitHub, Google Chat, Google Drive, OneDrive, Twitter, CloudApp, Agile Retrospectives, and so on. Figure 2.21 and Figure 2.22 shows the list of integrated tools.

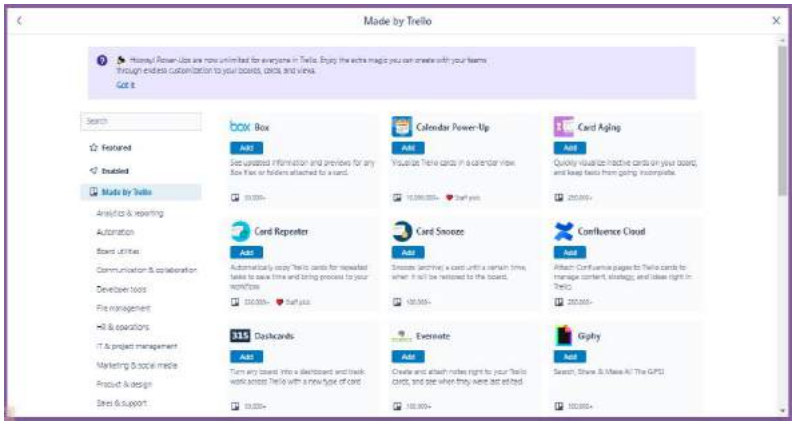


Figure 2.21 List of integrated tools for Trello system

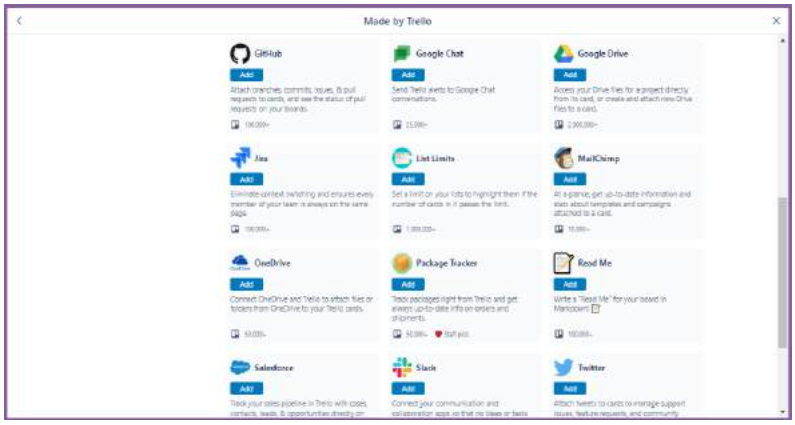


Figure 2.22 Continue a list of integrated tools for the Trello system

Lastly, the Trello system has utilized the Scrum process for the development methodology and the Kanban board ("IEEE Xplore Full-Text PDF:," n.d.). The Kanban board has been implemented in the Board module.

2.3.3 Asana system

Asana system is a dynamic web-based application due to the project progression will changed every day based on the user's input and updates. Besides, the design of the Asana system is simple and more minimalist as can be seen in Figure 2.23. Each module or interface contains the appropriate and important information for project management. In addition, all the information was presented in an organized thus, all the interfaces did not mess up with the many information. Moreover, the Asana system also uses a simple metaphor as shown in Figure 2.24 for the user to utilize the system in easier.

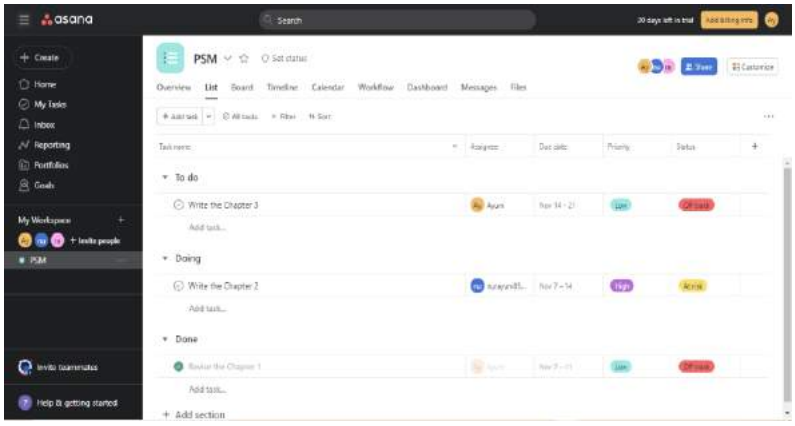


Figure 2.23 The design of the Asana system

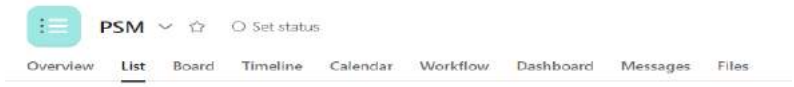


Figure 2.24 The example of a metaphor in the Asana system

For the feature, the Asana system provides various features. For example, the Asana system has prepare the priority and status features for the project task as shown in Figure 2.25. The user is able to declare the importance level of the project task whether Low, Medium or High through the priority feature. Hence, the group member can get the notification to complete the project task based on priority. Meanwhile, the status feature can well inform the user, manager or group member about the status progression of the project task whether is on the track, off track or at a risk.

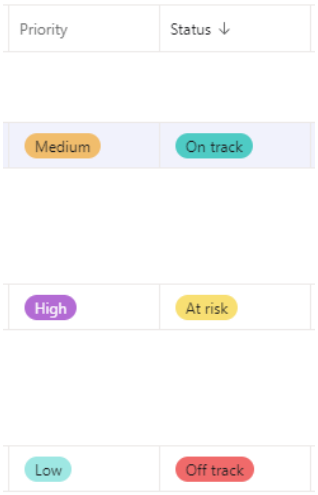


Figure 2.25 Priority and status features

In addition, the Asana system has a specialization feature for the user to view or display the project task progression based on their preference. For instance, if the user wants to view the project task progression in the list style, they can select the list feature. Otherwise, they can select the board, timeline, and calendar features once they want to view the project task progression in the Kanban board, Gantt Chart, and Calendar styles. Figure 2.26 until Figure 2.29 shows the features of list, Kanban board, Gantt Chart and calendar.

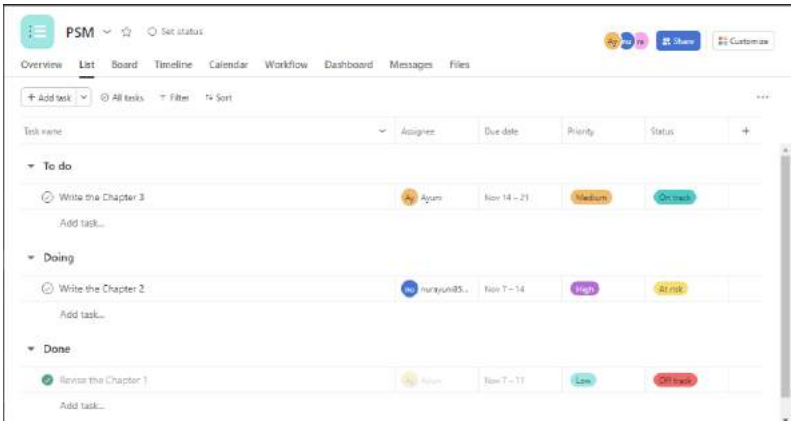


Figure 2.26 List feature

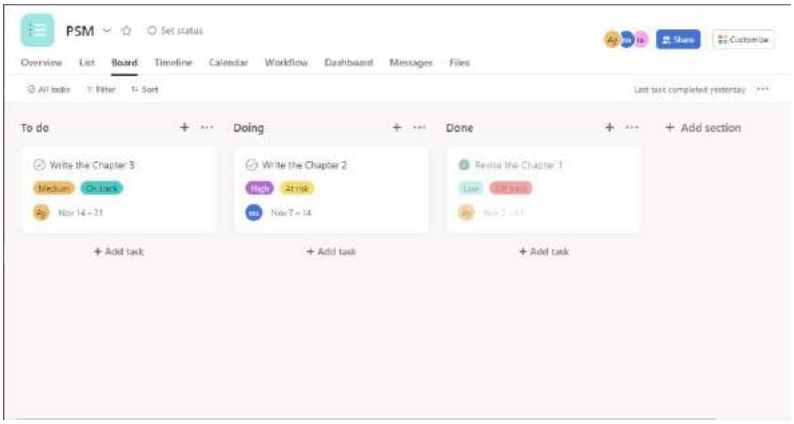


Figure 2.27 Board feature

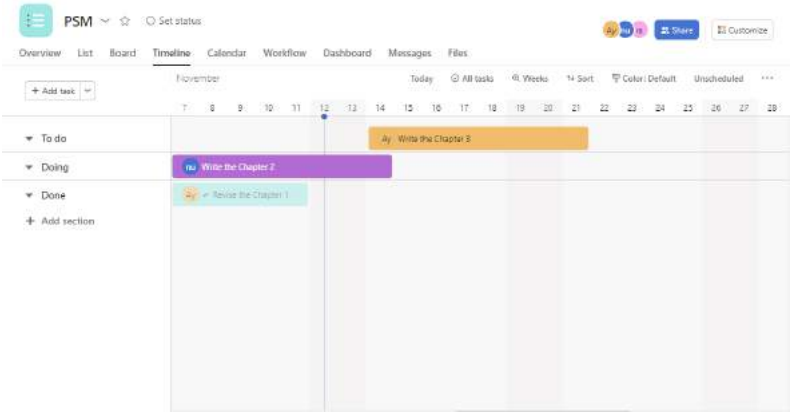


Figure 2.28 Timeline feature

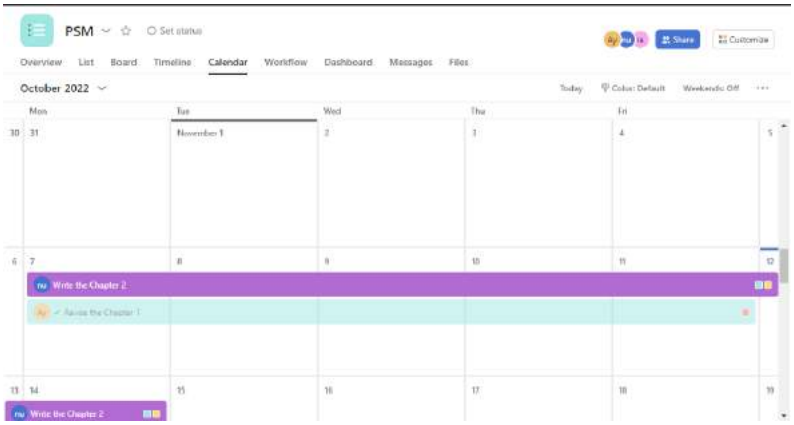


Figure 2.29 Calendar feature

Similar to the Trello system, the Asana system also has the features to add the project task, subscription to the task, subtask, assign the person to handle the task, create a deadline of the task, and attach the file, folder or picture for the task material as can be seen in Figure 2.30 until Figure 2.32.

Figure 2.30 Add task feature

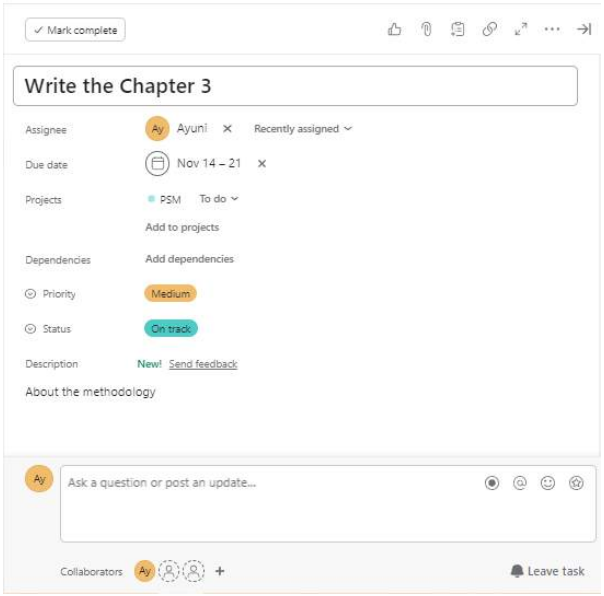


Figure 2.31 Project task feature

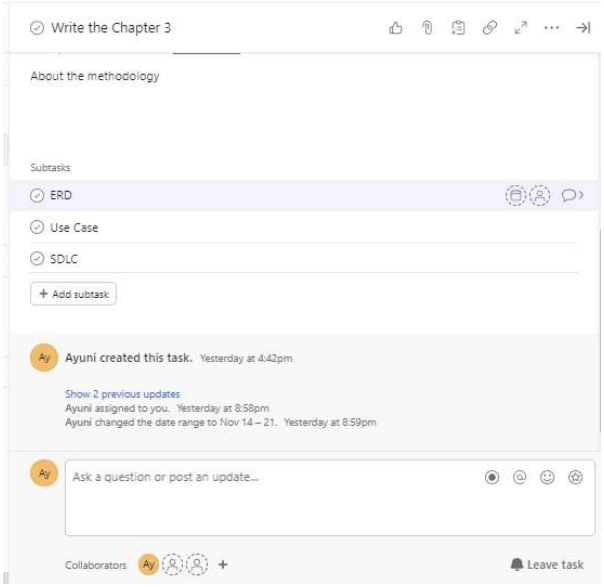


Figure 2.32 Subtask feature

The Asana system has 15 modules. However, the 15 modules were apart into two parts. The modules for the first part were developed for the user to preview all the project progression that manage or create by the user. Those modules are Home, My Tasks, Inbox, Reporting, Portfolios, and Goals as shown in Figure 2.33.

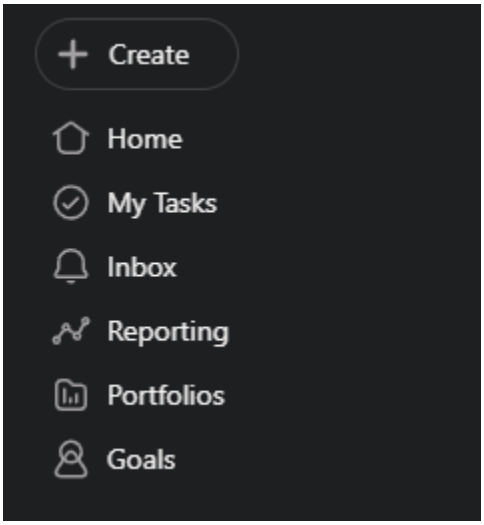


Figure 2.33 First part modules

Meantime, the modules for the second part were developed to preview the one project progress only from the several projects. Those modules are Overview, List, Board, Timeline, Calendar, Workflow, Dashboard, Messages, Task Details, and Files. Figure 2.34 shows the second part modules in the Asana system.

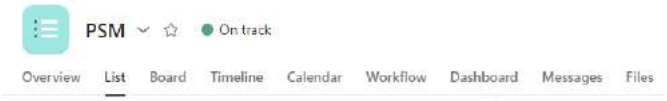


Figure 2.34 Second part module

The home module as shown in Figure 2.35 was developed for the user to view all the user's priorities tasks, projects, and the list of people which is the user collaborates for the projects.

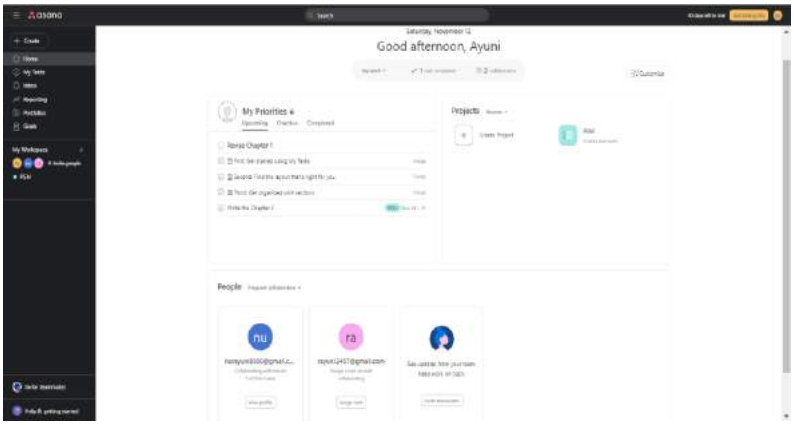


Figure 2.35 Home module

In the My Tasks module, the user is able to view the information of the user's task from all the projects either through a list, board or calendar include view all the files from the project.

In addition, the user is also able to add additional tasks or files in the My Tasks module. Figure 2.36 until Figure 2.39 shows the features and functions in the My Tasks module.

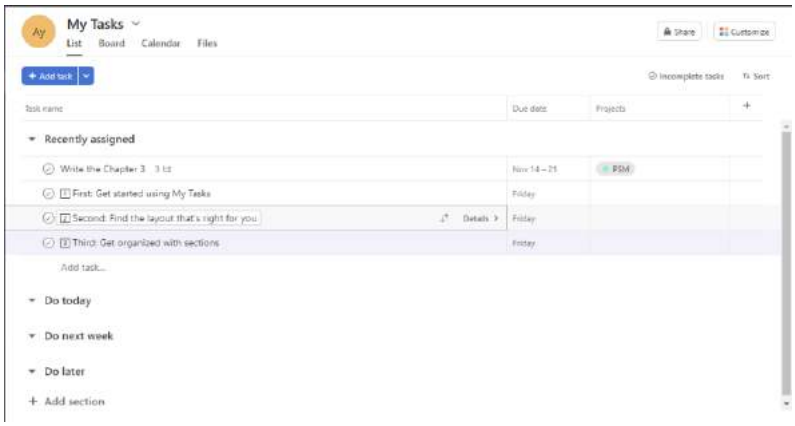


Figure 2.36 My Task module for list view

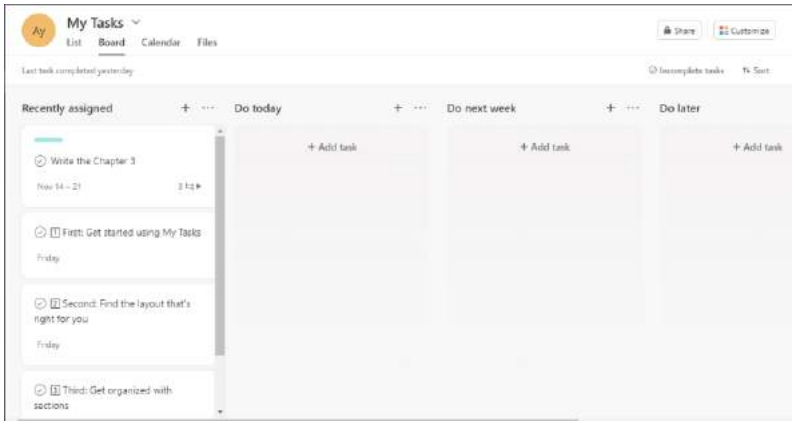


Figure 2.37 My Task module for board view

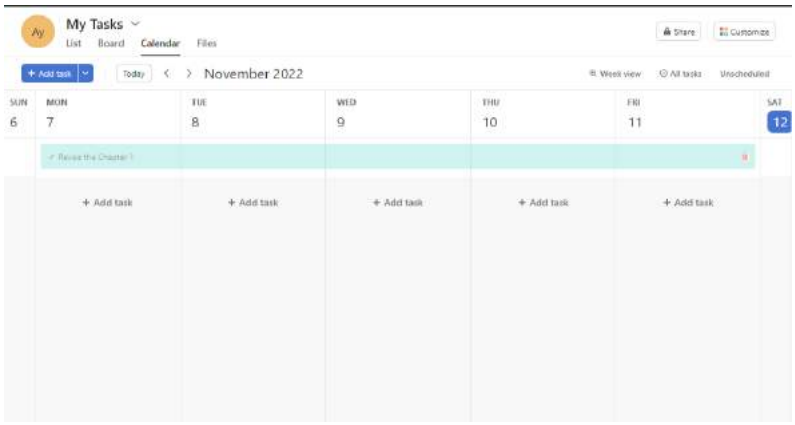


Figure 2.38 My Task module for calendar view

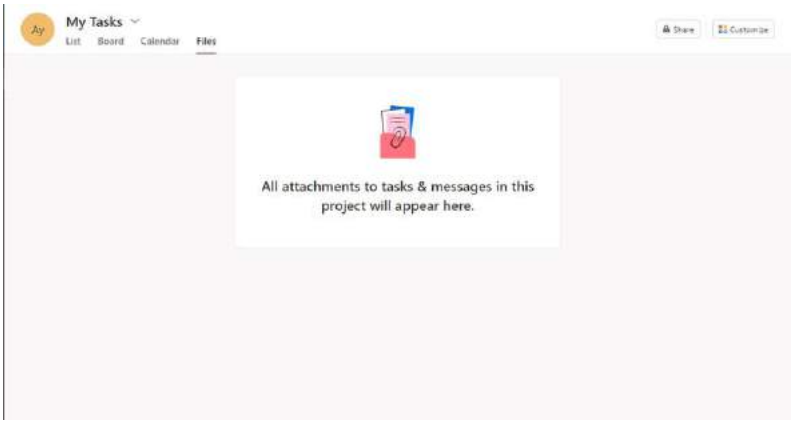


Figure 2.39 My Task module for uploading the material

In the Inbox module as shown in Figure 2.40, the user can send messages to the group members and read messages similar to email.

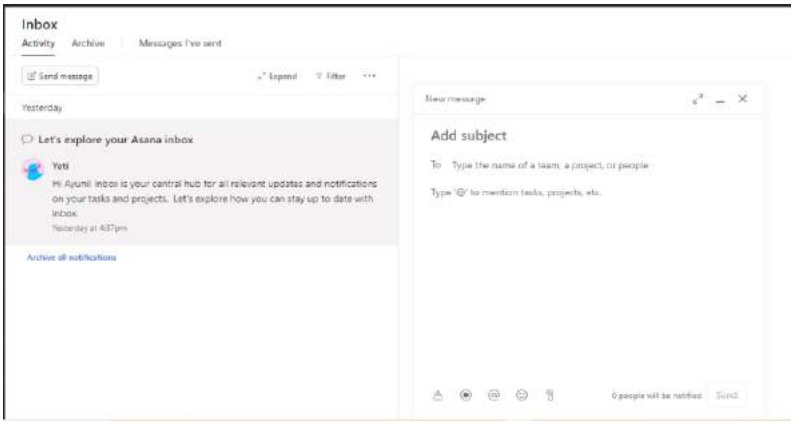


Figure 2.40 Inbox module

The Asana system has provided the visualization report of all projects through graphs and pie charts in the Reporting module as can be seen in Figure 2.41.

Figure 2.41 Reporting module

Apart from that, the user is able to view the task of each project including the assigned person, due date, priority, and status in the List, Board, Timeline, and Calendar modules as

shown in Figure 2.42 until Figure 2.45. The difference for each module is the method and style that has been developed to display the information of the task project. For example, the user is able to view the task project in Kanban style once the user selects the Board module.

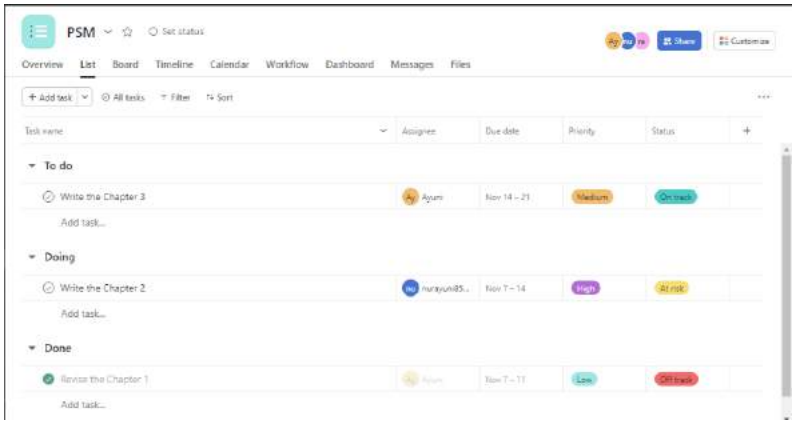


Figure 2.42 List module

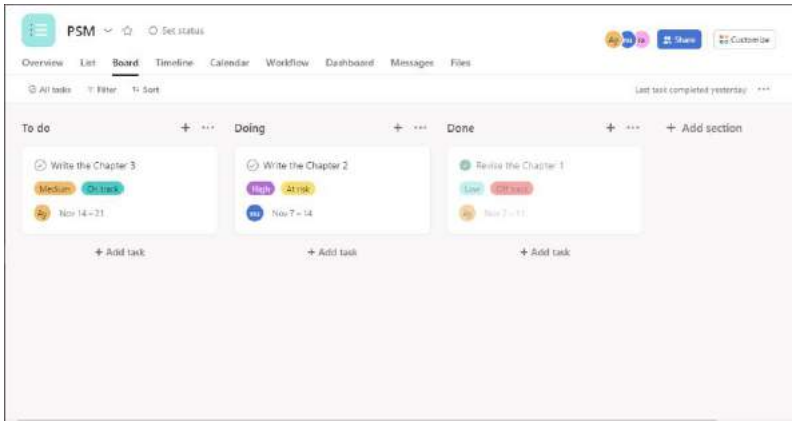


Figure 2.43 Board module

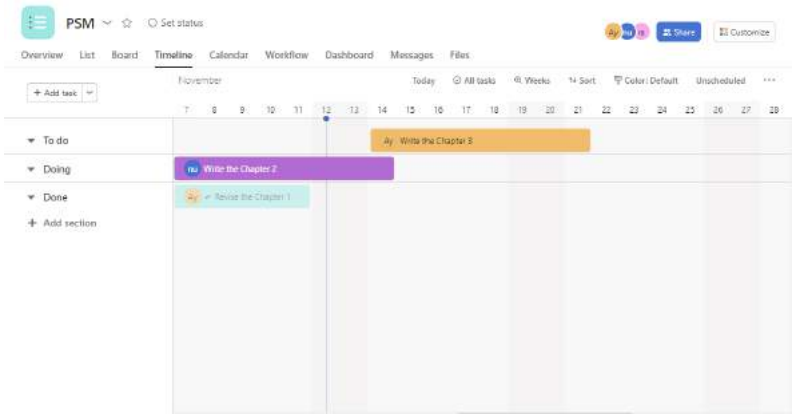


Figure 2.44 Timeline module

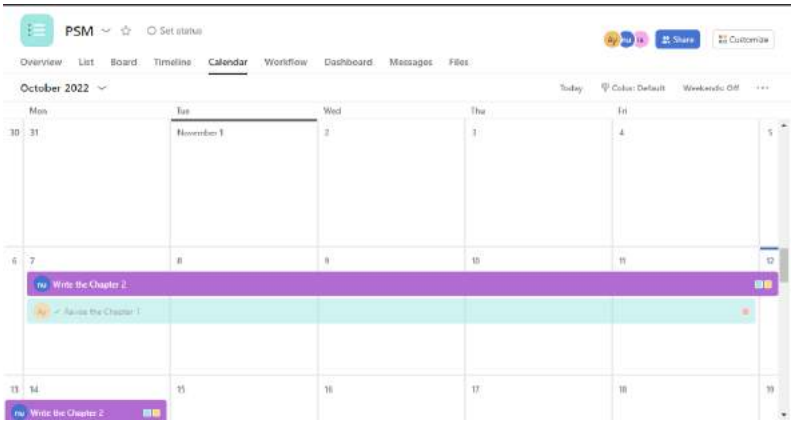


Figure 2.45 Calendar module

Moreover, the Messages and Files module is the platform for the user to send the message to the other group member of that project and upload the material for the project. Figure 2.46 shows the Message module. Meanwhile, Figure 2.47 shows the Files module.

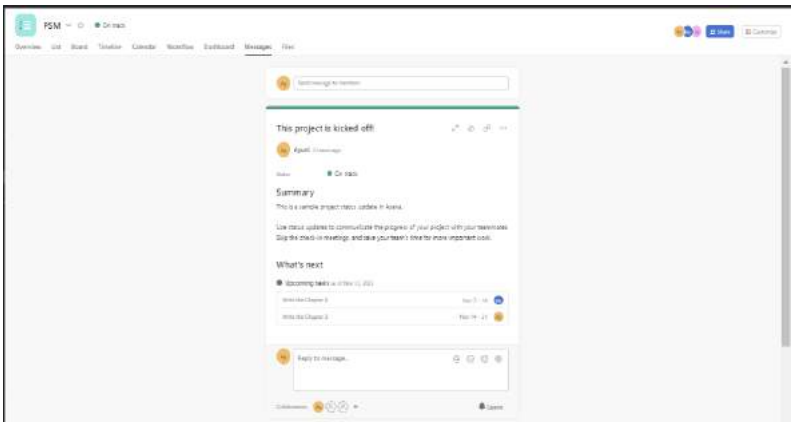


Figure 2.46 Messages module

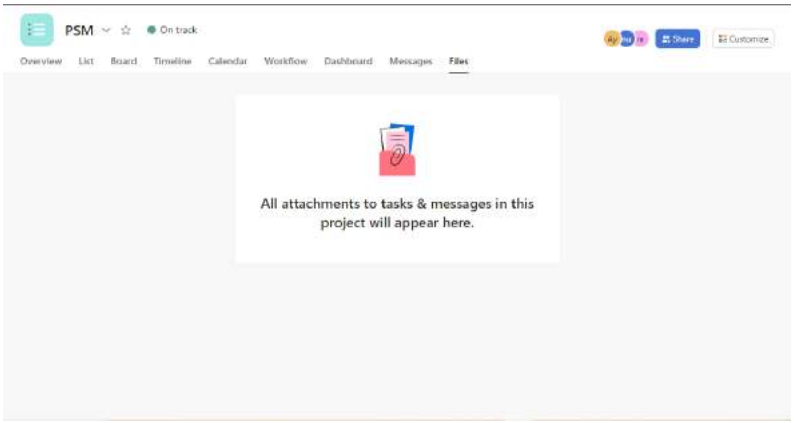


Figure 2.47 Files module

The user is able to get the information about the summary of a project progression through a graph and pie chart in the Dashboard module as can be seen in Figure 2.48.

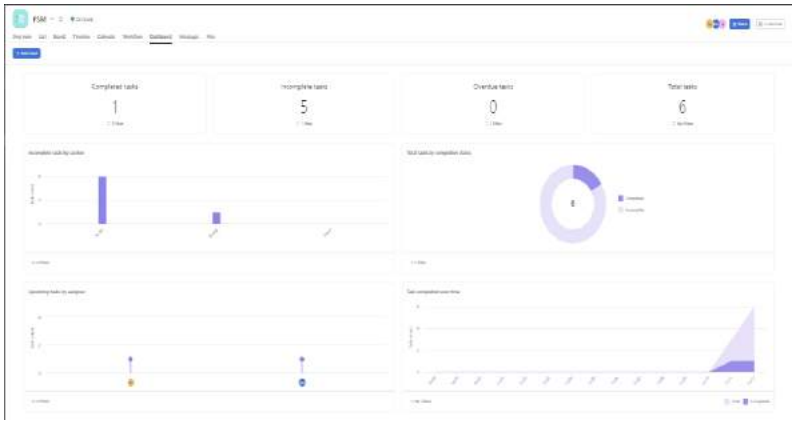


Figure 2.48 Dashboard module

Furthermore, the user is allowing to integrate the Asana system with the other applications such as Google Drive, Slack, Zoom, Microsoft Teams, Outlook, Box, SharePoint and so on. Figure 2.49 until Figure 2.50 shows the list of integrated tools for Asana system.

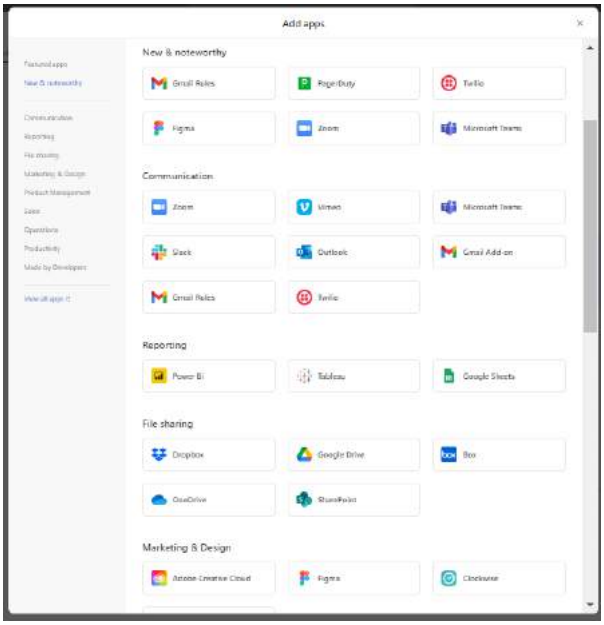


Figure 2.49 List of integrated tools for Asana system

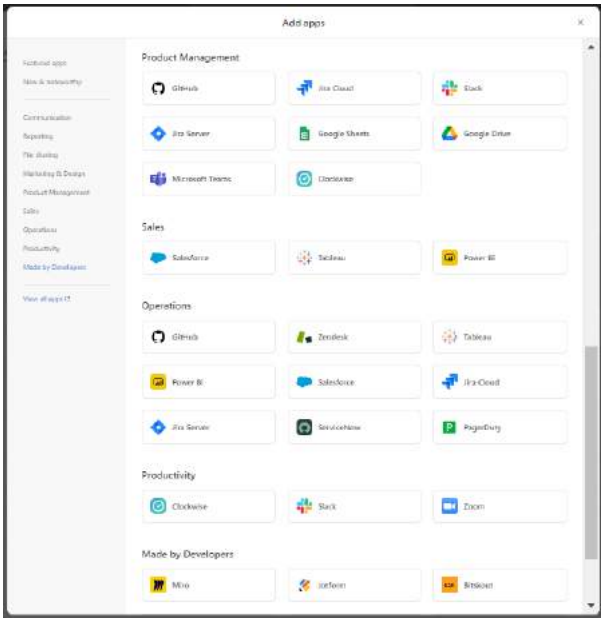


Figure 2.50 Continue a list of integrated tools for Asana system

Lastly, for displaying the information of the project task, the Asana system has utilized the list, Kanban, Gantt Chart and calendar method. Meanwhile, the Asana system also has implemented the graph and pie chart to visualization the progression of the whole and the certain project.

2.3.4 Analysis of existing system comparison.

Table 2.1 The comparison summary between three existing system

Element	Decision Support System for Final Year Project Management	Trello system	Asana system
Web application categories	✓ Static web-based system. ✓ Dynamic web-based system.	✓ Dynamic web-based system.	✓ Dynamic web-based system.
Design	✓ Simple. ✓ Unattractive.	✓ Simple. ✓ Interactive.	✓ Simple. ✓ Minimalist.
Metaphor (Language)	✓ Simple.	✓ Common	✓ Simple.
Features	✓ Message. ✓ Search Projects. ✓ Upload Project Info.	✓ Members. ✓ Labels. ✓ Checklists.	✓ Priority. ✓ Status. ✓ List.

	✓ Retrieve Project Info.	✓ Dates (Calendar). ✓ Attachment. ✓ Cover. ✓ Move. ✓ Copy. ✓ Make template. ✓ Watch. ✓ Archive. ✓ Share.	✓ Board. ✓ Timeline. ✓ Calendar. ✓ Add task. ✓ Subscription. ✓ Subtask. ✓ Assignee. ✓ Due date. ✓ Attachment.
Module	✓ Main Page. ✓ Decision Support System (DSS). ✓ Suggestion. ✓ Message. ✓ Search. ✓ Upload Project. ✓ Retrieve Project.	✓ Home. ✓ Template. ✓ Board. ✓ Table. ✓ Calendar. ✓ Highlights. ✓ Views. ✓ Members. ✓ Setting. ✓ Automation. ✓ Power up. ✓ Description.	✓ Home. ✓ My Tasks. ✓ Inbox. ✓ Reporting. ✓ Portfolios. ✓ Goals. ✓ Overview. ✓ List. ✓ Board. ✓ Timeline. ✓ Calendar. ✓ Workflow. ✓ Dashboard. ✓ Messages. ✓ Task Details. ✓ Files.
Integration system	✓ Naïve Bayes.	✓ Box. ✓ Jira. ✓ GitHub. ✓ Google Chat. ✓ Google Drive. ✓ OneDrive. ✓ Twitter. ✓ CloudApp.	✓ Google Drive. ✓ Slack. ✓ Zoom. ✓ Microsoft Teams. ✓ Outlook. ✓ Box. ✓ SharePoint. ✓ Google Sheets.

		✓ Agile Retrospectives.	
Method/ technique	✓ Java-Server Pages (JSP). ✓ NetBeans IDE. ✓ Naïve Bayes.	✓ Scrum methodology. ✓ Kanban board.	✓ List. ✓ Kanban board. ✓ Gantt Chart. ✓ Calendar. ✓ Graph. ✓ Pie Chart.

2.4 Relevance of Comparison with Project Title

2.4.1 Comparison between existing system and proposed system

1. Decision Support System for Final Year Project Management

The advantage of the Decision Support System for Final Year Project Management is the system has provided accurate decision-makers. Hence, the system is able to help solve the final year students' problem in the first process of project progression which is finding the project title and supervisor. Basically, this system is suitable for the final year student who is hesitant in making a decision for their project. In short, the Decision Support System for Final Year Project Management is a great system to avoid the burden for final year students in completing their project since the project is based on their capability, interest and skill.

Unfortunately, the Decision Support System for Final Year Project Management has shortcomings in the design. The design of this system is unattractive and difficult to gain the user's impression. Therefore, the Decision Support System for Final Year Project Management can be used as a reference in improving and avoiding the mistake in designing the proposed system. Moreover, the Decision Support System for Final Year Project Management did not have the features and functionality to manage the project management such as visualization report of project progression and supervisor quota as provided in the propose system.

2. Trello system

The pros of the Trello system are the system an easier and user-friendly system. The Trello system is not a complex system until needed guidance in order to use it. All the project tasks in the Trello system can simply move by drag and drop method only. In fact, the Trello system is suitable software to help in creating and managing smaller project progression in a

more organized and systematic ("Trello Review - The Good and The Bad for 2022," 2022). In the Trello system, the user is able to write a details description of the task and create a deadline for the task. In addition, the design of the Trello system is very appealing.

However, the cons of the Trello system are this system did not have a visualization report about the project in order to monitor the progression of the project in more detail. In the Trello system, the supervisor is able to monitor the project task based on the task being moved from one phase to another phase until it is complete. For example, the supervisor is able to know the supervisee is doing their project task once the task was moving from the 'To Do' phase to the 'Doing' phase. Once the project task has been in the 'Done' phase, the supervisor cannot obtain the summary and performance of the student's project. The supervisor only can check and leave a comment if there is a correction that needs to be done by the supervisee. In addition, the Trello system also did not provide the status priority of the project task in order to assist the supervisee in performing the most important task.

Therefore, the proposed system which is the Final Year Project Management System for the Faculty of Computing will implement the real-live project progression report in order to help the supervisor know the problem and status of the student's project. In fact, the supervisor is able to take quick action to help their supervisee who faces the project problem based on the shown status level of the project. The summary of project progression in the Final Year Project Management System for the Faculty of Computing will be shown in the graph and pie chart to make it easier for the supervisor to understand and monitor their supervisee. In fact, the Final Year Project Management System for the Faculty of Computing also will develop the function of status priority of the project task to make it convenient for the supervisee.

3. Asana system

The advantage of the Asana system is that system has the great task management ("Asana Pros and Cons: Top 4 Advantages & Disadvantages," 2021). Asana system has provided the features of priority level and status task level for the user to notice and make a preparation for any possibility or obstacle. Besides, the features of priority level and status task level also can help the user in planning and making a decision about which task that needs to be performed first. Apart from that, the Asana system has implemented the project progression report or summary for the user to review. As the result, the user can check or view their project

progression information. For instance, the user is allowed to view the total of completed tasks, incomplete tasks, and overdue tasks.

The disadvantage of the Asana system is this system has a shortcoming with the assigned task. The Asana system can allow assigning one person per task only (SANTOS, 2022). As the consequence, there will be multiple and duplicate tasks in order to assign to many people. Moreover, the Asana system has too many features that need to be set to create one task only ("Asana Pros and Cons: Top 4 Advantages & Disadvantages," 2021). Many features also contribute to the system becoming inflexible and difficult. In short, the Asana system is not a suitable system to be utilized by the supervisor due to the supervisor will be overloaded with work.

Thus, the Final Year Project Management System for the Faculty of Computing is able to minimize the supervisor's work. This proposed system will allow the supervisor to assign one task to many supervisees in an easier way. In addition, the Final Year Project Management System for the Faculty of Computing will develop important and useful features only in order to avoid the supervisor and supervisee from overwhelming with the required action and work for completing or creating the task.

2.4.2 Comparison of three existing and proposed system

Based on Table 2.2, the proposed system has special features which make proposed system different and more usable than the existing systems. The proposed system which is the Final Year Project Management System for the Faculty of Computing has provided the list of supervisor quota, supervisor approval by the coordinator and project evaluation information features in the system that are not provided in the three existing systems. As the result, the Final Year Project Management System for the Faculty of Computing will cover all the listed features and user requirements. In fact, the proposed system managed to implement the advantage and make the disadvantage of the existing system as the improvement for the proposed system.

Table 2.2 The comparison summary between three existing system and proposed system

Features	**Decision Support System for Final Year Project Management**	**Trello system**	**Asana system**	**Final Year Project Management System for Faculty of Computing**
Simple and attractive design.	✗	✓	✓	✓
User-friendly system.	✓	✓	✓	✓
Suitable to manage the project progression.	✗	✓	✓	✓
Provide the detail description for the project task.	✗	✓	✓	✓
Create deadline of the project task.	✓	✓	✓	✓

Visualization report for project progression.	✗	✗	✓	✓
Status of project task.	✗	✓	✓	✓
Priority of project task.	✗	✗	✓	✓
Assign project task to many supervisee.	✗	✓	✗	✓
Supervisor quota	✗	✗	✗	✓
Attachment/submission platform	✓	✓	✓	✓
Supervisor approval	✗	✗	✗	✓
Project evaluation information.	✗	✗	✗	✓

2.5 Summary

In conclusion, the comparison of the three existing systems is able to make the improvement in the features and design of the proposed system. The features in the Final Year Project Management System for Faculty of Computing is able to manage the beginning process of the project until the end in more efficiently. This is because the Final Year Project Management System for Faculty of Computing has provide the supervisor quota for the supervisor and supervisee. Hence, the supervisor quota able to make it convenient for the supervisee to find their preferred supervisor based on the quota provided. In addition, the supervisor also able to aware the quota that they obtain in order to take the student as the supervisee.

Moreover, the Final Year Project Management System for Faculty of Computing has implement the visualization report of supervisee project progression. Thus, the supervisor able to obtain the performance of the supervisee project and help the supervisee problem. The supervisee project progression report will be shown using the status, graph and pie chart. Besides, the Final Year Project Management System for Faculty of Computing also provide the communication platform for the supervisor and supervisee to communicate with each other. For instance, communication platform that able the supervisee to approach the lecturer to become their supervisor, discussion about the project and provide the project task for the supervisee.

Apart from that, the Final Year Project Management System for Faculty of Computing has the submission platform for the supervisee to submit their project progress and project documentation to the supervisor for the checking purpose. Furthermore, the Final Year Project Management System for Faculty of Computing has provide the supervisor research group and evaluator list for the supervisee. The supervisor research group can help the supervisee to determine the suitable supervisor for their project. Meanwhile, the evaluator list will help the supervisee aware who will be evaluate their project during the evaluation.

As the result, the proposed system is able to achieve a better web-based system in helping the supervisor and supervisee in managing the final year project in a more organized, systematic and efficient. Last but not least, the Trello system has utilized the Scrum methodology (“IEEE Xplore Full-Text PDF:,” 2018) and based on the analysis, the top 3 methodology that will be used for the project management development are Waterfall, Agile and Scrum methodologies (Westland, 2021). Therefore, the Final Year Project Management

System for Faculty of Computing will be used the Agile methodology. The detail explanation about the Agile methodology of the Final Year Project Management System for Faculty of Computing will be provided in the Chapter 3 (Ibukun.T. Afolabi, Ayodele A. Adebiyi, 2019).

CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter will be explained the SDLC, system requirement, user requirement, system design, data design which is ERD, testing plan, and proposed solution of the Final Year Project Management System for Faculty of Computing.

According to the analysis of the three existing systems and the top 3 methodologies of the project management systems (Westland, 2021), the suitable SDLC for the Final Year Project Management System for Faculty of Computing is Agile methodology (Rasnacis & Berzisa, 2017). Agile methodology is very flexible, dynamic and fast for the development of the Final Year Project Management System for Faculty of Computing ("What Is Agile Methodology in Project Management?," 2021).

Unlike the Waterfall methodology, the Agile methodology makes it easier to change or upgrade the system during the development process by going back to the problem phase only. Hence, the developer does not need to start from the first phase in order to make the changes. Moreover, the Agile methodology is acceptable and convenient for the project management system that needs a more responsive and fast-paced production schedule (Westland, 2021).

Since the Final Year Project Management System for Faculty of Computing need a responsive and fast-paced project progression report thus, it is appropriate to use the Agile methodology for the system development.

3.2 Project Management Framework/Methodology

Agile methodology is the process to develop and manage the Final Year Project Management System for Faculty of Computing in a more systematic and faster. However, the Final Year Project Management System for Faculty of Computing needs to go through several phases in order to become a good system that satisfied the objective and users. The Agile methodology has 6 different phases which are Plan, Design, Develop, Test, Deploy and Review. Hence, the Final Year Project Management System for Faculty of Computing will implement and go through the different processes for each phase.

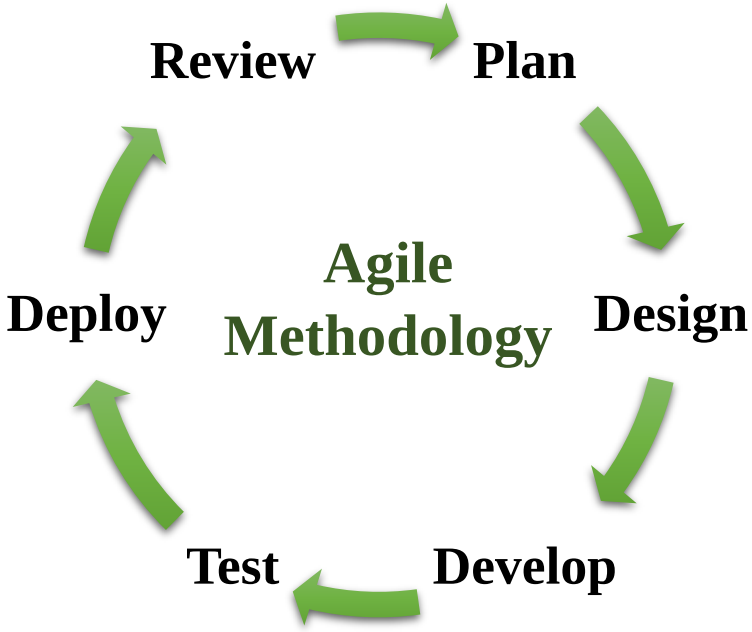


Figure 3.1 Methodology for the Final Year Project Management System for Faculty of Computing

I. Plan

In the planning phase, the development of the Final Year Project Management System for Faculty of Computing will start with an analysis of the problem that will be solved by the proposed system. Analyzing the problem will help to determine the appropriate objective and scope for the Final Year Project Management System for Faculty of Computing. Determining the objective is important for ensuring the development of the Final Year Project Management System for Faculty of Computing manage to responsively solve the problem and achieve the users' needs. Likewise, the scope will help to determine which user, admin and location that have the authority to access the Final Year Project Management System for Faculty of Computing. Detailed information about the problem statement, objective and scope of the Final Year Project Management System for Faculty of Computing can be referred to the Chapter 1.

Besides, the planning phase also required the comparison analysis of three existing project management systems in order to improve the features and design of the Final Year Project Management System for Faculty of Computing. Those three existing project management which is the Decision Support System for Final Year Project Management, Trello system and Asana system will be compared in terms of features, design, modules, and metaphor. Lastly, the development of the Final Year Project Management System for Faculty of Computing needed the review of the user and system requirements in order to help with the development process. The information about the comparative analysis of three existing project management systems and the proposed system can be referring in Chapter 2.

II. Design

In the design phase, it is important to start with the draft or sketch of the interface design of the Final Year Project Management System for Faculty of Computing in order to understand the flow of the system. Besides, the draft interface design of the Final Year Project Management System for Faculty of Computing also can help as the guideline in performing the storyboard, flowchart, context diagram and use case of the proposed system. Moreover, the design and flow of the database are also needed to determine the data that is required and inserted in the database. Basically, the design and flow of the database will be shown using the Entity-Relationship Diagram (ERD). The Final Year Project Management System for Faculty of Computing also will have the mock up design and prototype in order to overview the design and features of the proposed system.

In addition, in the design phase, the project requirement such as functional requirements, non-functional requirements, constraints and limitations, system requirements, hardware requirements and user requirements for the Final Year Project Management System for Faculty of Computing will be determined. The user requirement for the Final Year Project Management System for Faculty of Computing will be obtained from the conducting survey and interviews among the final year students and lecturers from the Faculty of Computing. Hence, the modules in the Final Year Project Management System for Faculty of Computing also will be determined and identified from the users' requirements. The detail information about the design, flowchart, use case, ERD, context diagram, modules, project and user requirements will be explained in this chapter which is Chapter 3.

III. Develop

In the development phase, the Final Year Project Management System for Faculty of Computing will start to develop using the programming language and system. The Final Year Project Management System for Faculty of Computing will be developed using Visual Studio Code for the programming software and phpMyAdmin for the database. According to the scope of the system in Chapter 1, the design and interface for the Final Year Project Management System for Faculty of Computing will be developed using the Laravel Framework and PHP. Meanwhile, the features and validation of the Final Year Project Management System for Faculty of Computing will be developed using the JavaScript language. At the same time, the PHP language will be used to make the connection and process between phpMyAdmin and the proposed system in terms of creating, inserting, retrieving, updating and deleting data. The

detailed development process of the Final Year Project Management System for Faculty of Computing will be discussed in Chapter 4.

IV. Test

Once the development of the proposed system has been completed, the Final Year Project Management System for Faculty of Computing will go through the testing process. In the test phase, the Final Year Project Management System for Faculty of Computing will be tested in terms of its functionality of the features and validation in order to ensure the system and code are clean without any errors or bugs ("The Agile Software Development Life Cycle | Wrike Agile Guide," 2021). Hence, the Final Year Project Management System for Faculty of Computing will go through the User Acceptance Test and Final Acceptance test. If there is an error or bug occurred during the User Acceptance test, the Final Year Project Management System for Faculty of Computing will be returned back to the plan and develop phases again in order to determine the solution and fix the problem. Then, the system will be inspected again in the testing phase which is the system will go through the Final Acceptance Test process. Moreover, in the test phase, the Final Year Project Management System for Faculty of Computing will be tested by the supervisee, supervisor and admin of the system. Once they have been testing the system, they need to fill in the User Acceptance Test form and Final Acceptance Test form to obtain results on whether they approve the functionality of the Final Year Project Management System for Faculty of Computing or not. The detailed information about the testing process and test form for the Final Year Project Management System for Faculty of Computing can be referred in Chapter 3 and Chapter 4.

V. Deploy

After completing testing the proposed system and ensuring the system is clean of the bugs or errors, the Final Year Project Management System for Faculty of Computing will be launch to the server platform and utilized by the users including admin.

VI. Review

In the review phase, the Final Year Project Management System for Faculty of Computing will be always upgraded and monitored due to avoid any new errors and bugs. In addition, the Final Year Project Management System for Faculty of Computing also will be maintained according to the review and feedback from the users. Hence, the Final Year Project Management System for Faculty of Computing is able to achieve the users' satisfaction.

3.3 Project Requirement

Project requirement is one of the most priority in the project or software development needs (Harwell, Aslaksen, Mengot, Hooks, & Ptack, 1993). All the project requirement is the guideline for the development project in achieving the objectives and scope of the project. Hence, the Final Year Project Management System for Faculty of Computing has six requirements in order to ensure becomes the complete system that fulfils user needs and the objective of the project. Those six requirements are functional requirements, non-functional requirements, constraints and limitations, hardware requirements, software requirements and user requirements. A detailed explanation of each requirement is the below:

3.3.1 Functional requirement

A functional requirement is the functions or features in the Final Year Project Management System for Faculty of Computing that enable the users and admins to perform and complete the tasks ("Functional and Non-functional Requirements: Specification and Types | AltexSoft," 2021). The users and admins are able to obtain the results that they expected once completed the required tasks. Below are the functional requirements of the Final Year Project Management System for Faculty of Computing. The users are referring to the supervisor and supervisee. Meanwhile, admins are referring to the coordinator of the final year project.

- Users must sign up and login to the system in order to access the Final Year Project Management System for Faculty of Computing system.
- The system allows users to review the updated supervisor quota in the supervisor quota interface.
- The coordinator is able to edit the supervisor quota in the supervisor quota interface.
- The system allows users to make the supervisor application.
- The coordinator is able to approve the supervisor application by the supervisee in the supervisor approval interface.
- The supervisee is able to submit the project materials and files in the submission function in order to review the status of the project progression.

- The supervisor and supervisee are able to view and monitor the project progress in the project overview function.
- The system allows the supervisor to create the task for the supervisee in the task function.
- The system allows the supervisee to update the status level of the task either on track, risk or off track in the task function.
- The coordinator is able to provide the list of evaluators and evaluation information for each supervisee in the evaluation function.
- The system is able to provide the evaluation information once the supervisee searches their name on the search function in the evaluation info interface.
- The system is able to provide the previous final year project information.

3.3.2 Non-functional requirement

A non-functional requirement is a method that the Final Year Project Management System for the Faculty of Computing should perform in order to satisfy the users' and admins' needs (“Functional and Non-functional Requirements: Specification and Types | AltexSoft,” 2021). Below are the non-functional requirements of the Final Year Project Management System for Faculty of Computing.

- The system is able to support 1000 users at one time without system downtime and performance degradation.
- The system is able to provide a fast and reliable response time.

3.3.3 Constraints and limitations

The Final Year Project Management System for Faculty of Computing has several constraints and limitations for the users and admins in order to secure the data integrity from alternation and loss. Since, the Final Year Project Management System for Faculty of Computing provides the visualization of project overview hence, the integrity of data is important in order to provide the accurate result of project progression. Below are the several constraints and limitations in the Final Year Project Management System for Faculty of Computing.

- The users did not have the authority to update and edit the supervisor quota.
- The users and admins did not have the ability to change and edit the overview of the supervisee's project progression. The result of project progression is automated by the system based on the completed task and submission from the supervisee.

3.3.4 Hardware and software requirements

The Final Year Project Management System for Faculty of Computing required the utilisation of the hardware and software in order to assist and support the development of the system. In fact, the usage of hardware and software is able to overcome the shortcoming and bugs in the system. Table 3.1 shows the hardware and software requirements for the Final Year Project Management System for Faculty of Computing.

Table 3.1 Hardware and software requirements

Type of requirements	The requirement
Hardware	• Laptop for typing the code and developing the Final Year Project Management System for Faculty of Computing. • Server to launch the Final Year Project Management System for Faculty of Computing once completed the development and testing.
Software	• Visual Studio Code to write the code using the programming language and build the Final Year Project Management System for Faculty of Computing. • phpMyAdmin to create the database of the Final Year Project Management System for Faculty of Computing. • XAMPP Control Panel to develop and make the connection between the database and system of the Final Year Project Management System for Faculty of Computing using the PHP language.

3.3.5 User requirements

Two methods that the Final Year Project Management System for Faculty of Computing has conducted to obtain the user requirements. Those two method are survey and interview. The survey method has been implemented using Google Form before being distributed to the final year students that take the PSM and PTA course through the WhatsApp platform. However, the Final Year Project Management System for Faculty of Computing manages to obtain 11 responses only. Figure 3.2 until Figure 3.6 shows the feedback and user requirements from the final year students of Faculty of Computing.

According to the feedback from Figure 3.2, most students did not review or monitor their project progression. Hence, the students are not able to be aware of their status of project progression. As the consequence, they perform their final year project in not a strategic and unsystematic. In fact, they also will miss out on several important tasks in order to complete their projects and PSM or PTA courses. For instance, the testing process that important to prove the proposed system has perfect function without any error.

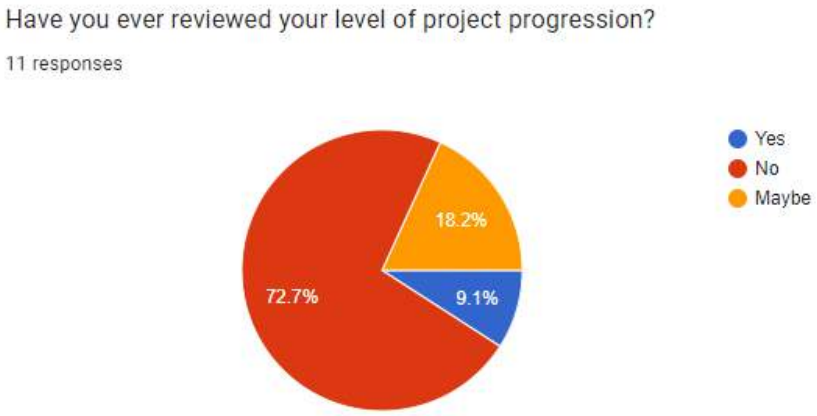


Figure 3.2 The feedback about status review the project progression from the students

Based on Figure 3.3, all 11 responses never utilised any project management tools or applications for assisting and managing their final year project in order to become more organized and systematic. Hence, it is a good solution to develop the Final Year Project Management System for Faculty of Computing for helping this students' problem.

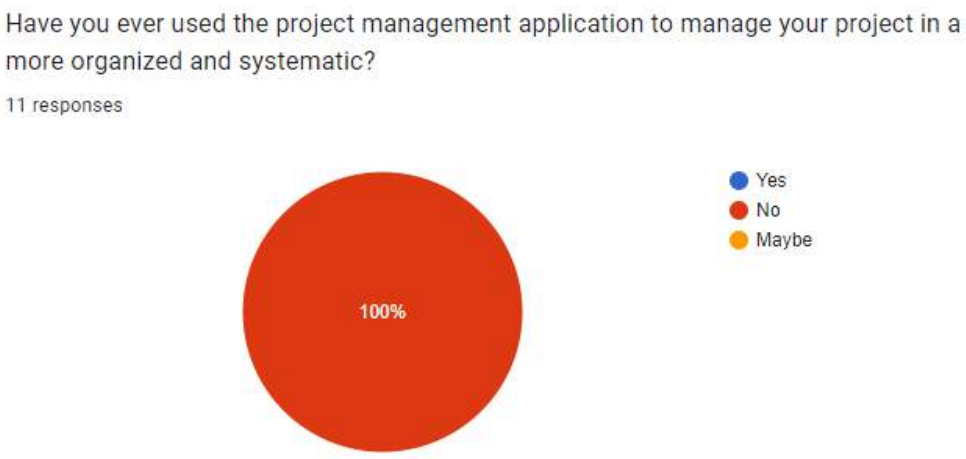


Figure 3.3 The feedback about utilising other project management application

54.5% of feedback from the students are agreed that utilising many platforms to manage the PSM/PTA process and progression unsuitable and inconvenient according to Figure 3.4. They feel a bit burdened to open many platforms at the same time in order to perform their PSM/PTA project.

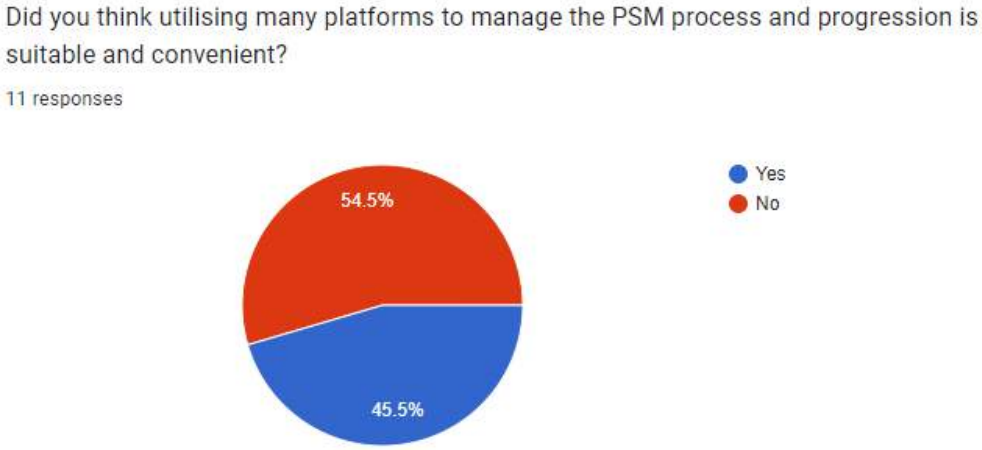


Figure 3.4 The feedback about the PSM process and progression now

Figure 3.5 shows that the final year students agree and approve of the development of the Final Year Project Management System for Faculty of Computing.

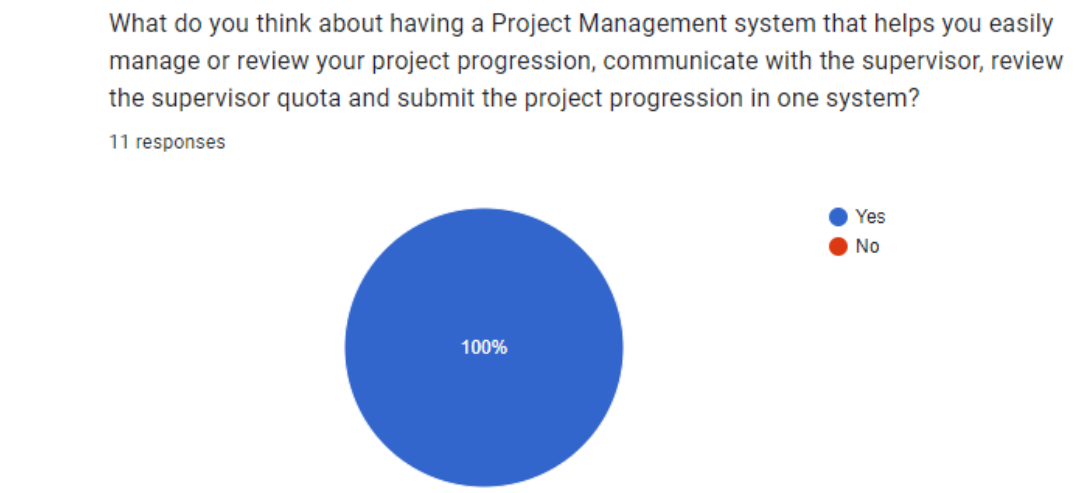


Figure 3.5 The feedback about the development of the Final Year Project Management System for Faculty of Computing

According to Figure 3.6, apart from the visualization of the project progression that is already in the development function list, the final year student also makes the requirement about the alert reminder or notification for the project progression, submission date and supervisor announcement. Therefore, the Final Year Project Management System for Faculty of Computing will develop the alert notification as they expected in order to fulfil the user satisfaction.

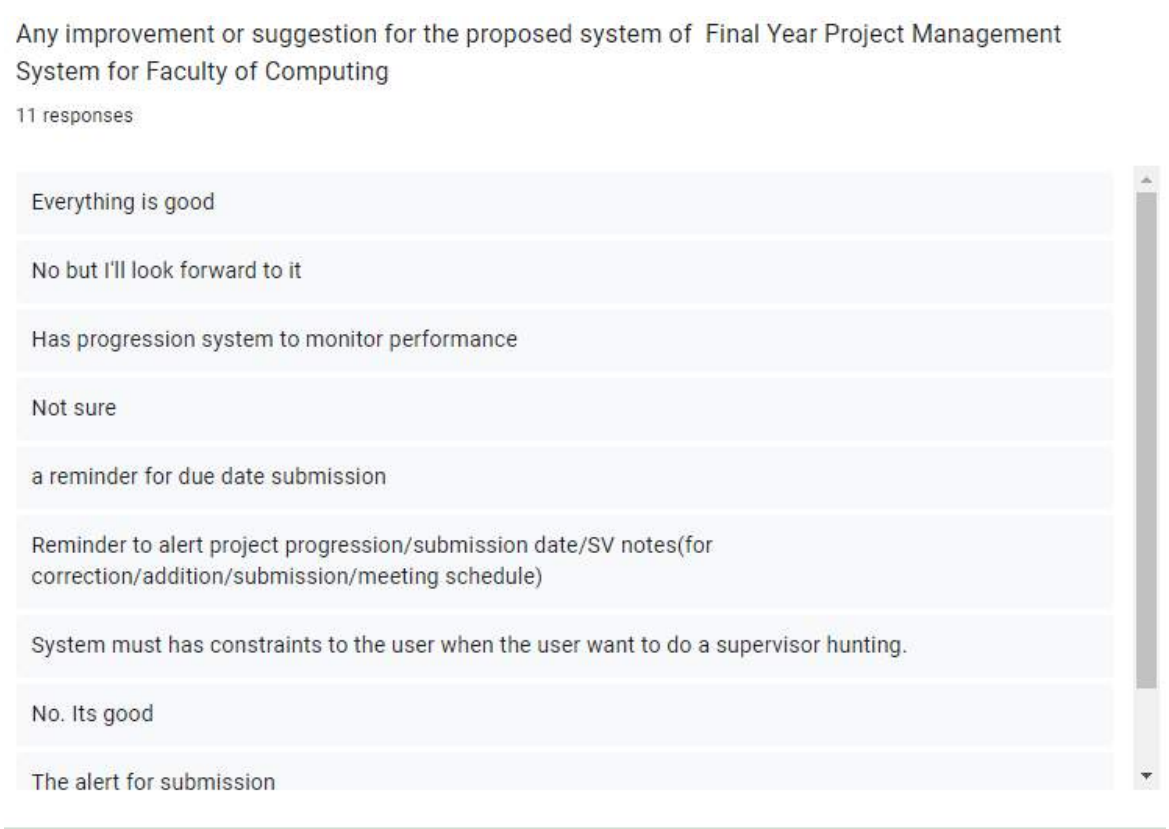


Figure 3.6 Requirement for the Final Year Project Management System for Faculty of Computing

In addition, for the interview method, the Final Year Project Management System for Faculty of Computing has obtained the user requirement of the supervisor and admin from the coordinator's perspective. During the interview session, Dr Danakorn, the coordinator of PSM and supervisor become the interviewee. Appendix A shows a picture of the interview session with Dr Danakorn. Below are all the admin and supervisor requirements from Dr Danakorn.

- It is better to develop the Final Year Project Management System for Faculty of Computing for the PSM and PTA course.
- The coordinators are able to make important announcements such as the colloquium meeting and the date of submission on the main page.
- The manual logbook needs to become the system.
- Provide the dropdown function to make it easier for the supervisor to review their supervisees' submissions once they selected their name like KALAM.
- The supervisor is able to open their supervisees' file submissions and directly grade the supervisees' work based on the rubric.
- Provide the dropdown function for the coordinators to assign the evaluator name, place and students that will be evaluated by that evaluator for the evaluation information in the system.
- Provide the appointment function for the supervisee to make the appointment meeting with their supervisee. The supervisor is able to accept or reject the requested appointment.

3.4 Propose Design

Propose design will be explained in the detail about the process and flow of the Final Year Project Management System for Faculty of Computing in different presentable. Moreover, the proposed design also will be containing information about the Final Year Project Management System for Faculty of Computing such as database information and Graphical User Interface (GUI). Therefore, the proposed design will be consisting of a flowchart, context diagram, use case diagram, activity diagram and storyboard.

3.4.1 Flowchart

A flowchart is a diagram that indicates the system process which is the process that executes in the Final Year Project Management System for Faculty of Computing. Figure 3.7 shows the flowchart for accessing the proposed system. According to Figure 3.7, the users whether final year students, staffs and admin must sign up first in order to obtain the authority in accessing the Final Year Project Management System for Faculty of Computing. The users' needs to insert their full name, email, number phone, student or staff ID, category whether student or staff, password and confirm password in the sign up form in order to create the account for accessing Final Year Project Management System for Faculty of Computing. Once the users already have the account, the users need to log in using their email and password. If the users' email and password is valid, they can control and access the functionality of Final Year Project Management System for Faculty of Computing. Otherwise, the users need to insert their email and password again until correct.

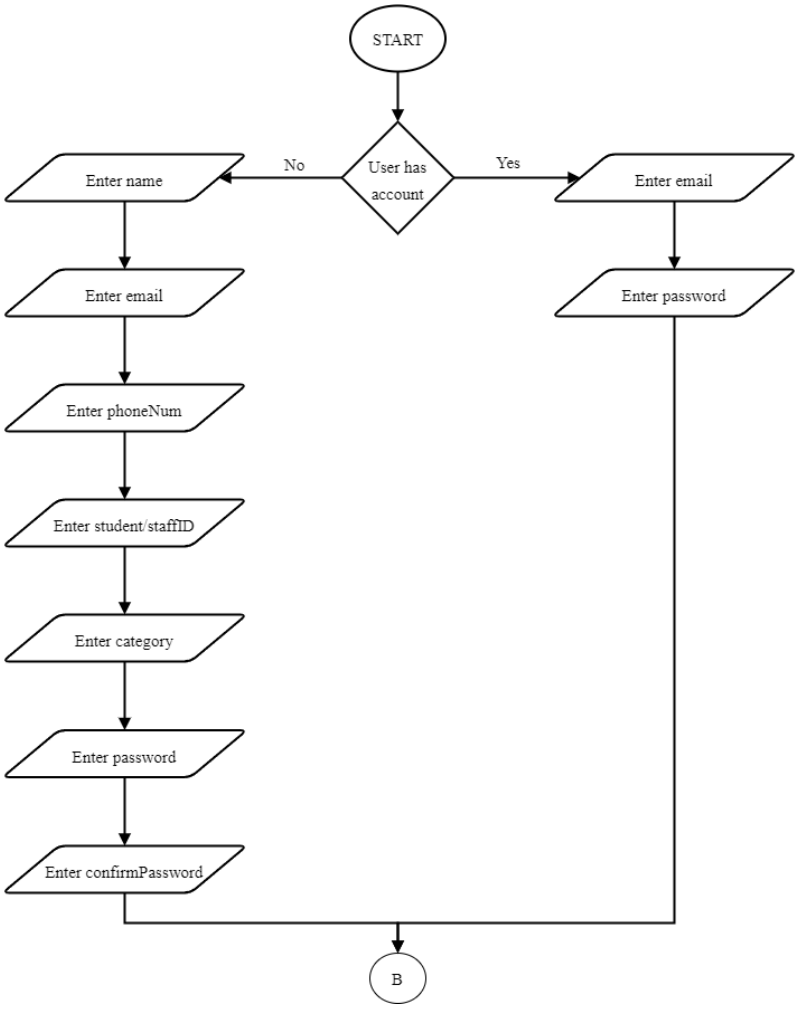


Figure 3.7 Flowchart of sign up and log in

Figure 3.8 shows each modules process for the supervisee or final year student. Meanwhile, Figure 3.9 shows the modules process for the supervisor or staff. Lastly, Figure 3.10 will be shown the modules process for the admin or coordinator of PTA and PSM.

Figure 3.8 shows that the system has provided 10 modules for the supervisee. Those 10 modules are main page, supervisor quota, supervisor application, logbook, appointment meeting, project task or known as my task, reporting, evaluation, project submission, and FYP Library. For the main page module, the system will provide an important announcement about the PSM and PTA project that has been created by the coordinator. For instance, announcement about the due date of project submission for the first evaluation of 30% by the supervisor and so on.

Apart from that, the Final Year Project Management System for Faculty of Computing also provides information about the supervisor quota for the supervisee in the supervisor quota module. The information about the supervisor quota enables the supervisee to determine the

quota of their preferred staff that is suitable for the supervisor project. Hence, in the supervisor quota, the system will print the lists of staff names, expert groups, the current quota for PTA 1, PTA 2, PSM 1, and PSM 2, total supervision quota, total available supervision quota, and lastly total applied. In fact, the supervisor quota module also has provided the notify function for the student to request their preferred staff in becoming the supervisor through email.

Moreover, the supervisor application module is the platform for the supervisee to apply their preferred staff or lecturer in becoming supervisors for their final year project. Therefore, the supervisor application module will provide the form for the students to insert the required information. For example, student name, matric ID, email, number phone, semester, selected supervisor name, proposed title, background problem, objectives, scope, domain and declaration. Once they have submitted the form of supervisor application, they will obtain the status approval of their application.

In addition, the Final Year Project Management System for Faculty of Computing has provided the appointment function for the supervisee to make a meeting appointment with their supervisor. The supervisee must insert the meeting title, supervisor name, proposed appointment date including time, and purpose of the meeting in order to create the appointment using the appointment function. Once their supervisor approved the appointment meeting and complete meet their supervisor, they need to insert the meeting information in the logbook module.

In the logbook module, the supervisee needs to update each meeting with their supervisor in order to create the meeting or advise report. Wherefore, they need to insert the information of date, time, and progression. Similar to the process of providing the information in the manual logbook. However, the Final Year Project Management System for Faculty of Computing has computerized the manual logbook in order to implement the digitalization technology and paperless. As the result, the supervisee is able to review the supervisor's comment and supervisor approval or declaration for their logbook report. Apart from that, in the Final Year Project Management System for Faculty of Computing, the supervisee is able to select the meeting date that retrieve from the appointment table only. Hence, the integrity of logbook information is higher and supervisee not able to manipulate the logbook data.

Besides, in my task module, the supervisee has permission whether to review the project task provided by their supervisor or create their own project task. If they review the project task provided by their supervisor, they will obtain information about the task, task due date,

task details, and task priority such as high, medium, and low. In fact, the supervisee is also required to always update the progression status for that task whether on track, off track or risk including attaching the task file for the supervisor checking. However, if the supervisee wants to provide their own project task, they need to enter the title, due date, task details, priority, and update the progression status and attach the task file.

The supervisee is able to submit the project report for the evaluation process in the project submission module by uploading the file. Therefore, the project submission module will print the report marks once has been marked and insert the marks by the supervisor. Based on the project task and submission, the Final Year Project Management System for Faculty of Computing will generate the real live visualization report in the reporting module. Hence, the reporting module will provide the report of the total task completed and incomplete, overall total tasks, total project submission, and total priority and status based on the category.

Furthermore, for the evaluation module, the Final Year Project Management System for Faculty of Computing will provide the evaluation information for the supervisee. For example, the system will print the evaluators' name, location, date, time, location and marks given by each evaluators. Lastly, the FYP Library module will provide the alumni of PSM and PTA final year project for the supervisee obtain the idea for their final year project. For more understanding, the link to the flowchart of supervisee has been provided in Appendix B.

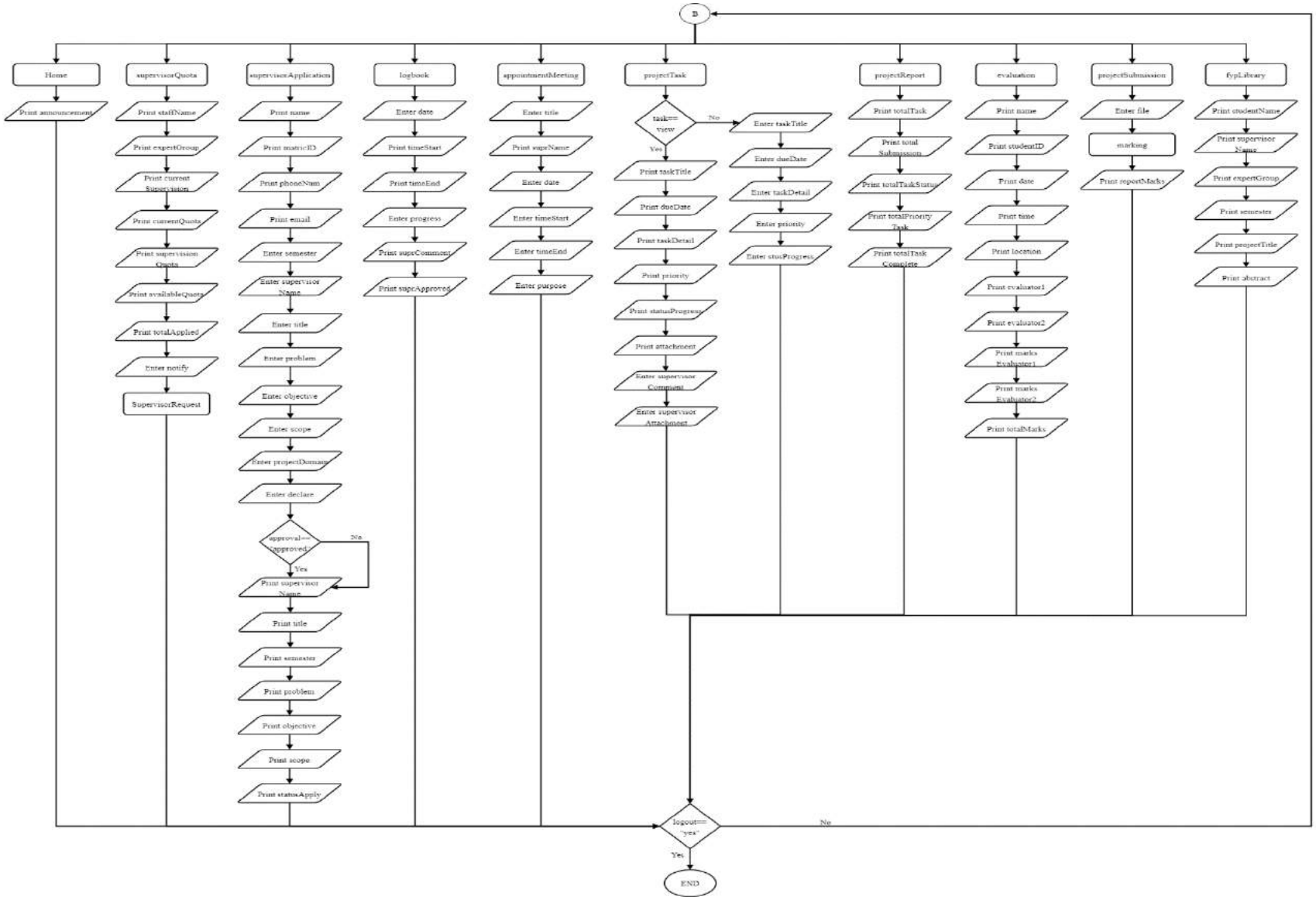


Figure 3.8 Flowchart for supervisee

The supervisor also has a similar module to the supervisee however, there have different processes in the certain module. Figure 3.9 shows the process in each module for the supervisor. On the main page, the supervisor also is able to view any announcement from the coordinator like the supervisee interface. Likewise, the system also provides the quota information to the supervisor such as staff name, expert group, the current quota for each course, supervision quota provided, total available quota, and total applied in the supervisor quota module.

For the supervisor application module, the supervisor will obtain the application form from the students who request to become the supervisee. The application form will consist the information about the details of student and the proposed project. For instance, student name, matric ID, phone number, email, semester, supervisor name, proposed title, background problem, objective, scope, domain, and declaration of project title. In addition, the supervisor needs to enter the date and confirmation declaration once the supervisor is agreeing to accept the students' request in becoming the supervisee.

In the logbook module, the supervisor will obtain the logbook information for each supervisee. Hence, the supervisor needs to select their supervisees' names in order to get the logbook information. The information in the manual logbook has been digitalized in the logbook module. Therefore, the supervisor will get information such as a date, start time, end time, and project progress. Similar to the process of the manual logbook, the supervisor also needs to insert the supervisor's comment. Once the supervisor has submitted the comment, the status of the project progress will become approved.

Besides, the supervisor is required to insert the location and status appointment once the supervisor is agreeing with the requested appointment meeting from their supervisee. Apart from that, the supervisor is able to view the supervisee's task or make the task for the supervisee in the supervisee task module. For the viewing process, the supervisor will obtain the information on the task title, due date, task details, priority, and status progress. Meanwhile, for the create task process, the supervisor needs to insert the title task, assignee person which is their supervisee, due date, task detail and priority.

Moreover, the supervisor also being allowed to review the report of each of their supervisees' project progression by selecting the supervisee's name first. After that, the supervisor can review the supervisee's project progression such as total tasks complete and incomplete, total project tasks, total submission tasks including total priority and status based on the task category. For the evaluation module, the supervisor will obtain the evaluation information for them to take

responsibility during the evaluation week. Examples of evaluation information are a list of the supervisee's name, location, date, time, and graded marks. Meanwhile, in the FYP Library module, the Final Year Project Management System for Faculty of Computing will provide the alumni of PSM and PTA final year project information similar to the FYP Library module for the supervisee.

Last but not least, the supervisor is required to assign the marks for submission project report from the supervisee in the project submission platform. To perform that, the supervisor needs to enter the supervisee’s name, upload the project report file, review the report, and at the same time enter the marks. For more understanding, the link to the flowchart of supervisor has been provided in Appendix B.

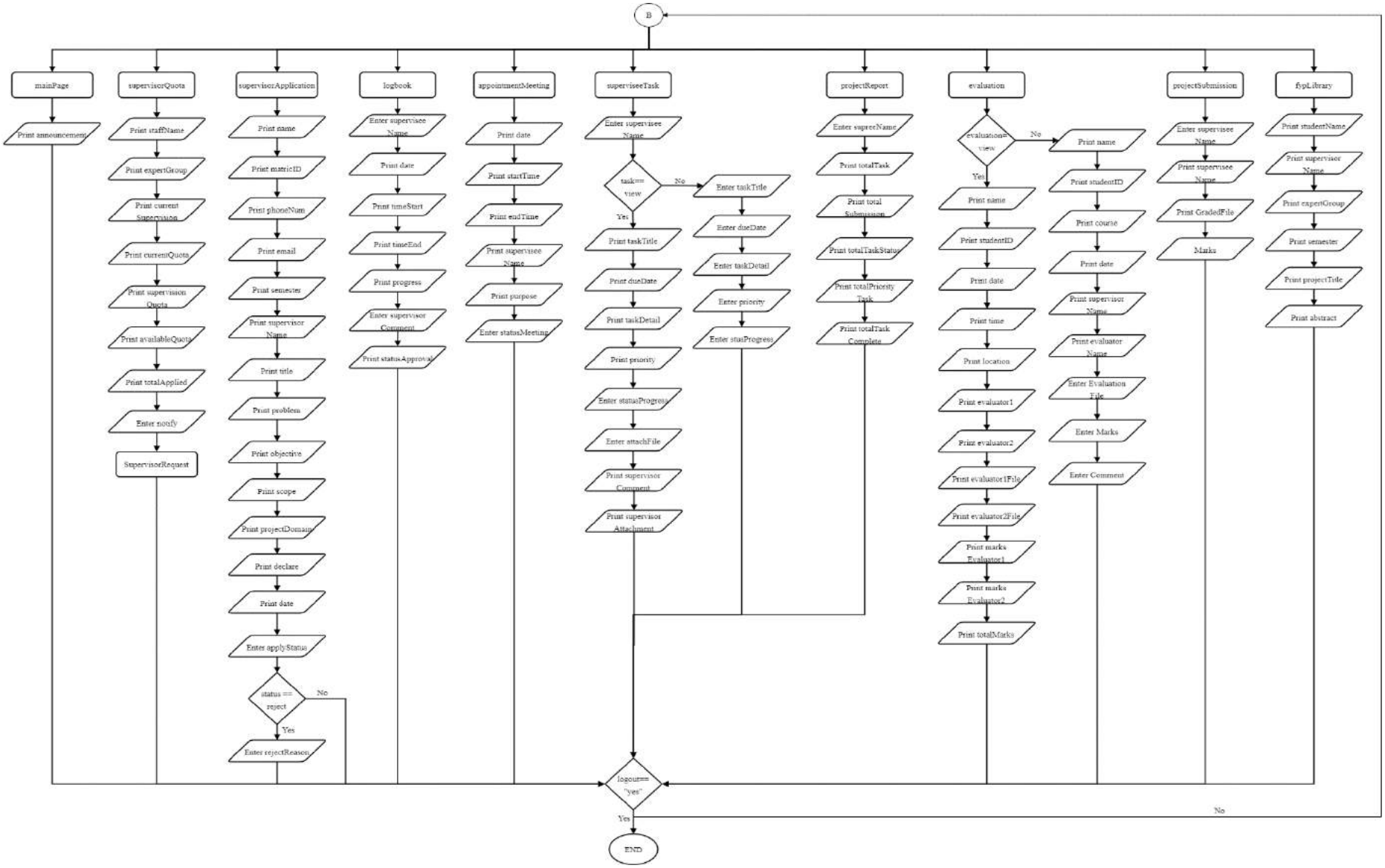


Figure 3.9 Flowchart for supervisor

Admin or coordinator of PTA and PSM also has a similar module like supervisor and supervisee. However, the admin did not have the supervisee task module. Figure 3.10 shows the flowchart for the admin. Based on Figure 3.10, the admin has a specialization function that did not provide to the supervisor and supervisee. On the main page, the admin is able to make an important announcement to the supervisee and supervisor. In addition, the supervisor quota module will be handled by the admin. The admin needs to provide and enter the information of all staff in the Faculty of Computing such as name, expert group, current quota for each course, supervision quota, available quota, and including the total applied.

In the supervisor application module, the admin has given the responsibility to assign the new supervisor for the student where their application has been rejected in the supervisor application module. Besides, in the logbook module, the admin will obtain the supervisees' logbook information such as a date, start time, end time, project progress, and supervisor comment. However, the admin needs to choose the expertise group and supervisor name in order to obtain the supervisee's logbook information.

In the project submission module, the admin can monitor the supervisees' project submissions by entering the expert group and supervisor's name. Once complete, the admin will obtain the total submission, supervisee list under that supervisor, project report file, and report marks. Apart from that, the admin will obtain the report of total PSM and PTA students including the supervisees' project report in the supervisee report. Even though, the admin not obtained permission to review the supervisees' tasks. However, the admin can obtain the task and project progression report by entering the supervisor name, and supervisee name. Hence, the admin will receive the total tasks complete and incomplete, total project tasks, and total submissions for each supervisee.

Moreover, the admin also has the responsibility to provide the evaluation information in the evaluation module. Therefore, in the evaluation module, the admin needs to assign evaluators to each supervisee by entering the evaluators' name, location, date, and time. Lastly, the admin also can review the alumni final year project information in the FYP Library. For more understanding, the link to the flowchart of admin has been provided in Appendix B.

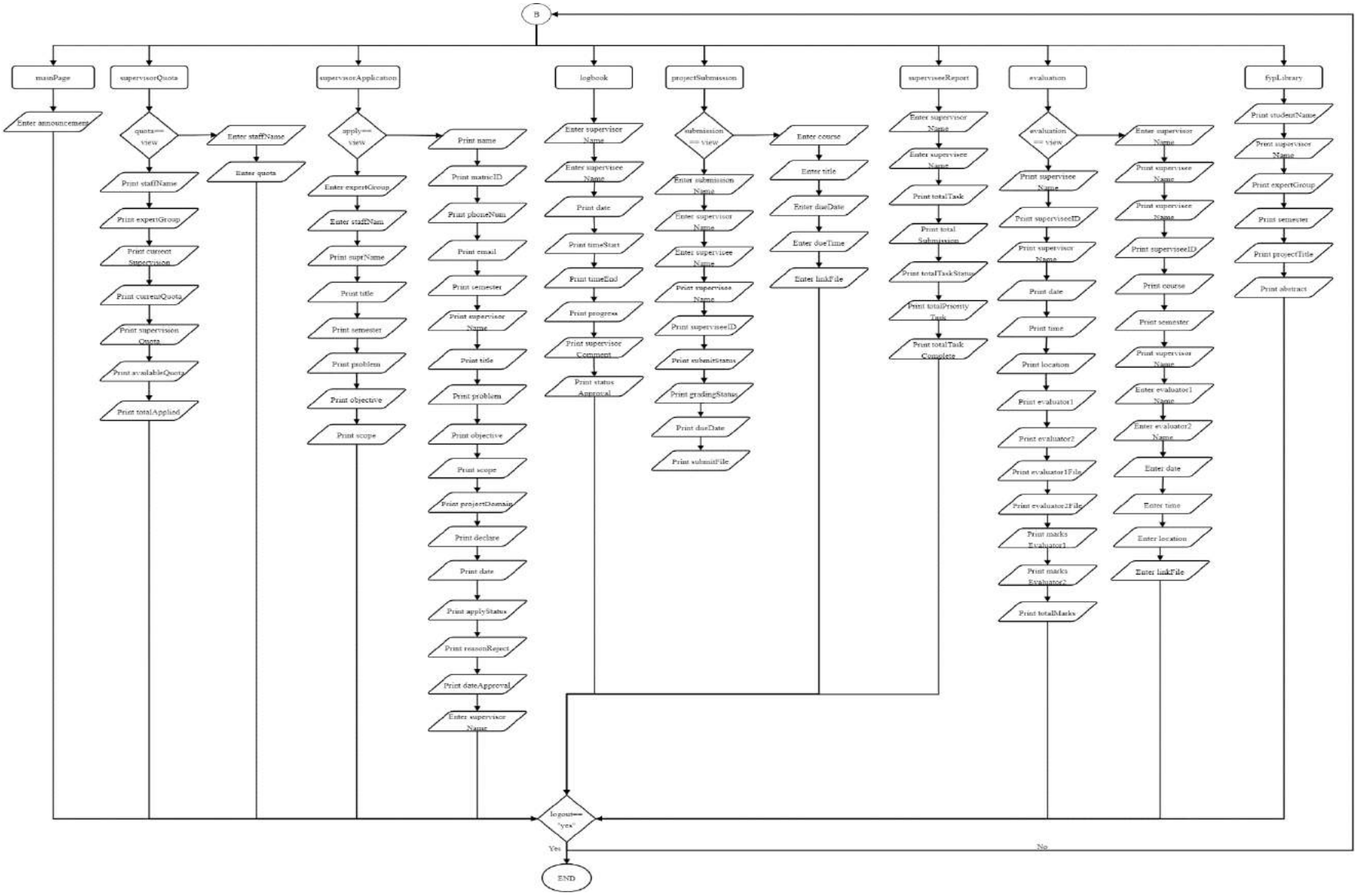


Figure 3.10 Flowchart for admin

3.4.2 Context Diagram

Figure 3.11 shows the context diagram of the Final Year Project Management System for Faculty of Computing. The proposed system has three actors which are Supervisee, Supervisor, and PSM/PTA Coordinator (Admin). The supervisee will manage the project task, make an appointment meeting, write the logbook, and make the supervisor application for the Final Year Project Management System for Faculty of Computing. Meanwhile, the proposed system will provide the supervisor quota information, supervisor application approval, project progression report, and evaluation information to the supervisee.

Moreover, the PSM/PTA coordinator will provide the supervisor application approval, create evaluation information, and manage the supervisor quota for the proposed system. The proposed system will provide the logbook information from the supervisor and supervisee, report submission information, and supervisee project progression report to the PSM/PTA coordinator.

In addition, the supervisor will perform the supervisor application declaration, update appointment meetings, manage project tasks, and update the logbook in the Final Year Project Management System for Faculty of Computing. Lastly, the Final Year Project Management System for Faculty of Computing will provide the supervisor quota information from the PSM/PTA coordinator, supervisee project task, project progression report, and evaluation information for the supervisor. For more understanding, the link to the context diagram has been provided in Appendix B.

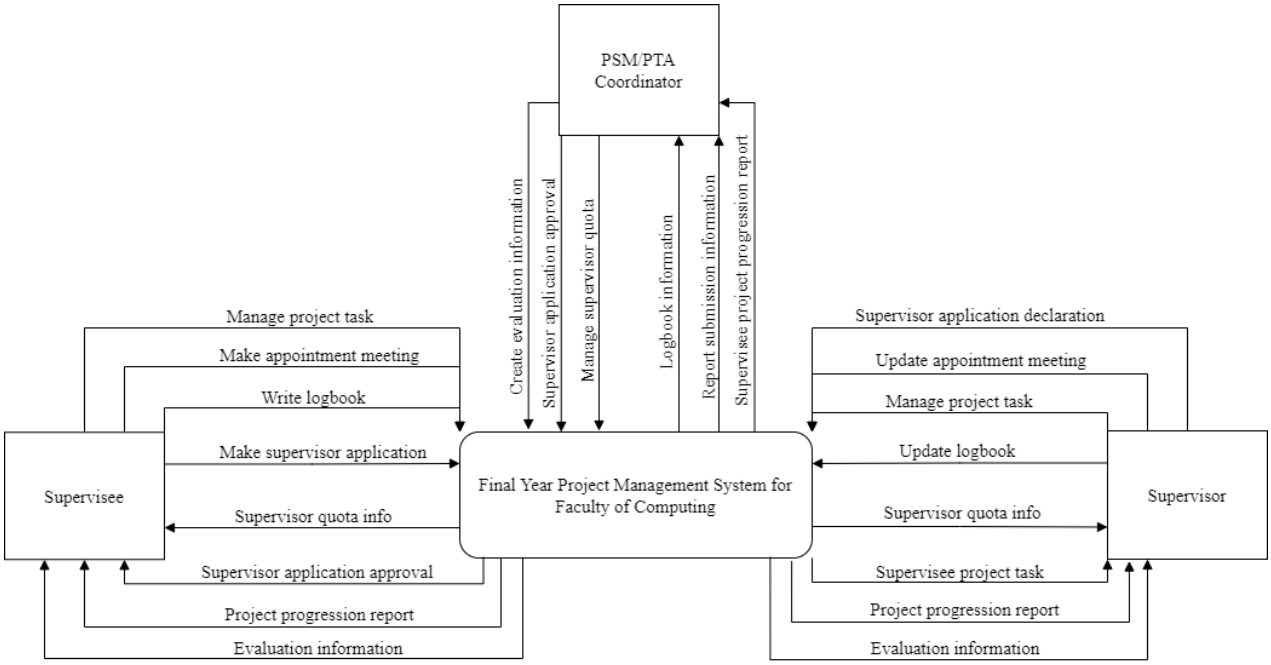


Figure 3.11 Context diagram of Final Year Project Management System for Faculty of Computing

3.4.3 Data Flow Diagram

Figure 3.12 shows the data flow diagram level 0 for the Final Year Project Management System for Faculty of Computing. Meanwhile, Figure 3.13 shows the data flow diagram level 1 for the Final Year Project Management System for Faculty of Computing.

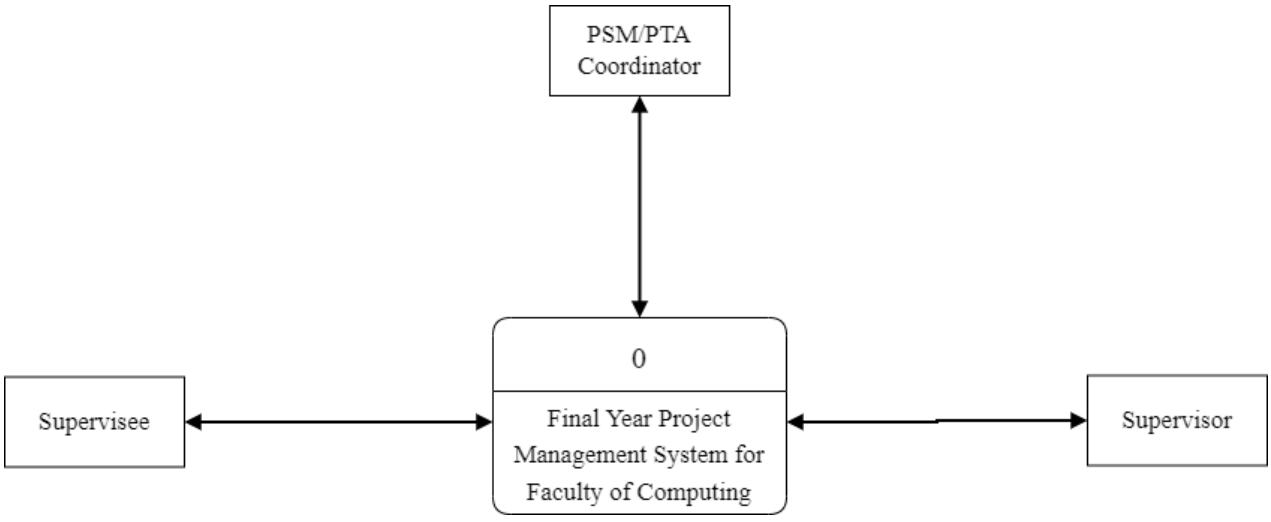


Figure 3.12 DFD level 0 of Final Year Project Management System for Faculty of Computing

Based on Figure 3.13, the Final Year Project Management System for Faculty of Computing has 3 external entities which are Supervisee, Supervisor, and PSM/PTA Coordinator. In fact, the Final Year Project Management System for Faculty of Computing also has 16 processes and each process has a data flow that is in and out of it. Those 15 processes are logbook record, logbook

report, meeting, meeting schedule, task report, project task, project report, supervisor application, project submission, supervisor quota report, supervisor application report, FYP library report, supervisor quota, evaluation record, and evaluation report. Lastly, the Final Year Project Management System for Faculty of Computing has 7 data stores which are logbook information, supervisor quota, supervisor application, appointment meeting, project information, evaluation information, and FYP information. For more understanding, the link to the DFD level 1 has been provided in Appendix B.

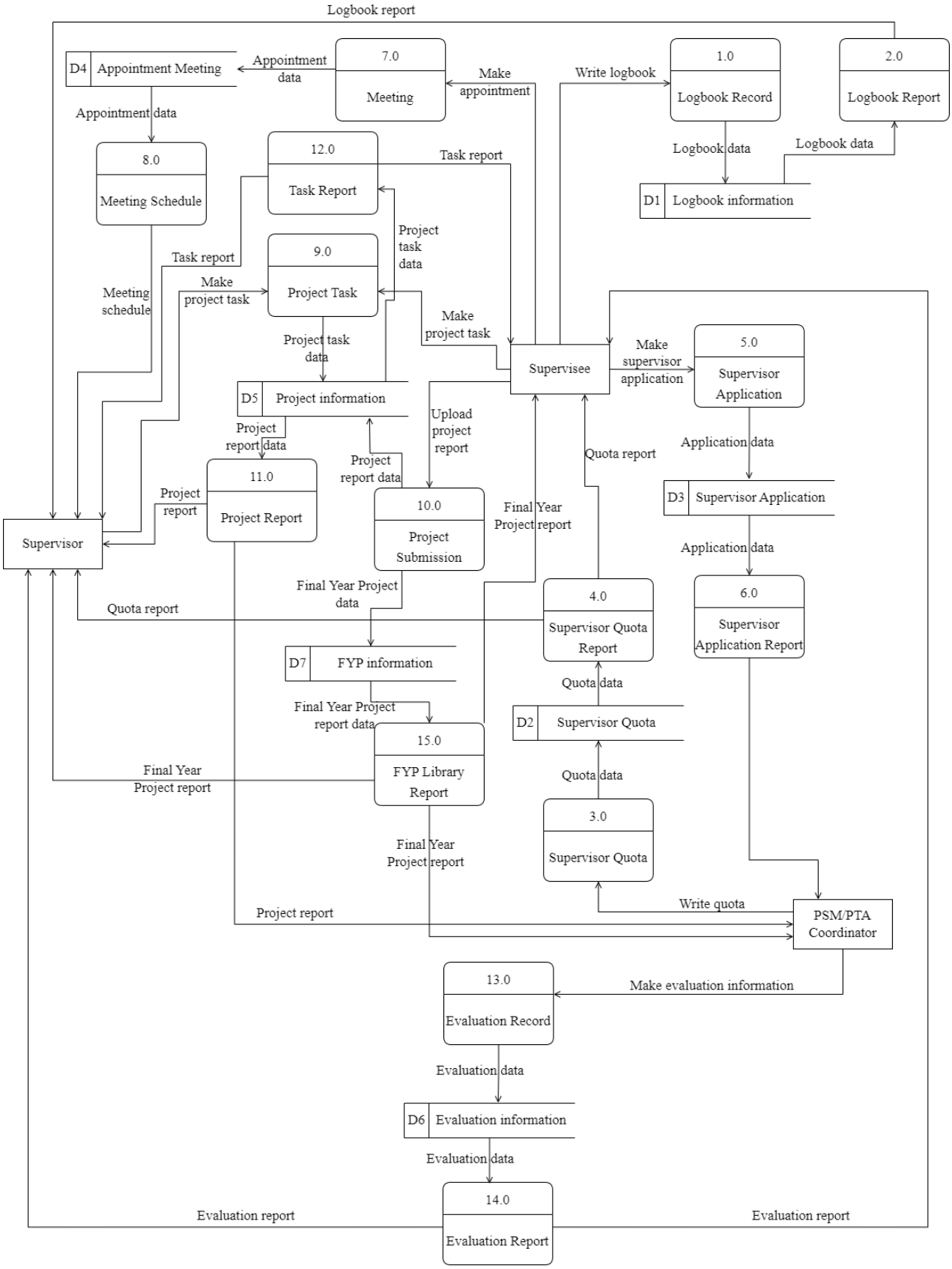


Figure 3.13 DFD level 1 of Final Year Project Management System for Faculty of Computing

3.4.4 Use Case Diagram

Figure 3.14 shows the use case of the Final Year Project Management System for Faculty of Computing. Table 3.2 until Table 3.9 shows the use case description of the proposed system.

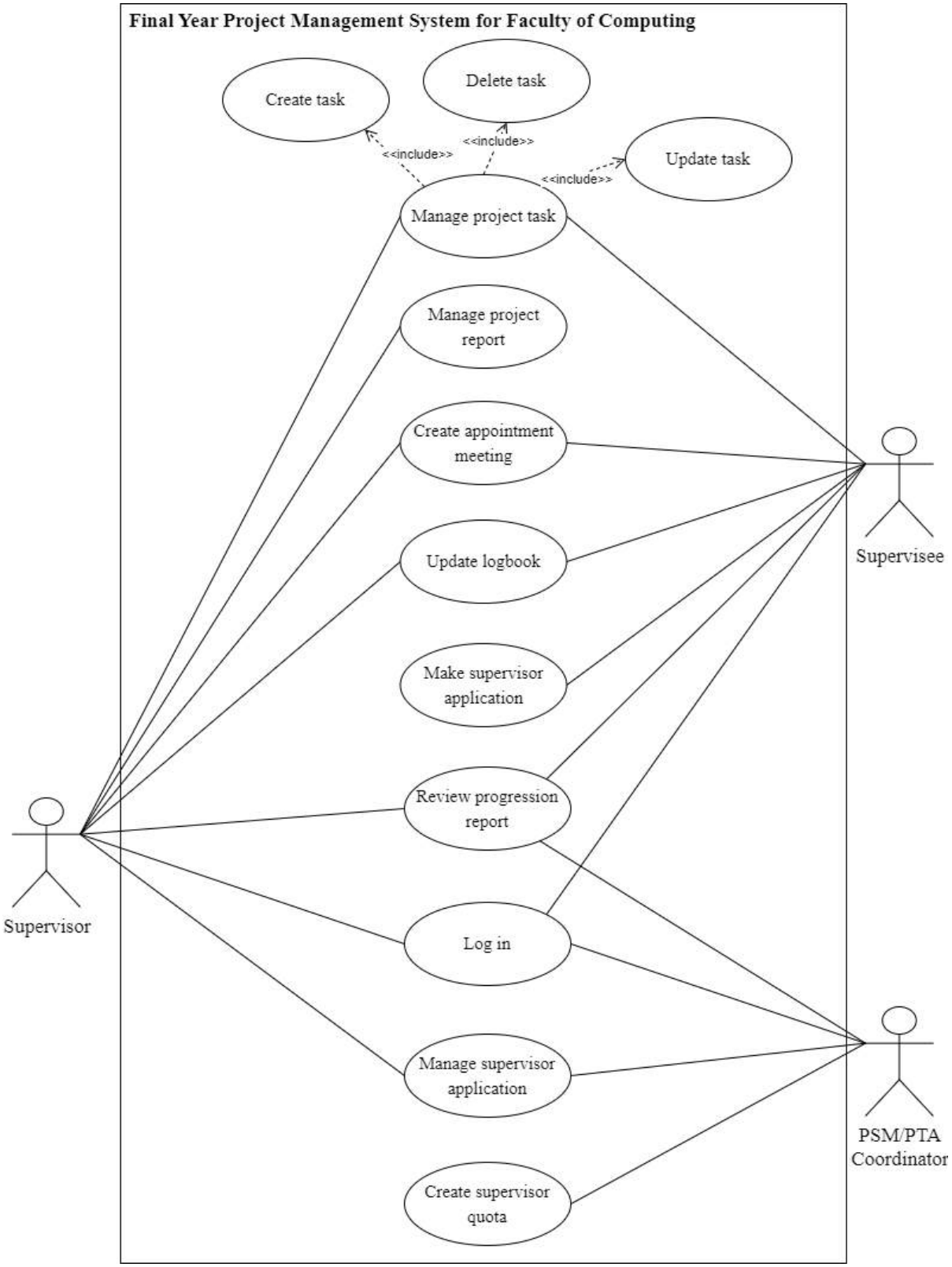


Figure 3.14 Use case of Final Year Project Management System for Faculty of Computing

Table 3.2 Use case description for manage project task

Use case name	Manage project task
Brief description	This use case is to handle and plan the development of the final year students' project.
Actor	Supervisor and supervisee.
Pre-condition	• Log in the proposed system.
Basic flow	1. The use case starts when the supervisor and supervisee click the 'My Task' or 'Supervisee Task' buttons. 2. The proposed system will directly bring the supervisor and supervisee to the project task module. 3. The supervisor and supervisee is able to: a. Create the new project task [**A1:** Create task]. b. Edit or update the project task [**A2:** Update task] c. Delete the project task [**A3:** Delete task] 4. The supervisor and supervisee click the 'SUBMIT' button. 5. The supervisor and supervisee is able to view the changes in the project task module. 6. The use case end.
Alternative flow	**A1: Create task** 1. The supervisor and supervisee insert the project title, due date, priority, status, and task details. 2. Continue with step 4 from basic flow. **A2: Update task** 1. The supervisee updates the progress task whether 'To Do', 'Doing' or 'Done'. 2. The supervisee updates the status task whether 'On Track', 'Risk', or 'Off Track'. 3. The supervisee attaches the task files. 4. The supervisor inserts the comment in the task. 5. Continue with step 4 from basic flow. **A3: Delete task** 1. The supervisor and supervisee click the selected task.

	2. The supervisor and supervisee click the dustbin icon in order to delete the task. 3. The proposed system displays the confirmation message. 4. The supervisor and supervisee click the 'Yes' button on the confirmation message. 5. Continue with step 5 from basic flow.
Exception flow	None
Post-condition	• The supervisor and supervisee is able to create, update, and delete the task successfully. • The list of project task is updated.
Constraints	None

Table 3.3 Use case description for manage project report

Use case name	Manage project report
Brief description	This use case is to manage the project report such as insert the report marks in the Final Year Project Management System for Faculty of Computing.
Actor	Supervisor
Pre-condition	• Login the proposed system as the staff.
Basic flow	1. The use case starts when the supervisor clicks a 'Project Submission' button. 2. The supervisor needs to select the submission platform. 3. The supervisor needs to select their supervisee's name. 4. The proposed system will provide the submission report and last modified information [**E1:** Not have submission report and modified information]. 5. Upload the submission file. 6. The proposed system requests the report marks. 7. The supervisor reviews the submission report and insert the report marks [**C1:** Due date marking]. 8. The supervisor clicks the 'SUBMIT' button. 9. The use case end.
Alternative flow	None

Exception flow	**E1: Not have submission report and modified information** 1. Continue with step 3 from basic flow.
Post-condition	• The project submission data is complete and updated. • The supervisee is able to view their report marks.
Constraints	None

Table 3.4 Use case description for create appointment meeting

Use case name	Create appointment meeting
Brief description	This use case is to make the appointment meeting in the Final Year Project Management System for Faculty of Computing.
Actor	Supervisor and supervisee.
Pre-condition	• Login the proposed system.
Basic flow	1. The use case starts when the supervisor and supervisee click a 'Appointment Meeting' button. 2. The supervisor and supervisee insert the meeting title, supervisor/supervisee name, date [**E1:** Date not available], time [**E2:** Time not available], and purpose. 3. The supervisor and supervisee click the 'SUBMIT' button. 4. The use case end.
Alternative flow	None.
Exception flow	**E1: Date not available** 1. The supervisor and supervisee select another date. 2. The proposed system checks the availability of the selected date. 3. Continue with step 3 from basic flow. **E2: Time not available** 1. The supervisor and supervisee select another date. 2. The proposed system checks the availability of the selected date. 3. Continue with step 3 from basic flow.
Post-condition	• The supervisor is able to make the meeting with the supervisee.
Constraints	None

Table 3.5 Use case description for update logbook

Use case name	Update logbook
Brief description	This use case is to manage the logbook in the Final Year Project Management System for Faculty of Computing.
Actor	Supervisor and supervisee.
Pre-condition	• Login the proposed system.
Basic flow	1. The use case starts when the supervisor and supervisee click a 'Logbook' button. 2. The proposed system will directly bring the supervisor and supervisee to the logbook module. 3. The supervisee clicks the 'INSERT LOGBOOK' button. 4. The proposed system requests the meeting information such as week, date, time start, time end, and progress from the supervisee. 5. The supervisee clicks the 'SUBMIT' button [**E1:** Cancel update logbook]. 6. The supervisor inserts the comment. 7. The supervisee clicks the 'SUBMIT' button. 8. The use case end.
Alternative flow	None
Exception flow	**E1: Cancel update logbook.** 1. The supervisee clicks the 'CANCEL' button. 2. Continue with step 2 from basic flow.
Post-condition	• The supervisee and supervisee are able to create and update logbook successfully. • The logbook data is updated.
Constraints	None

Table 3.6 Use case description for make supervisor application

Use case name	Make supervisor application
Brief description	This use case is to apply the supervisor application.
Actor	Supervisee
Pre-condition	• Login the proposed system as the supervisee.

Basic flow	1. The use case starts when the supervisee clicks a 'Supervisor Application' button. 2. The proposed system will directly show the supervisor application form. 3. The supervisee needs to insert the name, matric ID, phone number, email, proposed title, background problem, project domain, and project declaration. 4. The supervisee clicks 'SUBMIT' button. 5. The proposed system displays the supervisor application status [**C1:** Limit of supervisor quota]. 6. The use case end.
Alternative flow	None
Exception flow	None
Post-condition	• The supervisor application process is success. • The student is able to obtained the supervisor for their project.
Constraints	**C1: Limit of supervisor quota** Limited total quota of supervisee for each supervisor.

Table 3.7 Use case description for review progression report

Use case name	Review progression report
Brief description	This use case is to review the real live report visualization of project progression.
Actor	Supervisor, supervisee, and PSM/PTA coordinator.
Pre-condition	• Login the proposed system.
Basic flow	1. The use case starts when the supervisor, supervisee, and PSM/PTA coordinator clicks the 'Reporting' button. 2. The proposed system will show the reporting interface. 3. The proposed system will display overall total of task, project submission, overdue, status, priority, and task completion. 4. The use case end.
Alternative flow	None
Exception flow	None

Post-condition	• The task and project progression data was provided in the real live report visualization.
Constraints	None

Table 3.8 Use case description for manage supervisor application

Use case name	Manage supervisor application
Brief description	This use case is to make approval of the supervisor application.
Actor	Supervisor and PSM/PTA Coordinator.
Pre-condition	• Login the proposed system.
Basic flow	1. The use case starts when the supervisor and PSM/PTA coordinator clicks the 'Supervisor Application' button. 2. The proposed system will display the supervisor application interface. 3. The supervisor clicks the 'AGREE' button. [**E1:** Reject supervisor application]. 4. The supervisor inserts the date and agreement declaration. 5. The PSM/PTA coordinator clicks the 'Approve' button. [**E2:** Not approve the application]. 6. The proposed system will display "Approved" in the application status. 7. The use case end.
Alternative flow	None
Exception flow	**E1: Reject supervisor application** 1. The supervisor clicks the 'DISAGREE' button. 2. The proposed system will display "Not Approved" in the application status. 3. Continue with step 7 from basic flow. **E2: Not approve the application** 1. The PSM/PTA coordinator clicks the 'Not Approve' button. 2. The proposed system request assigns the other supervisor. 3. The PSM/PTA coordinator insert the supervisor name. 4. Continue with step 6 from basic flow

Post-condition	• The supervisor application is complete and updated. • The supervisee is obtain the supervisor for the final year project.
Constraints	None

Table 3.9 Use case description for create supervisor quota

Use case name	Create supervisor quota
Brief description	This use case is to create the supervisor quota information.
Actor	PSM/PTA coordinator.
Pre-condition	• Login the proposed system as the admin.
Basic flow	1. The use case starts when the PSM/PTA coordinator clicks the 'Supervisor Quota' button. 2. The proposed system will display the supervisor quota interface. 3. The PSM/PTA coordinator clicks the 'INSERT QUOTA' button. 4. The PSM/PTA coordinator insert the information of supervisor name, email, expert group, expert profile, current quota, and total quota. 5. The PSM/PTA coordinator clicks the 'SUBMIT' button. 6. The proposed system will automatically calculate and display the available quota and total applied. 7. The use case end
Alternative flow	None
Exception flow	None
Post-condition	• The data of supervisor quota is updated.
Constraints	None

3.4.5 Activity Diagram

Figure 3.15 shows the activity diagram of the Final Year Project Management System for Faculty of Computing. For more understanding, the link to the activity diagram has been provided in Appendix B.

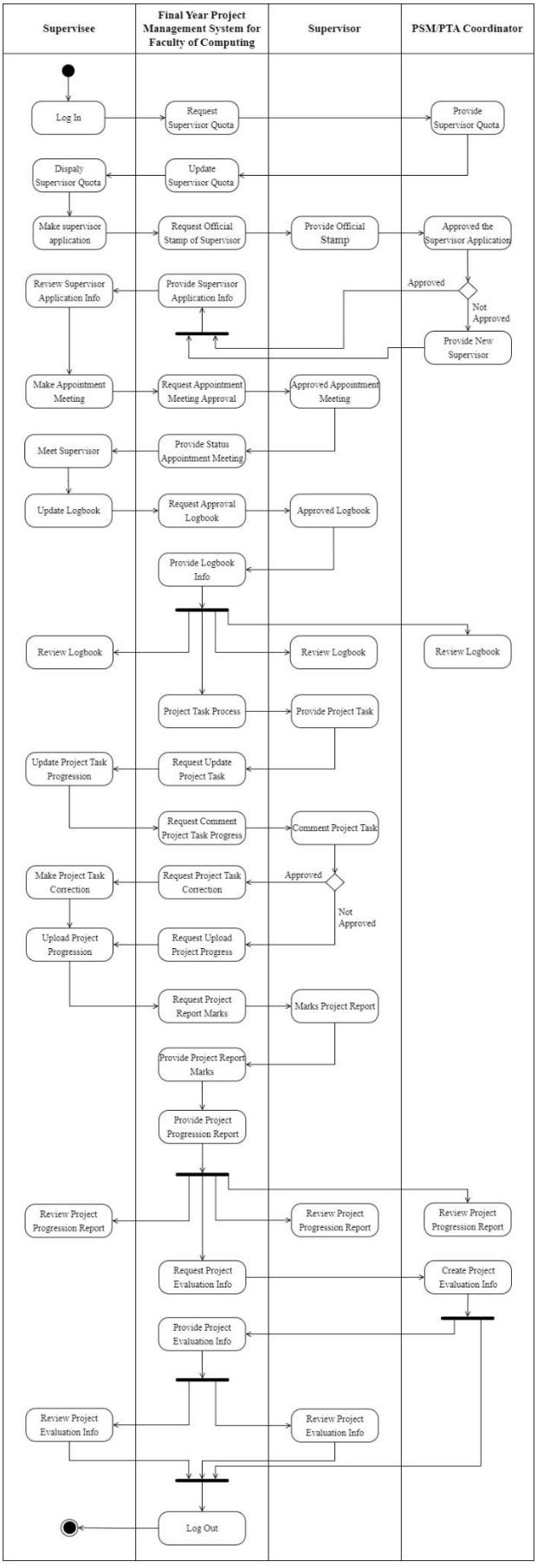
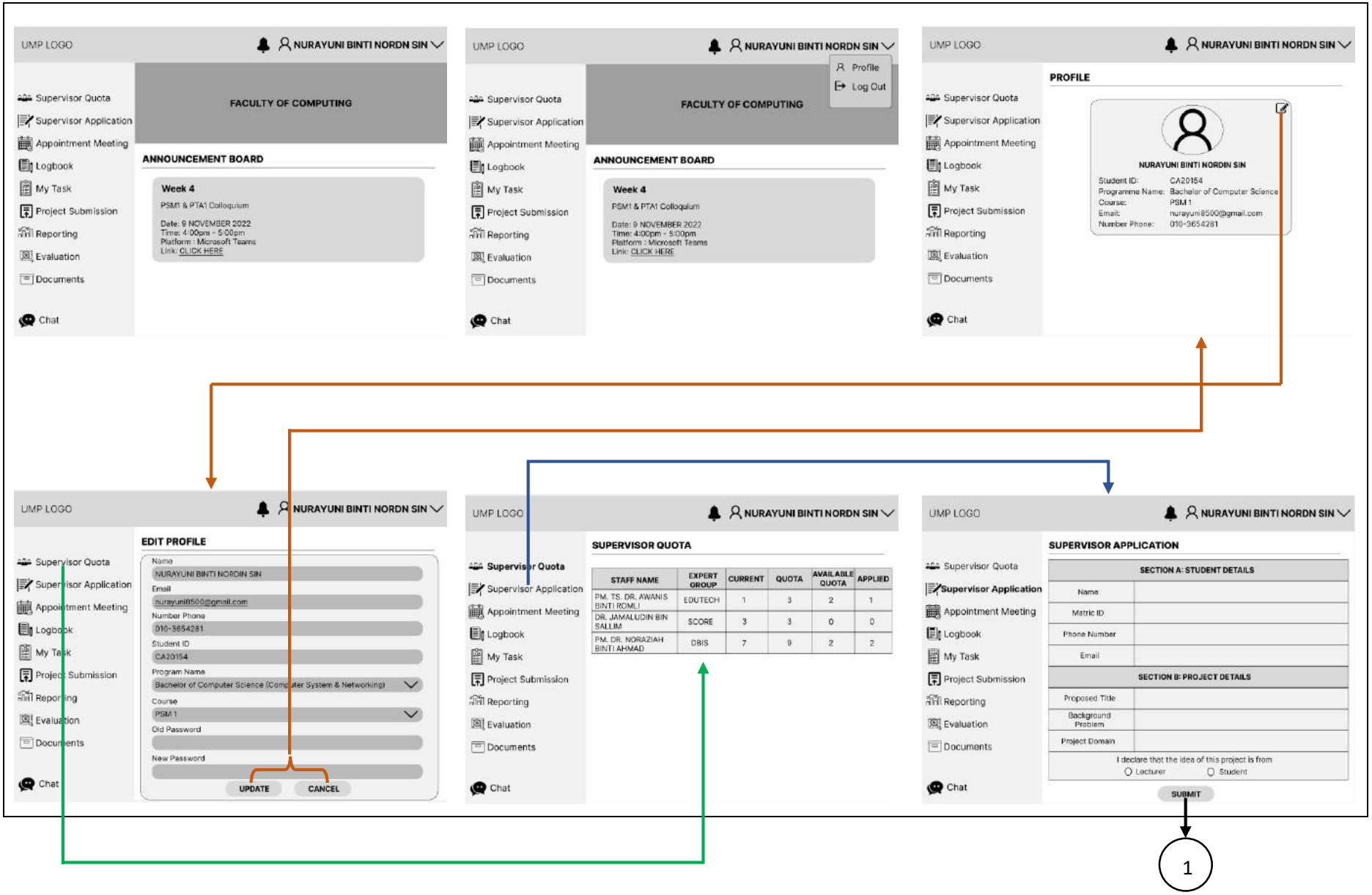


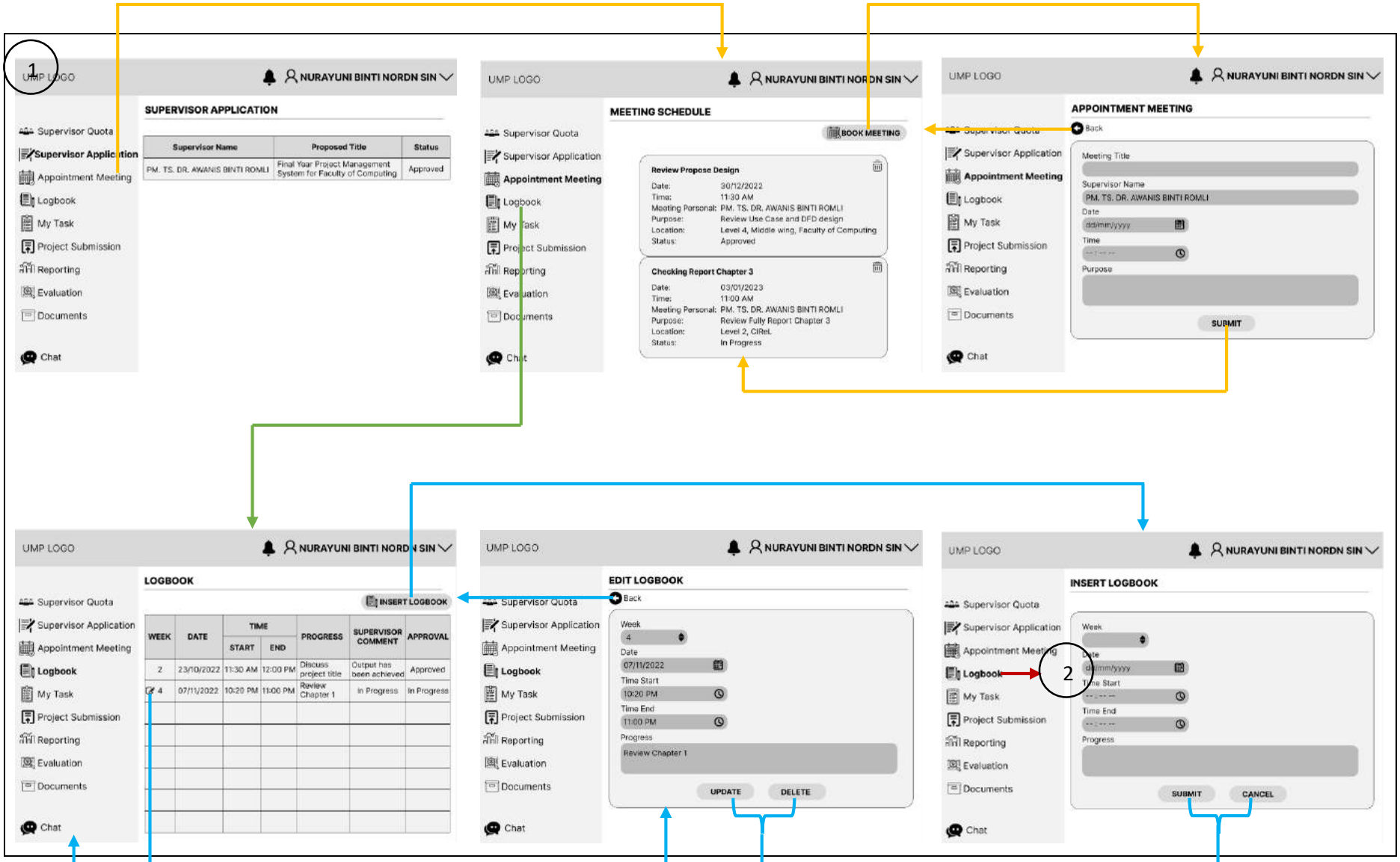
Figure 3.15 Activity diagram of the Final Year Project Management System for Faculty of Computing

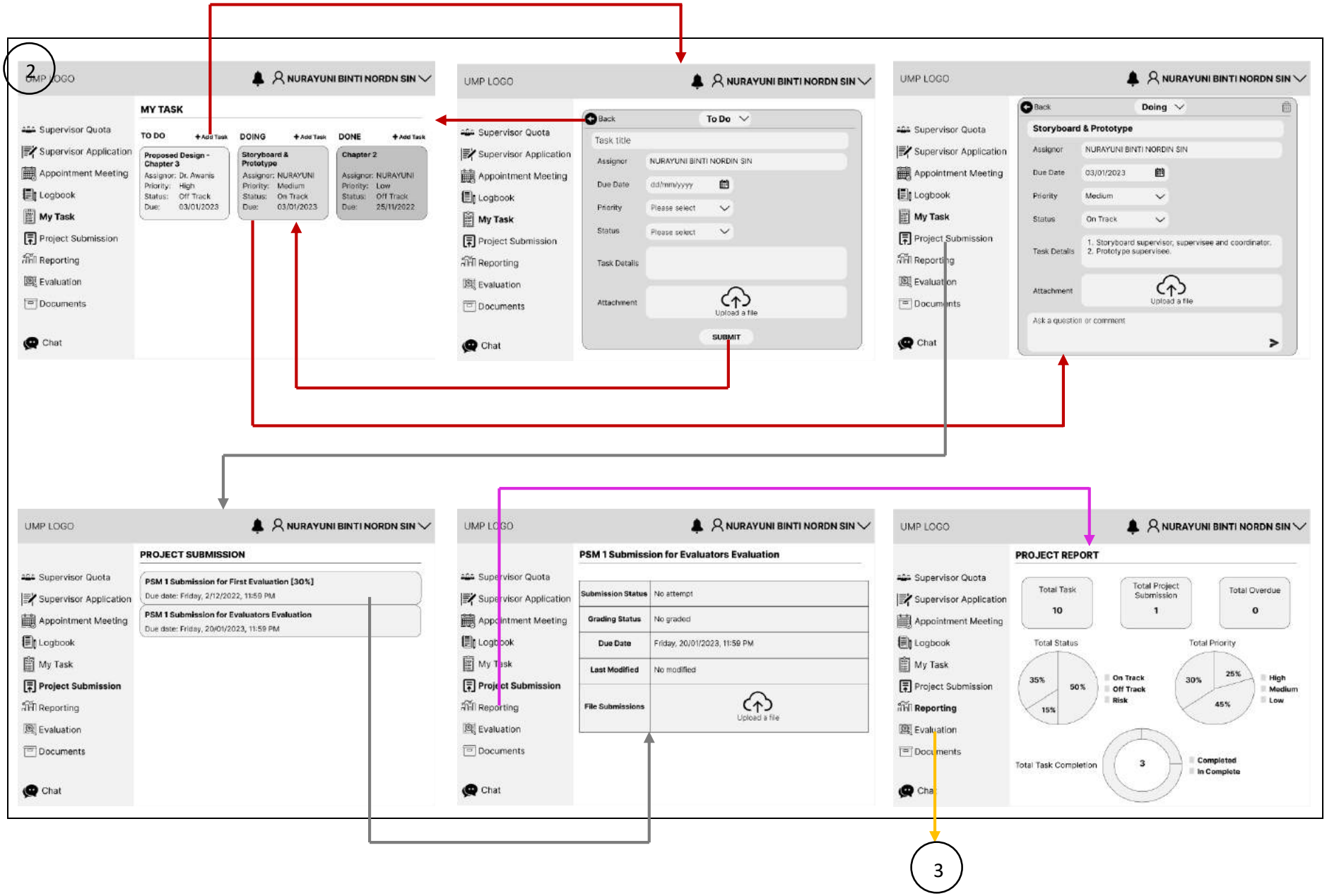
3.4.6 Storyboard

Below shows the storyboard for supervisee, supervisor, and admin for Final Year Project Management System for Faculty of Computing.

Storyboard for supervisee




1
UMP LOGO
NURAYUNI BINTI NORDN SIN
Supervisor Quota
Supervisor Application
Appointment Meeting
Logbook
My Task
Project Submission
Reporting
Evaluation
Documents
Chat
SUPERVISOR APPLICATION
Supervisor Name
Proposed Title
Status
PM. TS. DR. AWANIS BINTI ROMLI
Final Year Project Management System for Faculty of Computing
Approved
MEETING SCHEDULE
BOOK MEETING
Review Propose Design
Date: 30/12/2022
Time: 11:30 AM
Meeting Personal: PM. TS. DR. AWANIS BINTI ROMLI
Purpose: Review Use Case and DFD design
Location: Level 4, Middle wing, Faculty of Computing
Status: Approved
Checking Report Chapter 3
Date: 03/01/2023
Time: 11:00 AM
Meeting Personal: PM. TS. DR. AWANIS BINTI ROMLI
Purpose: Review Fully Report Chapter 3
Location: Level 2, CIReL
Status: In Progress
APPOINTMENT MEETING
Back
Meeting Title
Supervisor Name
PM. TS. DR. AWANIS BINTI ROMLI
Date
dd/mm/yyyy
Time
Purpose
SUBMIT
LOGBOOK
INSERT LOGBOOK
WEEK
DATE
TIME
START
END
PROGRESS
SUPERVISOR COMMENT
APPROVAL
2
23/10/2022
11:30 AM
12:00 PM
Discuss project title
Output has been achieved
Approved
4
07/11/2022
10:20 PM
11:00 PM
Review Chapter 1
In Progress
In Progress
EDIT LOGBOOK
Back
Week
4
Date
07/11/2022
Time Start
10:20 PM
Time End
11:00 PM
Progress
Review Chapter 1
UPDATE
DELETE
INSERT LOGBOOK
Week
Date
dd/mm/yyyy
Time Start
Time End
Progress
SUBMIT
CANCEL
2


2
UMP LOGO
NURAYUNI BINTI NORDN SIN
MY TASK
TO DO
DOING
DONE
Proposed Design - Chapter 3
Storyboard & Prototype
Chapter 2
Supervisor Quota
Supervisor Application
Appointment Meeting
Logbook
My Task
Project Submission
Reporting
Evaluation
Documents
Chat
Back
To Do
Task title
Assignor
Due Date
Priority
Status
Task Details
Attachment
Upload a file
SUBMIT
Doing
Storyboard & Prototype
Ask a question or comment
PROJECT SUBMISSION
PSM 1 Submission for First Evaluation [30%]
PSM 1 Submission for Evaluators Evaluation
PSM 1 Submission for Evaluators Evaluation
Submission Status
No attempt
Grading Status
No graded
Due Date
Friday, 20/01/2023, 11:59 PM
Last Modified
No modified
File Submissions
PROJECT REPORT
Total Task
10
Total Project Submission
1
Total Overdue
0
Total Status
Total Priority
On Track
Off Track
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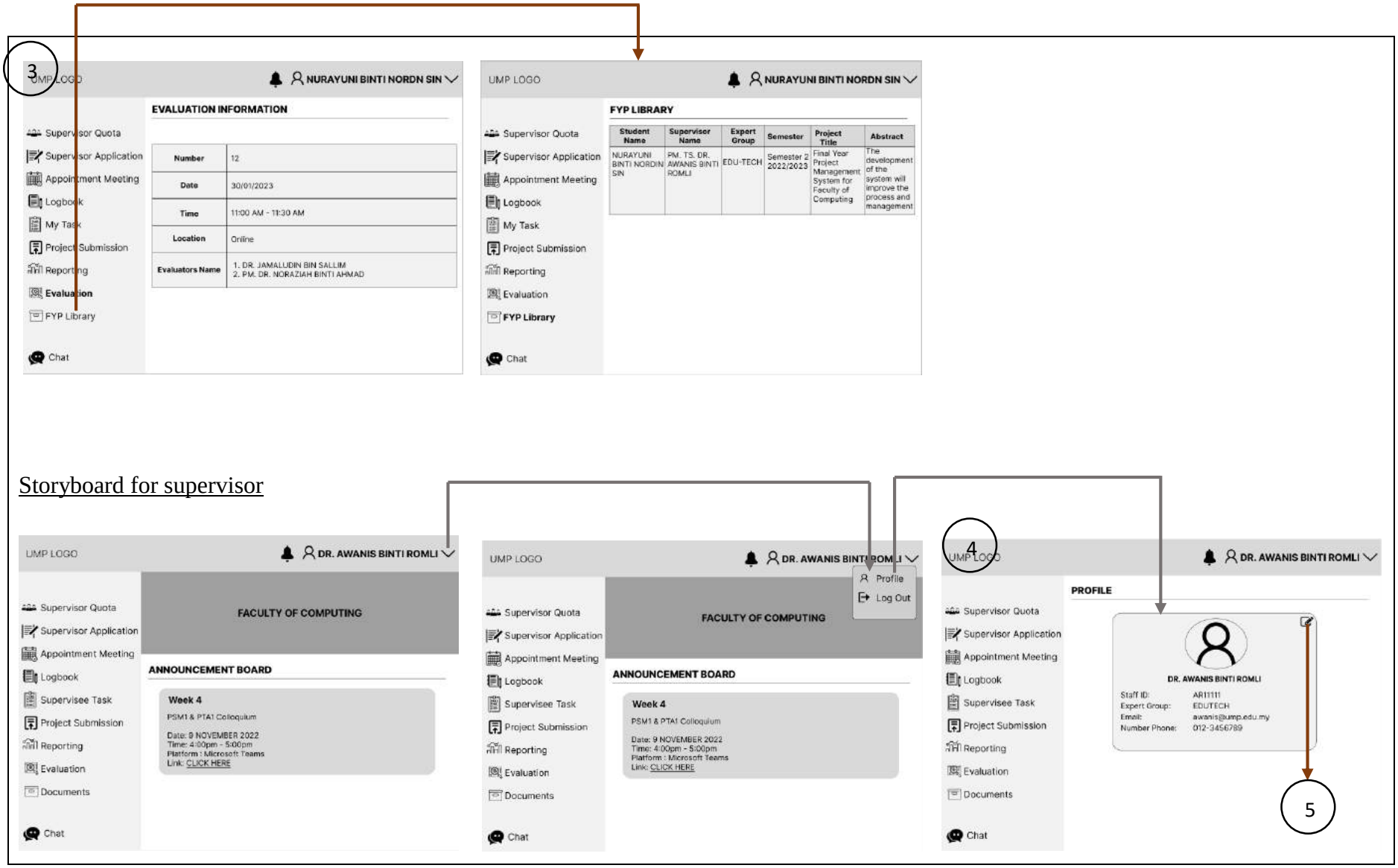
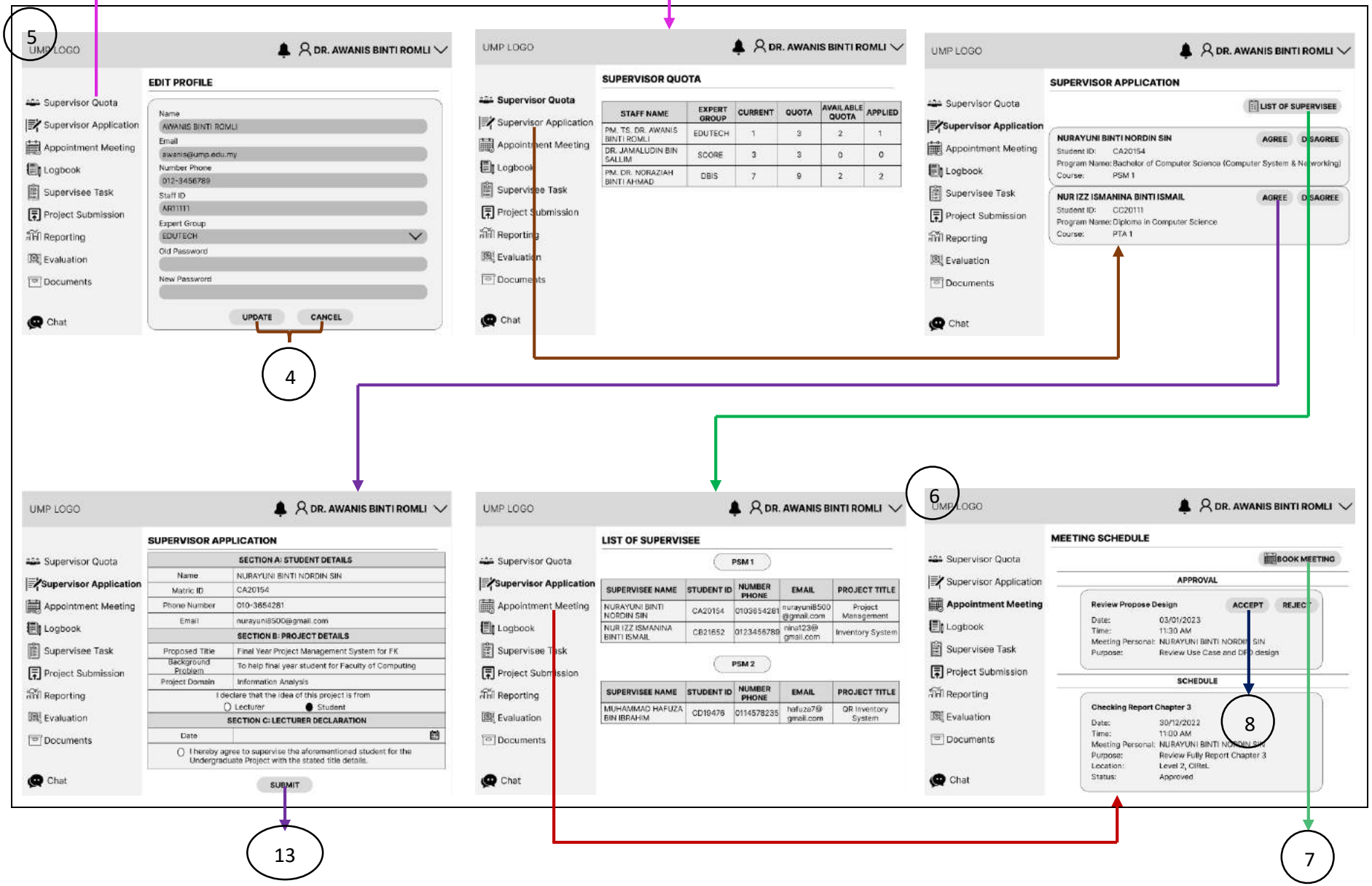
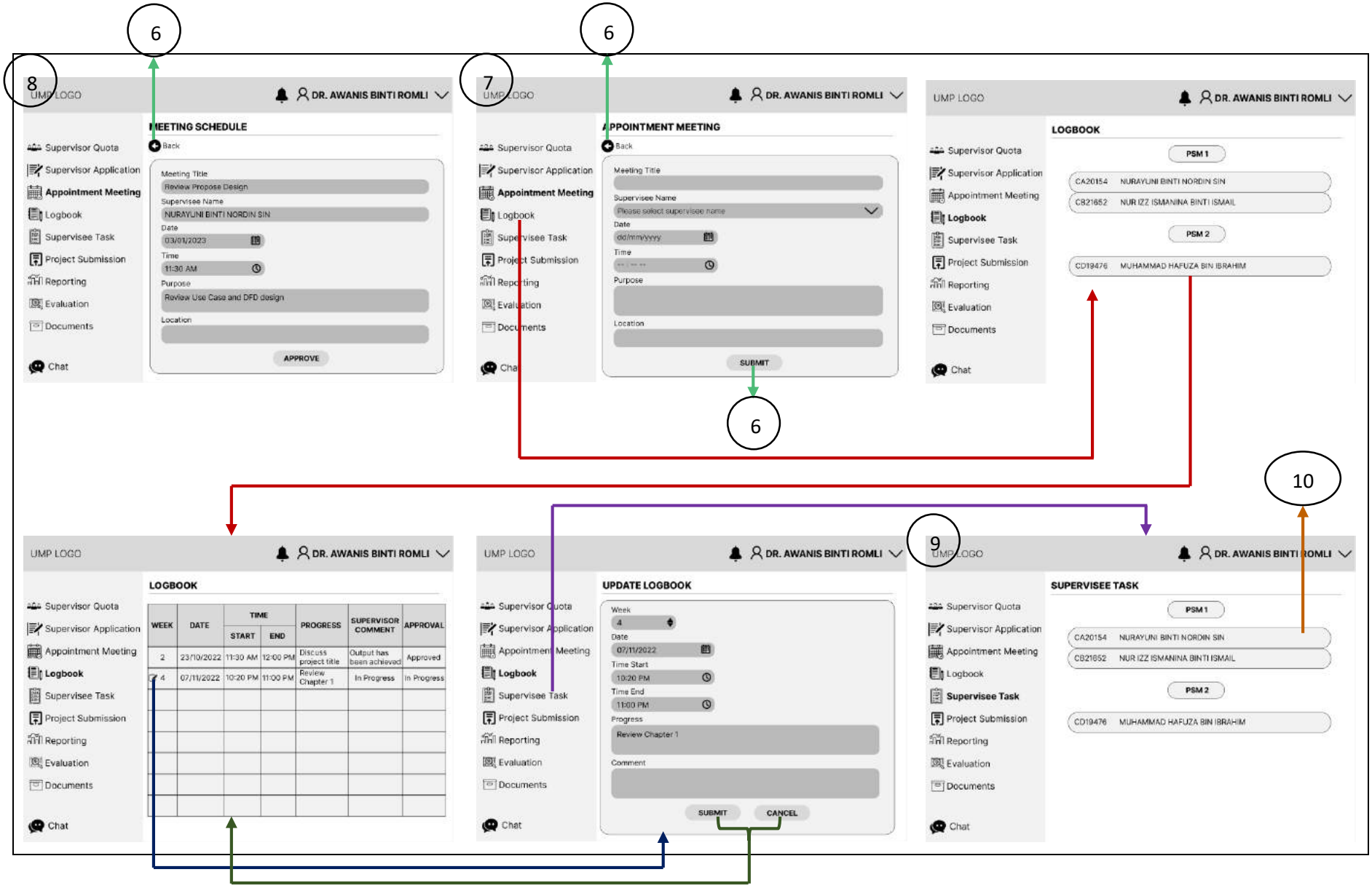

3
UMP LOGO
NURAYUNI BINTI NORDN SIN
Supervisor Quota
Supervisor Application
Appointment Meeting
Logbook
My Task
Project Submission
Reporting
Evaluation
FYP Library
Chat
EVALUATION INFORMATION
Number
12
Date
30/01/2023
Time
11:00 AM - 11:30 AM
Location
Online
Evaluators Name
1. DR. JAMALUDIN BIN SALLIM
2. PM. DR. NORAZIAH BINTI AHMAD
FYP LIBRARY
Student Name
Supervisor Name
Expert Group
Semester
Project Title
Abstract
NURAYUNI BINTI NORDIN SIN
PM. TS. DR. AWANIS BINTI ROMLI
EDU-TECH
Semester 2 2022/2023
Final Year Project Management System for Faculty of Computing
The development of the system will improve the process and management
Storyboard for supervisor
DR. AWANIS BINTI ROMLI
Supervisee Task
Documents
FACULTY OF COMPUTING
ANNOUNCEMENT BOARD
Week 4
PSM1 & PTA1 Colloquium
Date: 9 NOVEMBER 2022
Time: 4:00pm - 5:00pm
Platform : Microsoft Teams
Link: CLICK HERE
Profile
Log Out
4
PROFILE
Staff ID:
AR1111
Expert Group:
EDUTECH
Email:
awanis@ump.edu.my
Number Phone:
012-3456789
5


5
UMP LOGO
DR. AWANIS BINTI ROMLI
Supervisor Quota
Supervisor Application
Appointment Meeting
Logbook
Supervisee Task
Project Submission
Reporting
Evaluation
Documents
Chat
EDIT PROFILE
Name
AWANIS BINTI ROMLI
Email
awanis@ump.edu.my
Number Phone
012-3456789
Staff ID
AR1111
Expert Group
EDUTECH
Old Password
New Password
UPDATE
CANCEL
4
SUPERVISOR QUOTA
STAFF NAME
EXPERT GROUP
CURRENT
QUOTA
AVAILABLE QUOTA
APPLIED
PM. TS. DR. AWANIS BINTI ROMLI
EDUTECH
1
3
2
1
DR. JAMALUDIN BIN SALLIM
SCORE
3
3
0
0
PM. DR. NORAZIAH BINTI AHMAD
DBIS
7
9
2
2
SUPERVISOR APPLICATION
LIST OF SUPERVISEE
NURAYUNI BINTI NORDIN SIN
AGREE
DISAGREE
Student ID: CA20154
Program Name: Bachelor of Computer Science (Computer System & Networking)
Course: PSM 1
NUR IZZ ISMANINA BINTI ISMAIL
AGREE
DISAGREE
Student ID: CD20111
Program Name: Diploma in Computer Science
Course: PTA 1
SUPERVISOR APPLICATION
SECTION A: STUDENT DETAILS
Name
NURAYUNI BINTI NORDIN SIN
Matric ID
CA20154
Phone Number
010-3654281
Email
nurayuni8500@gmail.com
SECTION B: PROJECT DETAILS
Proposed Title
Final Year Project Management System for FK
Background Problem
To help final year student for Faculty of Computing
Project Domain
Information Analysis
I declare that the idea of this project is from
Lecturer
Student
SECTION C: LECTURER DECLARATION
Date
I hereby agree to supervise the aforementioned student for the Undergraduate Project with the stated title details.
SUBMIT
13
LIST OF SUPERVISEE
PSM 1
SUPERVISEE NAME
STUDENT ID
NUMBER PHONE
EMAIL
PROJECT TITLE
NURAYUNI BINTI NORDIN SIN
CA20154
0103854261
nurayuni8500@gmail.com
Project Management
NUR IZZ ISMANINA BINTI ISMAIL
CB21652
0123456789
nina123@gmail.com
Inventory System
PSM 2
SUPERVISEE NAME
STUDENT ID
NUMBER PHONE
EMAIL
PROJECT TITLE
MUHAMMAD HAFUZA BIN IBRAHIM
CD19476
0114578235
hafuza78@gmail.com
QR Inventory System
6
MEETING SCHEDULE
BOOK MEETING
APPROVAL
Review Propose Design
ACCEPT
REJECT
Date: 03/01/2023
Time: 11:30 AM
Meeting Personal: NURAYUNI BINTI NORDIN SIN
Purpose: Review Use Case and DFD design
SCHEDULE
Checking Report Chapter 3
Date: 30/12/2022
Time: 11:00 AM
Meeting Personal: NURAYUNI BINTI NORDIN SIN
Purpose: Review Fully Report Chapter 3
Location: Level 2, CIReL
Status: Approved
8
7


6
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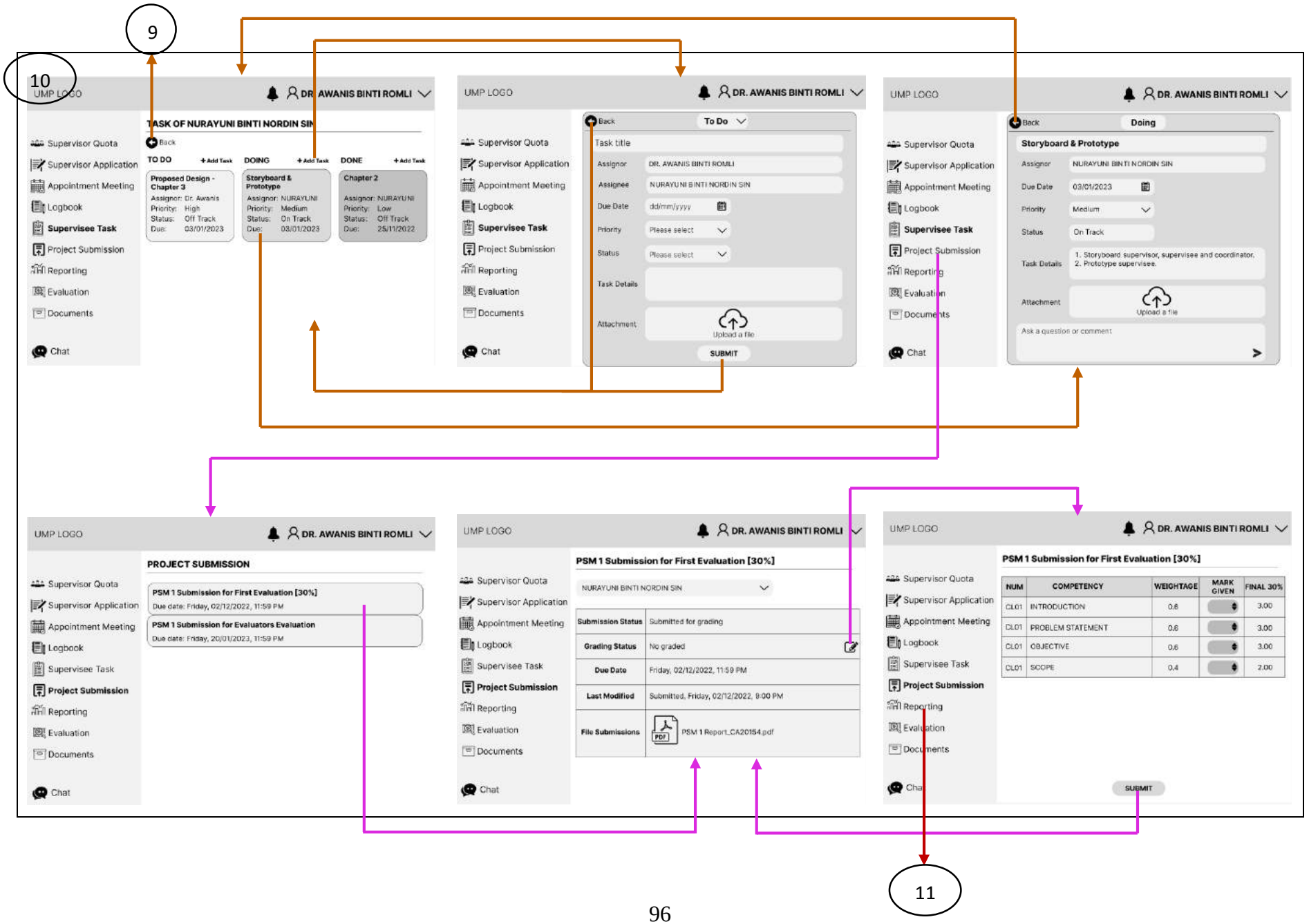
UMP LOGO
DR. AWANIS BINTI ROMLI
Supervisor Quota
Supervisor Application
Appointment Meeting
Logbook
Supervisee Task
Project Submission
Reporting
Evaluation
Documents
Chat
MEETING SCHEDULE
Back
Meeting Title
Review Propose Design
Supervisee Name
NURAYUNI BINTI NORDIN SIN
Date
03/01/2023
Time
11:30 AM
Purpose
Review Use Case and DFD design
Location
APPROVE
APPOINTMENT MEETING
Meeting Title
Supervisee Name
Please select supervisee name
Date
dd/mm/yyyy
Time
Purpose
Location
SUBMIT
6
LOGBOOK
PSM 1
CA20154 NURAYUNI BINTI NORDIN SIN
CB21652 NUR IZZ ISMANINA BINTI ISMAIL
PSM 2
CD19476 MUHAMMAD HAFUZA BIN IBRAHIM
10
9
LOGBOOK
WEEK
DATE
TIME
START
END
PROGRESS
SUPERVISOR COMMENT
APPROVAL
2
23/10/2022
11:30 AM
12:00 PM
Discuss project title
Output has been achieved
Approved
4
07/11/2022
10:20 PM
11:00 PM
Review Chapter 1
In Progress
In Progress
UPDATE LOGBOOK
Week
4
Date
07/11/2022
Time Start
10:20 PM
Time End
11:00 PM
Progress
Review Chapter 1
Comment
SUBMIT
CANCEL
SUPERVISEE TASK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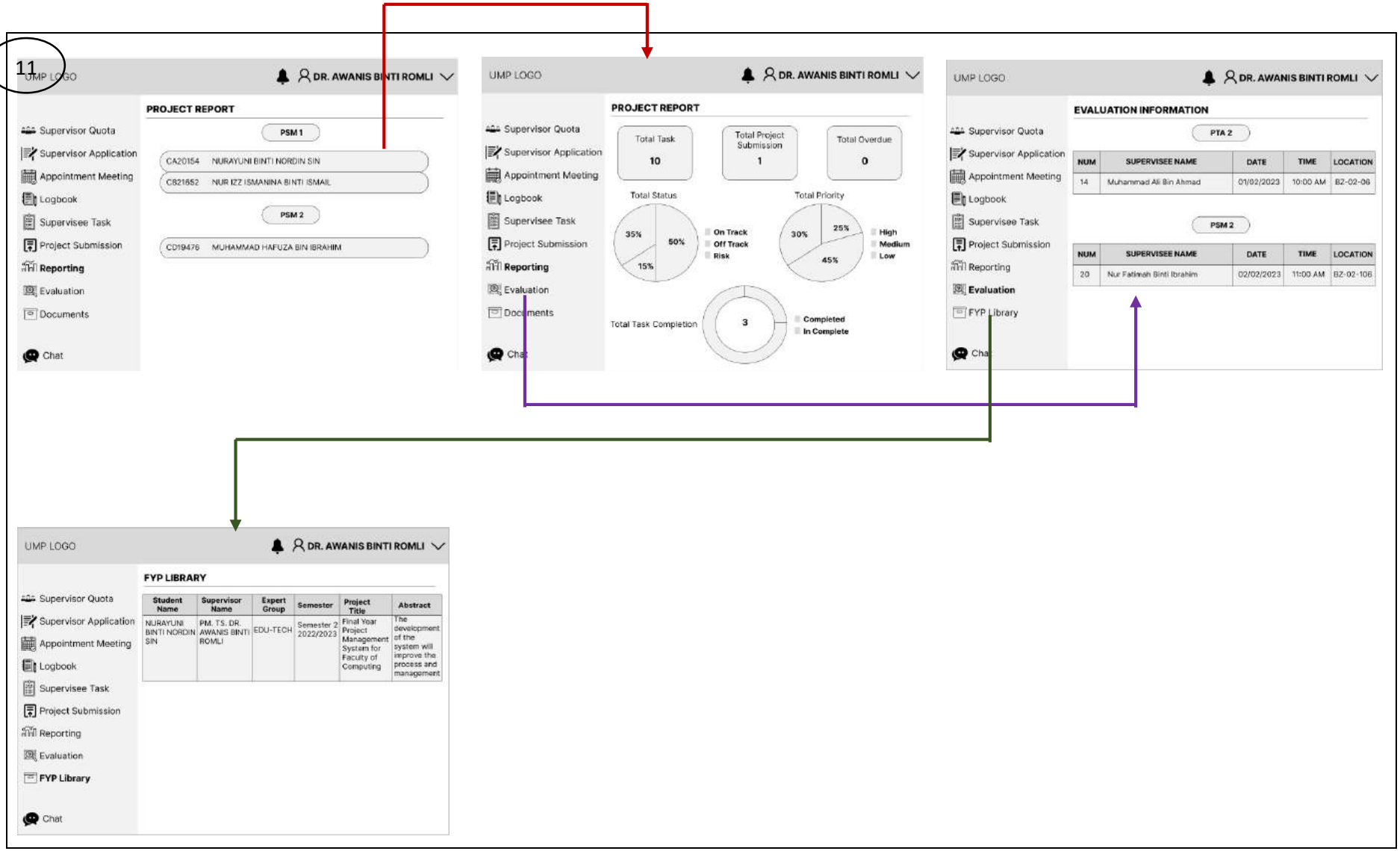
10
UMP LOGO
DR. AWANIS BINTI ROMLI
Supervisor Quota
Supervisor Application
Appointment Meeting
Logbook
Supervisee Task
Project Submission
Reporting
Evaluation
Documents
Chat
TASK OF NURAYUNI BINTI NORDIN SIN
Back
TO DO
DOING
DONE
Proposed Design - Chapter 3
Assignor: Dr. Awanis
Priority: High
Status: Off Track
Due: 03/01/2023
Storyboard & Prototype
Assignor: NURAYUNI
Priority: Medium
Status: On Track
Due: 03/01/2023
Chapter 2
Assignor: NURAYUNI
Priority: Low
Status: Off Track
Due: 25/11/2022
To Do
Task title
Assignor
DR. AWANIS BINTI ROMLI
Assignee
NURAYUNI BINTI NORDIN SIN
Due Date
dd/mm/yyyy
Priority
Please select
Status
Please select
Task Details
Attachment
Upload a file
SUBMIT
Doing
Storyboard & Prototype
Assignor
NURAYUNI BINTI NORDIN SIN
Due Date
03/01/2023
Priority
Medium
Status
On Track
Task Details
1. Storyboard supervisor, supervisee and coordinator.
2. Prototype supervisee.
Attachment
Upload a file
Ask a question or comment
PROJECT SUBMISSION
PSM 1 Submission for First Evaluation [30%]
Due date: Friday, 02/12/2022, 11:59 PM
PSM 1 Submission for Evaluators Evaluation
Due date: Friday, 20/01/2023, 11:59 PM
PSM 1 Submission for First Evaluation [30%]
NURAYUNI BINTI NORDIN SIN
Submission Status
Submitted for grading
Grading Status
No graded
Due Date
Friday, 02/12/2022, 11:59 PM
Last Modified
Submitted, Friday, 02/12/2022, 8:00 PM
File Submissions
PDF
PSM 1 Report_CA20154.pdf
PSM 1 Submission for First Evaluation [30%]
NUM
COMPETENCY
WEIGHTAGE
MARK GIVEN
FINAL 30%
CL01
INTRODUCTION
0.6
3.00
CL01
PROBLEM STATEMENT
0.6
3.00
CL01
OBJECTIVE
0.6
3.00
CL01
SCOPE
0.4
2.00
SUBMIT
11


11
UMP LOGO
DR. AWANIS BINTI ROMLI
PROJECT REPORT
PSM 1
CA20154 NURAYUNI BINTI NORDIN SIN
CB21652 NUR IZZ ISMANINA BINTI ISMAIL
PSM 2
CD19476 MUHAMMAD HAFUZA BIN IBRAHIM
Supervisor Quota
Supervisor Application
Appointment Meeting
Logbook
Supervisee Task
Project Submission
Reporting
Evaluation
Documents
Chat
Total Task
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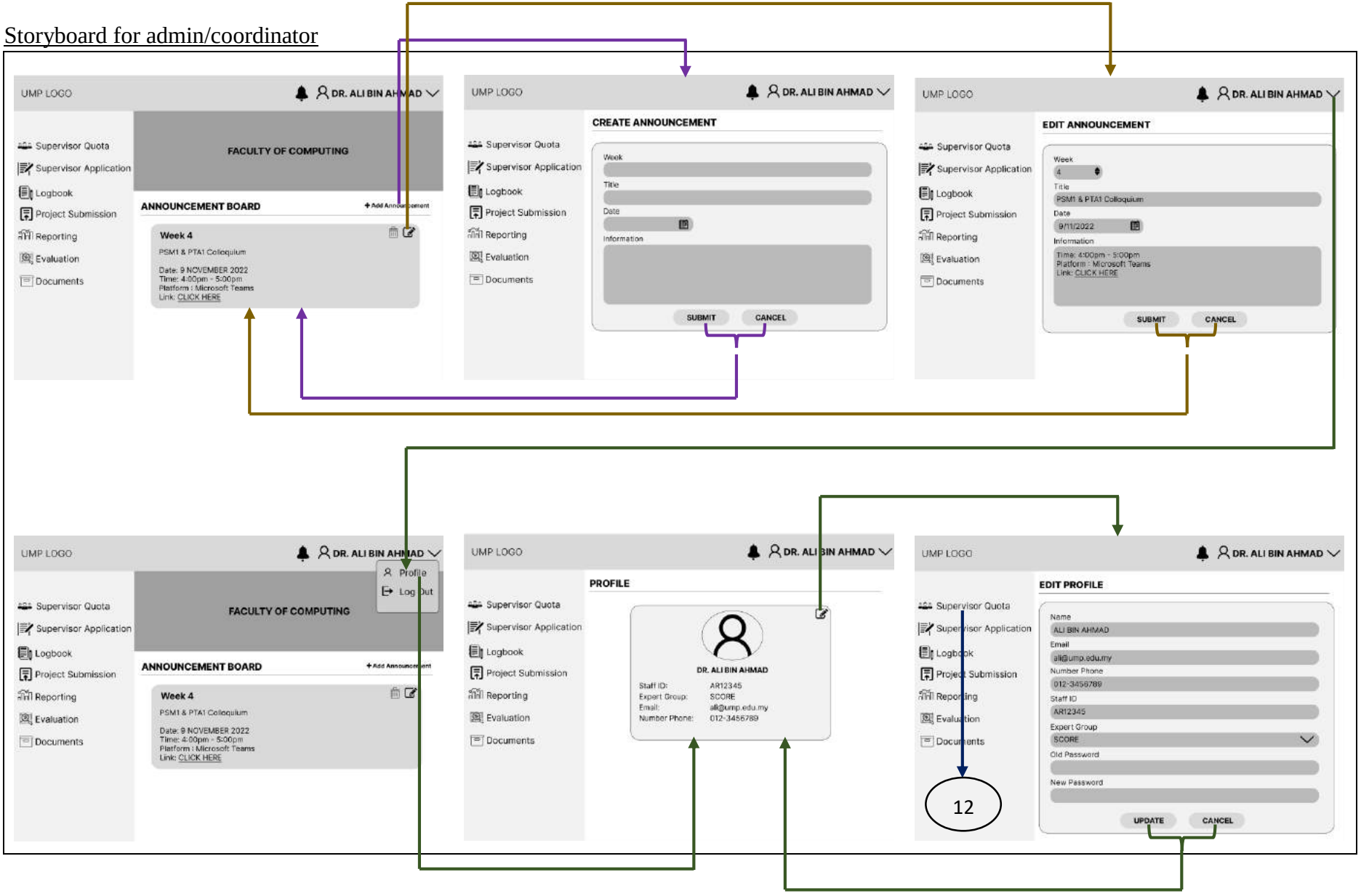
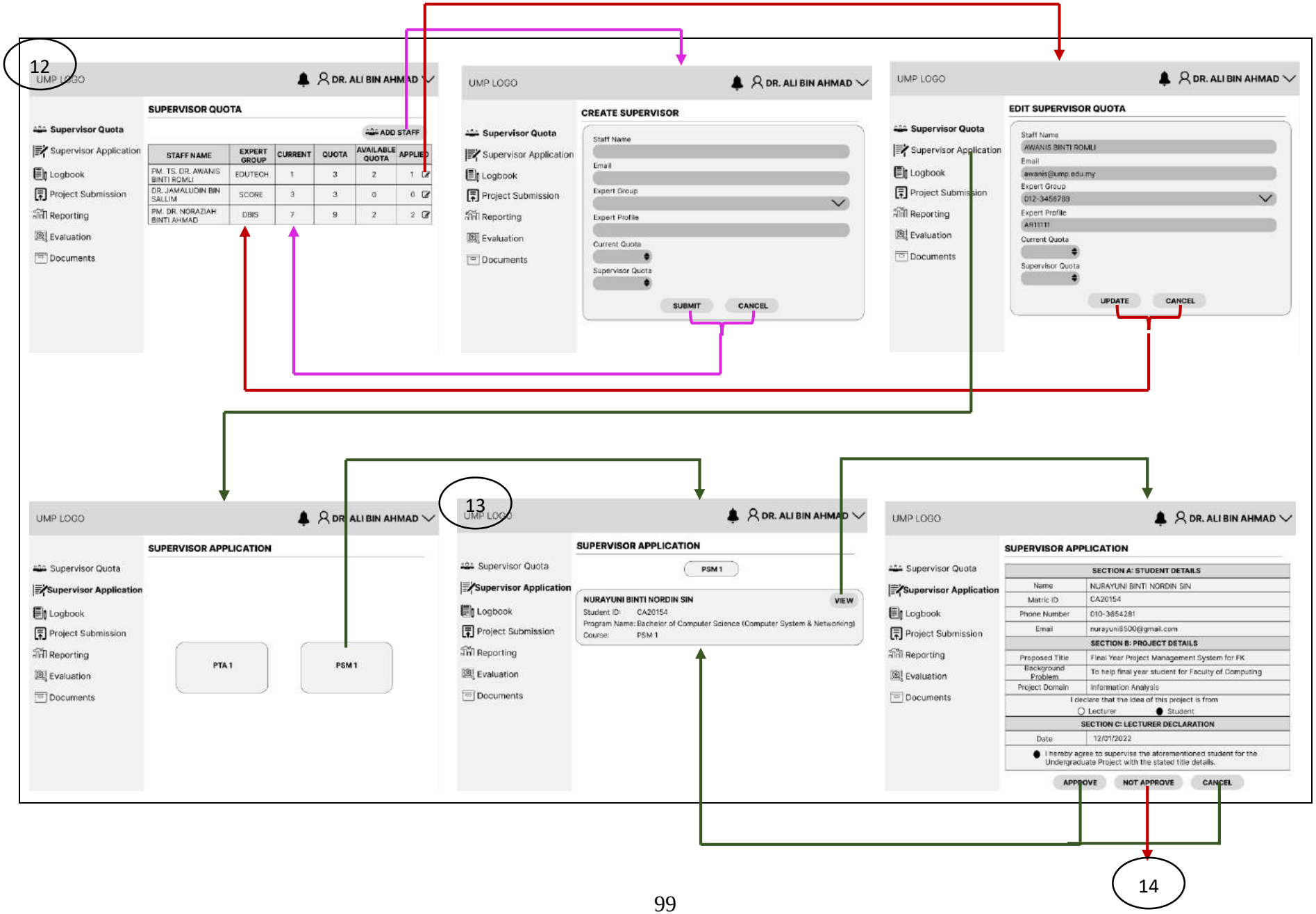
Total Project Submission
1
Total Overdue
0
Total Status
35%
50%
15%
On Track
Off Track
Risk
Total Priority
30%
25%
45%
High
Medium
Low
Total Task Completion
3
Completed
In Complete
EVALUATION INFORMATION
PTA 2
NUM
SUPERVISEE NAME
DATE
TIME
LOCATION
14
Muhammad Ali Bin Ahmad
01/02/2023
10:00 AM
BZ-02-06
PSM 2
20
Nur Fatimah Binti Ibrahim
02/02/2023
11:00 AM
BZ-02-106
FYP LIBRARY
Student Name
Supervisor Name
Expert Group
Semester
Project Title
Abstract
NURAYUNI BINTI NORDIN SIN
PM. TS. DR. AWANIS BINTI ROMLI
EDU-TECH
Semester 2 2022/2023
Final Year Project Management System for Faculty of Computing
The development of the system will improve the process and management

Storyboard for admin/coordinator




12
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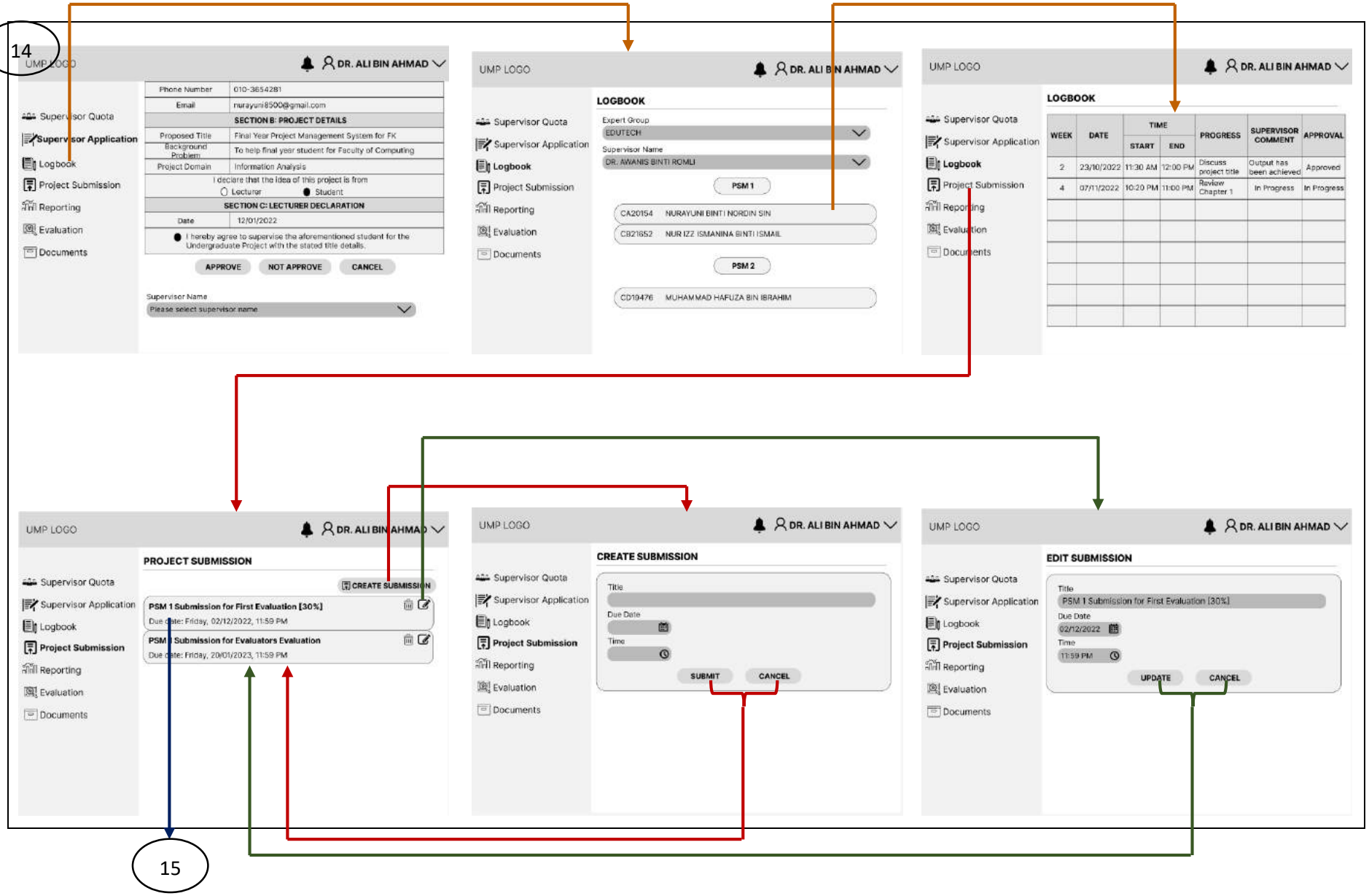
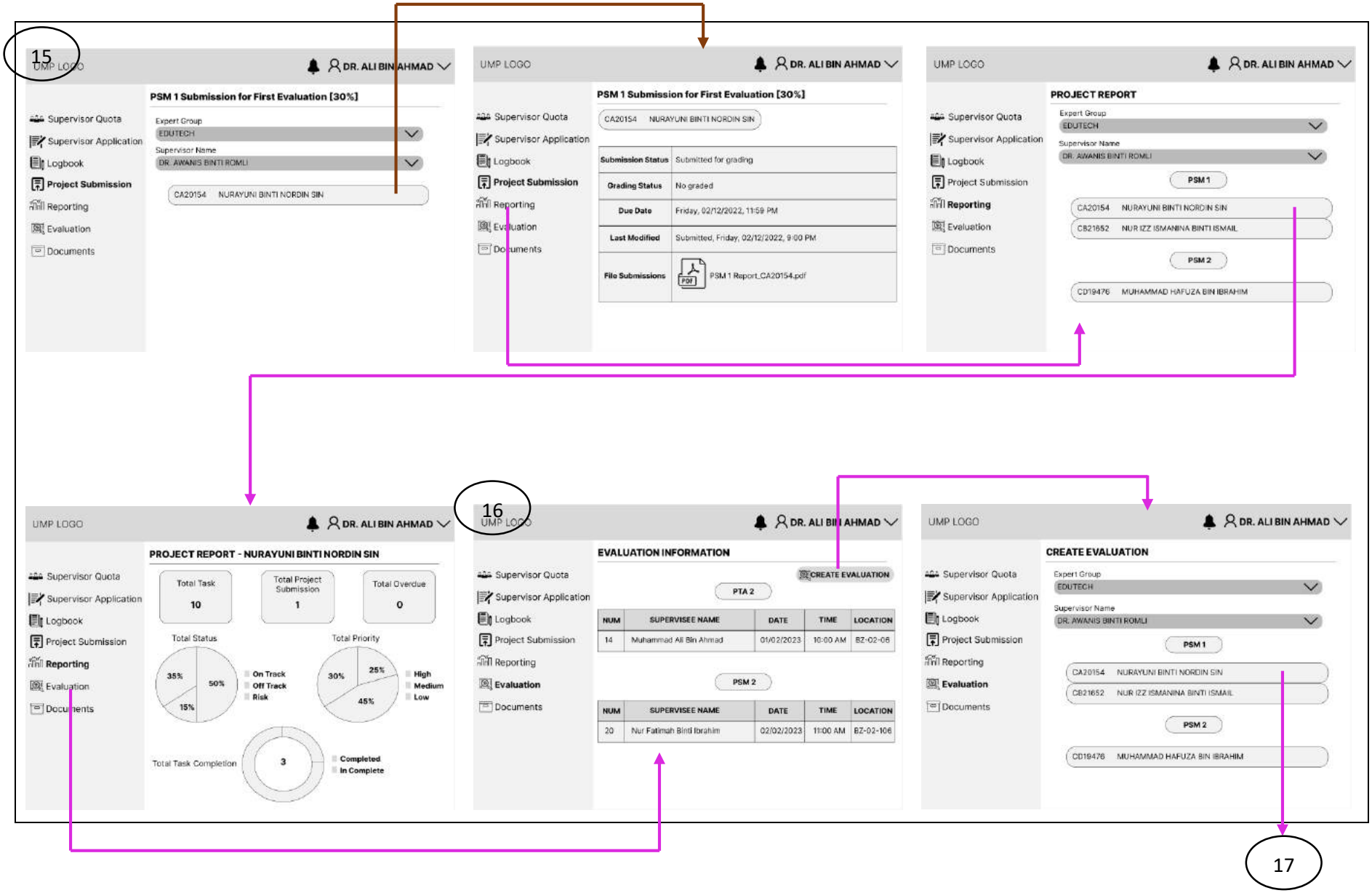
DR. ALI BIN AHMAD
Supervisor Quota
Supervisor Application
Logbook
Project Submission
Reporting
Evaluation
Documents
SUPERVISOR QUOTA
ADD STAFF
STAFF NAME
EXPERT GROUP
CURRENT
QUOTA
AVAILABLE QUOTA
APPLIED
PM. TS. DR. AWANIS BINTI ROMLI
EDUTECH
1
3
2
1
DR. JAMALUDIN BIN SALLIM
SCORE
3
3
0
0
PM. DR. NORAZIAH BINTI AHMAD
DBIS
7
9
2
2
CREATE SUPERVISOR
Staff Name
Email
Expert Group
Expert Profile
Current Quota
Supervisor Quota
SUBMIT
CANCEL
EDIT SUPERVISOR QUOTA
AWANIS BINTI ROMLI
awanis@ump.edu.my
012-3456789
AR11111
UPDATE
CANCEL
13
SUPERVISOR APPLICATION
PTA 1
PSM 1
NURAYUNI BINTI NORDIN SIN
VIEW
Student ID: CA20154
Program Name: Bachelor of Computer Science (Computer System & Networking)
Course: PSM 1
SECTION A: STUDENT DETAILS
Name
NURAYUNI BINTI NORDIN SIN
Matric ID
CA20154
Phone Number
010-3654281
Email
nurayuni8500@gmail.com
SECTION B: PROJECT DETAILS
Proposed Title
Final Year Project Management System for FK
Background Problem
To help final year student for Faculty of Computing
Project Domain
Information Analysis
I declare that the idea of this project is from
Lecturer
Student
SECTION C: LECTURER DECLARATION
Date
12/01/2022
I hereby agree to supervise the aforementioned student for the Undergraduate Project with the stated title details.
APPROVE
NOT APPROVE
CANCEL
14


14
UMP LOGO
DR. ALI BIN AHMAD
Supervisor Quota
Supervisor Application
Logbook
Project Submission
Reporting
Evaluation
Documents
Phone Number 010-3654281
Email nurayuni8500@gmail.com
SECTION B: PROJECT DETAILS
Proposed Title Final Year Project Management System for FK
Background Problem To help final year student for Faculty of Computing
Project Domain Information Analysis
I declare that the idea of this project is from
Lecturer Student
SECTION C: LECTURER DECLARATION
Date 12/01/2022
I hereby agree to supervise the aforementioned student for the Undergraduate Project with the stated title details.
APPROVE
NOT APPROVE
CANCEL
Supervisor Name
Please select supervisor name
LOGBOOK
Expert Group
EDUTECH
Supervisor Name
DR. AWANIS BINTI ROMLI
PSM 1
CA20154 NURAYUNI BINTI NORDIN SIN
CB21652 NUR IZZ ISMANINA BINTI ISMAIL
PSM 2
CD19476 MUHAMMAD HAFUZA BIN IBRAHIM
LOGBOOK
WEEK
DATE
TIME
START
END
PROGRESS
SUPERVISOR COMMENT
APPROVAL
2 23/10/2022 11:30 AM 12:00 PM Discuss project title Output has been achieved Approved
4 07/11/2022 10:20 PM 11:00 PM Review Chapter 1 In Progress In Progress
PROJECT SUBMISSION
CREATE SUBMISSION
PSM 1 Submission for First Evaluation [30%]
Due Date: Friday, 02/12/2022, 11:59 PM
PSM 2 Submission for Evaluators Evaluation
Due Date: Friday, 20/01/2023, 11:59 PM
CREATE SUBMISSION
Title
Due Date
Time
SUBMIT
CANCEL
EDIT SUBMISSION
Title
PSM 1 Submission for First Evaluation [30%]
Due Date
02/12/2022
Time
11:59 PM
UPDATE
CANCEL
15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UMP LOGO
DR. ALI BIN AHMAD
Supervisor Quota
Supervisor Application
Logbook
Project Submission
Reporting
Evaluation
Documents
PSM 1 Submission for First Evaluation [30%]
Expert Group
EDUTECH
Supervisor Name
DR. AWANIS BINTI ROMLI
CA20154 NURAYUNI BINTI NORDIN SIN
PSM 1 Submission for First Evaluation [30%]
CA20154 NURAYUNI BINTI NORDIN SIN
Submission Status
Submitted for grading
Grading Status
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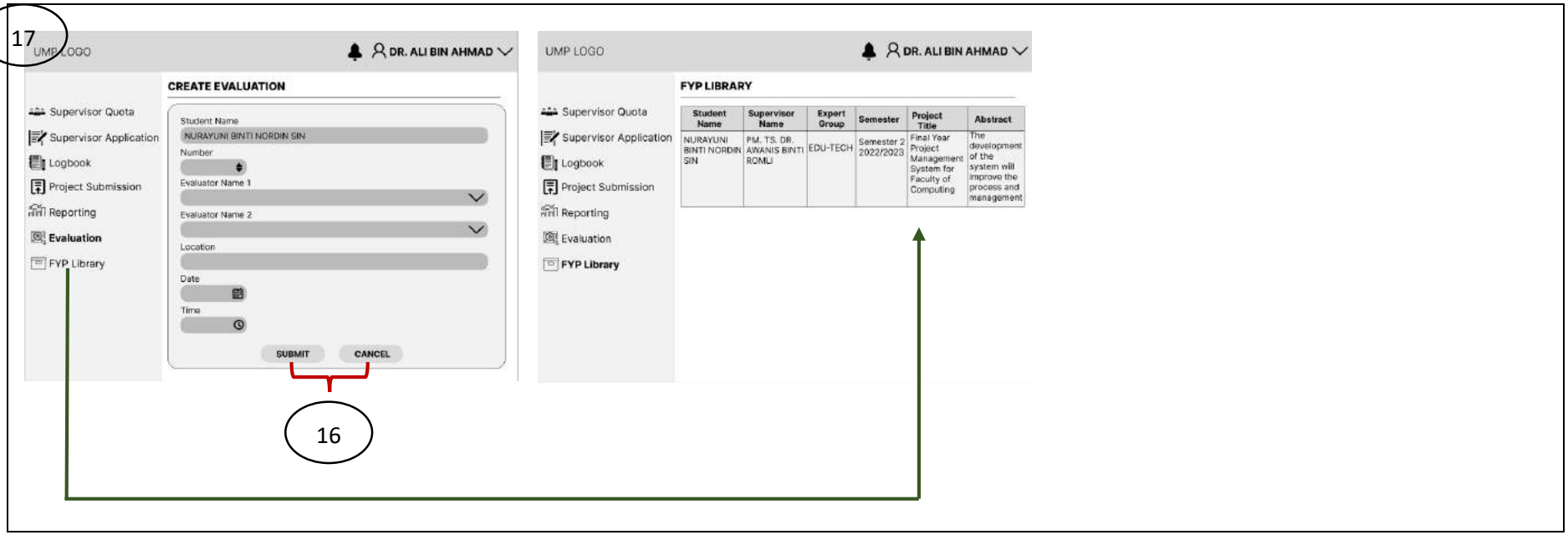
Due Date
Friday, 02/12/2022, 11:59 PM
Last Modified
Submitted, Friday, 02/12/2022, 9:00 PM
File Submissions
PSM 1 Report_CA20154.pdf
PROJECT REPORT
Expert Group
EDUTECH
Supervisor Name
DR. AWANIS BINTI ROMLI
PSM 1
CA20154 NURAYUNI BINTI NORDIN SIN
CB21652 NUR IZZ ISMANINA BINTI ISMAIL
PSM 2
CD19476 MUHAMMAD HAFUZA BIN IBRAHIM
16
PROJECT REPORT - NURAYUNI BINTI NORDIN SIN
Total Task
10
Total Project Submission
1
Total Overdue
0
Total Status
35%
50%
15%
On Track
Off Track
Risk
Total Priority
30%
25%
45%
High
Medium
Low
Total Task Completion
3
Completed
In Complete
EVALUATION INFORMATION
CREATE EVALUATION
PTA 2
NUM
SUPERVISEE NAME
DATE
TIME
LOCATION
14
Muhammad Ali Bin Ahmad
01/02/2023
10:00 AM
BZ-02-06
PSM 2
NUM
SUPERVISEE NAME
DATE
TIME
LOCATION
20
Nur Fatimah Binti Ibrahim
02/02/2023
11:00 AM
BZ-02-106
CREATE EVALUATION
Expert Group
EDUTECH
Supervisor Name
DR. AWANIS BINTI ROMLI
PSM 1
CA20154 NURAYUNI BINTI NORDIN SIN
CB21652 NUR IZZ ISMANINA BINTI ISMAIL
PSM 2
CD19476 MUHAMMAD HAFUZA BIN IBRAHIM
17


17
UMP LOGO
DR. ALI BIN AHMAD
Supervisor Quota
Supervisor Application
Logbook
Project Submission
Reporting
Evaluation
FYP Library
CREATE EVALUATION
Student Name
NURAYUNI BINTI NORDIN SIN
Number
Evaluator Name 1
Evaluator Name 2
Location
Date
Time
SUBMIT
CANCEL
16
UMP LOGO
DR. ALI BIN AHMAD
Supervisor Quota
Supervisor Application
Logbook
Project Submission
Reporting
Evaluation
FYP Library
FYP LIBRARY
Student Name
Supervisor Name
Expert Group
Semester
Project Title
Abstract
NURAYUNI BINTI NORDIN SIN
PM. TS. DR. AWANIS BINTI ROMLI
EDU-TECH
Semester 2 2022/2023
Final Year Project Management System for Faculty of Computing
The development of the system will improve the process and management

3.5 Data Design

The data design or known as database design will be discussed about the Entity Relationship Diagram (ERD) and data dictionary.

3.5.1 Entity Relationship Diagram

Figure 3.16 shows the ERD of the Final Year Project Management System for Faculty of Computing. Based on Figure 3.16, the database of the Final Year Project Management System for Faculty of Computing will have 12 tables. Those 12 tables are USERS, TASK, LOGBOOK, APPOINTMENT, SUBMISSION, SUPERVISEESUBMISSION, SUPERVISORAPPLY, SUPERVISORQUOTA, EVALUATION, EVALUATIONMARKS, ANNOUNCEMENT, FYPLIBRARY.

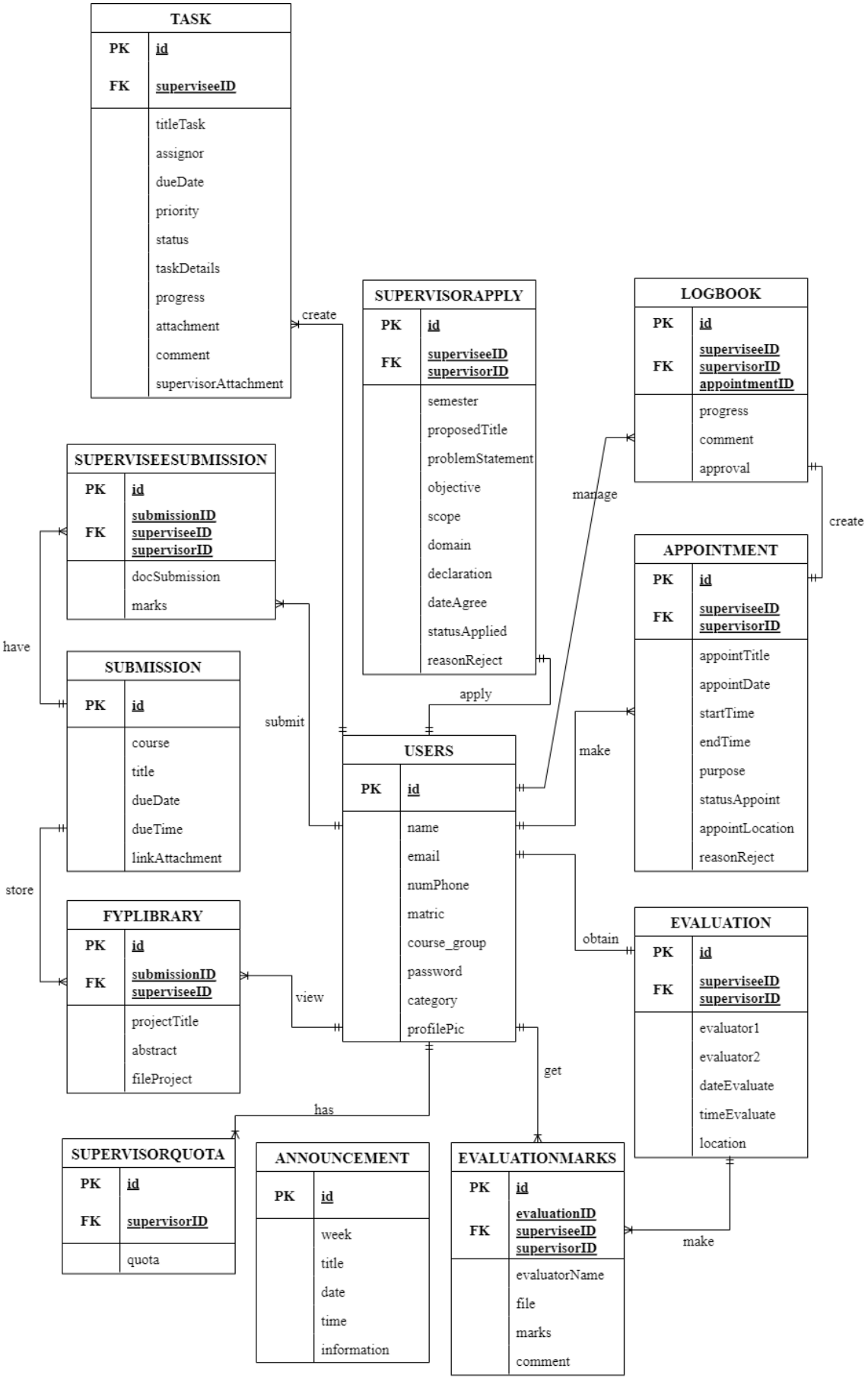


Figure 3.16 ERD of the Final Year Project Management System for Faculty of Computing

3.5.2 Data Dictionary

Table 3.10 shows the data dictionary of the Final Year Project Management System for Faculty of Computing. The data dictionary will consist of database information such as entity, attribute, data type, and key. Therefore, the data dictionary is the detailed information of the ERD. Every table of the database has the primary key and foreign key that contain the unique ID.

Table 3.10 Data dictionary of the Final Year Project Management System for Faculty of Computing

Entity	Attribute	Data Type	Key
USERS	id	INTEGER	Primary key
	name	VARCHAR(40)	
	email	VARCHAR(40)	
	numPhone	VARCHAR(13)	
	matric	VARCHAR(10)	
	course_group	VARCHAR(20)	
	category	VARCHAR(30)	
	password	VARCHAR(20)	
	profilePic	VARCHAR(20)	
LOGBOOK	id	INTEGER	Primary key
	superviseeID	INTEGER	Foreign key
	supervisorID	INTEGER	Foreign key
	appointmentID	INTEGER	Foreign key
	progress	VARCHAR(200)	
	comment	VARCHAR(200)	
	approval	VARCHAR(20)	
EVALUATION	id	INTEGER	Primary key
	superviseeID	INTEGER	Foreign Key
	supervisorID	INTEGER	Foreign Key
	evaluatorName1	VARCHAR(40)	
	evaluatorName2	VARCHAR(40)	
	location	VARCHAR(40)	
	dateEvaluate	DATE	
	timeEvaluate	TIME	
	id	INTEGER	Primary key

SUPERVISORQUOTA	supervisorID	INTEGER	Foreign key
	quota	INTEGER	
SUPERVISORAPPLY	id	INTEGER	Primary key
	superviseeID	INTEGER	Foreign key
	supervisorID	INTEGER	Foreign key
	semester	VARCHAR(40)	
	proposedTitle	VARCHAR(40)	
	problemStatement	VARCHAR(300)	
	objective	VARCHAR(300)	
	scope	VARCHAR(300)	
	domain	VARCHAR(30)	
	declaration	VARCHAR(30)	
	dateAgree	DATE	
	statusApplied	VARCHAR(20)	
	reasonReject	VARCHAR(300)	
SUBMISSION	id	INTEGER	Primary key
	course	VARCHAR(10)	
	title	VARCHAR(40)	
	dueDate	DATE	
	dueTime	TIME	
	linkAttachment	VARCHAR(20)	
APPOINTMENT	id	INTEGER	Primary key
	superviseeID	INTEGER	Foreign key
	supervisorID	INTEGER	Foreign key
	appointTitle	VARCHAR(100)	
	appointDate	DATE	
	startTime	TIME	
	endTime	TIME	
	purpose	VARCHAR(300)	
	statusAppoint	VARCHAR(20)	
	appointLocation	VARCHAR(40)	
	reasonReject	VARCHAR(100)	

TASK	id	INTEGER	Primary key
	superviseeID	INTEGER	Foreign key
	titleTask	VARCHAR(40)	
	assignor	VARCHAR(40)	
	dueDate	DATE	
	taskDetails	VARCHAR(100)	
	priority	VARCHAR(20)	
	status	VARCHAR(20)	
	progress	VARCHAR(20)	
	attachment	VARCHAR(30)	
	comment	VARCHAR(100)	
	supervisorAttachment	VARCHAR(30)	
EVALUATIONMARKS	id	INTEGER	Primary key
	evaluationID	INTEGER	Foreign key
	superviseeID	INTEGER	Foreign key
	supervisorID	INTEGER	Foreign key
	evaluatorName	VARCHAR(50)	
	file	VARCHAR(20)	
	marks	FLOAT	
	comment	VARCHAR(300)	
ANNOUNCEMENT	id	INTEGER	Primary key
	week	INTEGER	
	title	VARCHAR(40)	
	date	DATE	
	time	TIME	
	information	VARCHAR(300)	
FYPLIBRARY	id	INTEGER	Primary key
	submissionID	INTEGER	Foreign key
	superviseeID	INTEGER	Foreign key
	projectTitle	VARCHAR(100)	
	abstract	VARCHAR(500)	
	fileProject	VARCHAR(30)	

SUPERVISEESUBMISSION	id	INTEGER	Primary key
	submissionID	INTEGER	Foreign key
	superviseeID	INTEGER	Foreign key
	supervisorID	INTEGER	Foreign key
	docSubmission	VARCHAR(30)	
	marks	FLOAT	

3.6 Testing/Validation Plan

The Final Year Project Management System for Faculty of Computing will have 2 testing plans. The first testing plan is Final Acceptance Test. Meanwhile, the second test is User Acceptance Test.

3.6.1 User Acceptance Test

The User Acceptance Test will be conducted once the Final Year Project Management System for Faculty of Computing has been completed and launched to the user. Therefore, the users and admin of the Final Year Project Management System for Faculty of Computing need to test the complete proposed system and fill in the User Acceptance Test form. The User Acceptance Test is important in order to determine whether the proposed system manages to achieve the goals and user requirements or not. During the User Acceptance Test, final year students, lecturers and coordinator will become testers for the Final Year Project Management System for Faculty of Computing. Table 3.11 shows an example of a User Acceptance Test.

Table 3.11 User Acceptance Test form

Module	**Activities**	**Status**		**Comments**
		Yes	**No**	
Button “Sign Up”	Functional			
Button “Log In”	Functional			
Sign up (Student)	User registration			
Sign up (Staff)	User registration			
Log in	Username			
	Password retrieval			
Log out	User log out			
Announcement board	Information appropriate			
	Edit (Admin)			
	Add (Admin)			
Profile	Information appropriate			
	Edit			
Notification	Functional			
Supervisor quota	Accurate information			
	Edit (Admin)			

	Add (Admin)			
Supervisor application	Create (Supervisee)			
	Approval (Supervisor, Admin)			
Appointment meeting	Create (Supervisor, Supervisee)			
	Edit (Supervisor, Supervisee)			
	Delete (Supervisor, Supervisee)			
Logbook	Accurate information			
	Add (Supervisee)			
	Delete (Supervisee)			
Project task	Functional			
	Create (Supervisor, Supervisee)			
	Edit (Supervisor, Supervisee)			
	Delete (Supervisor, Supervisee)			
Project submission	Update file			
	Upload file			
	Add marks (Supervisor)			
Project Report	Accurate information			
Evaluation	Accurate information			
	Add (Admin)			
	Delete (Admin)			
	Edit (Admin)			
FYP Library	Accurate information			

3.6.2 Final Acceptance Test

The Final Acceptance Test is the testing that will be conducted after completing the User Acceptance Test. After the User Acceptance Test (UAT) has been completed and the Final Year Project Management System for Faculty of Computing does not meet certain requirements yet, the system will go through the development process back in order to fulfil the feedback from the users. Once completed the development and upgrade, the user again will become a tester for the Final Acceptance Test. Similar to the UAT process, the Final Year Project Management System for Faculty of Computing also will be tested by final year students, lecturers, and coordinator from the previous UAT tester in order to determine whether the proposed system manages to fulfil all the users' requirements and feedback. Table 3.12 shows the example of the Final Acceptance Test form. However, the Final Acceptance Test form will be changed or has another additional acceptance requirement according to the user feedback from the UAT.

Table 3.12 Final Acceptance Test form

Num.	**Acceptance Requirement**	**Test Result**		**Comment**
		Accept	**Reject**	
1.	Sign up can be executed.			
2.	Sign up information can be insert in the database.			
3.	The user can successfully login			
4.	Session can be execute successfully			
5.	The system able to update the profile data in the database.			
6.	The system able to retrieve all the information from database and display on the interface			
7.	The information of supervisor application is able to insert in the database.			
8.	The system is able to display the message box and disallow the same date and time of appointment.			

9.	The validation in the form correctly.			
10.	The upload file and save file successfully.			
11.	The result and calculation of supervisor quota is correct.			
12.	The report visualization of graph is accurately retrieve from the database			
13.	Task in Kanban style successfully.			
14.	The design is simple and attractive.			
15.	Implement simple metaphor (language).			

3.7 Potential Use of Proposed Solution

The Final Year Project Management System for Faculty of Computing has the potential to be used by the Faculty of Computing (FK) since the proposed system has been specially developed for the final year students in FK. In addition, the Final Year Project Management System for Faculty of Computing also will be used by the staff in FK to ease them in handling and monitoring the students' projects. To summarize, the proposed system will be utilized by the final year students, staffs including the coordinator for the PSM and PTA.

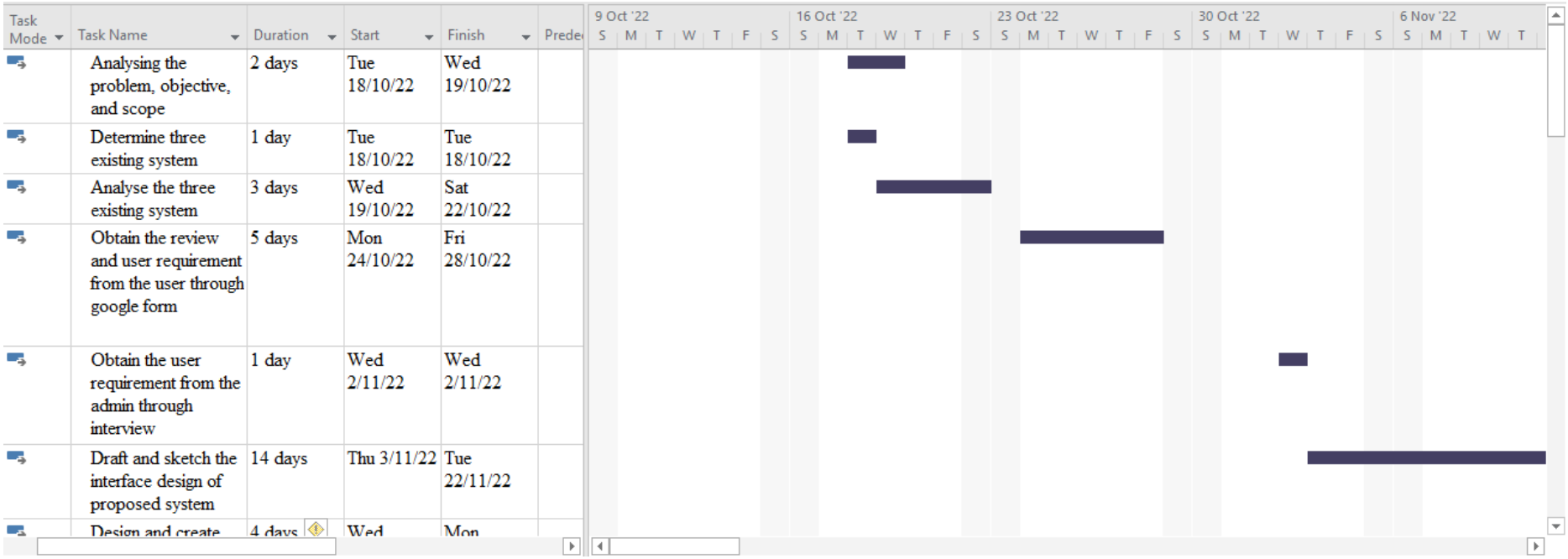
The Final Year Project Management System for Faculty of Computing brings convenience for the FK since the system has provided task planning and management functionality. Task planning and management will assist students to complete and manage their final year project more systematically and faster. In fact, it will help the students to produce a good quality project since the system becomes the guideline machine for them. In addition, the Final Year Project Management System for Faculty of Computing also has email functionality hence, it can help the students to propose their preferred lecturer in becoming the supervisor for the final year project.

Besides, the proposed system will ease the meeting process between the students and staffs for the supervisor supervisee session using the meeting appointment functionality. Therefore, the students do not need to call or message their supervisor in order to meet them. Apart from that, the Final Year Project Management System for Faculty of Computing will provide the visualization report of the student's project progression. Therefore, the supervisor is able to monitor the project progression of their supervisee using the functionality of the task and visualization report.

In conclusion, the Final Year Project Management System for Faculty of Computing will become the assistance machine for the final year students in completing their final year projects in a more systematic and faster. In fact, the Final Year Project Management System for Faculty of Computing also will help the supervisor and coordinator in handling the final year project in a computerized and organized.

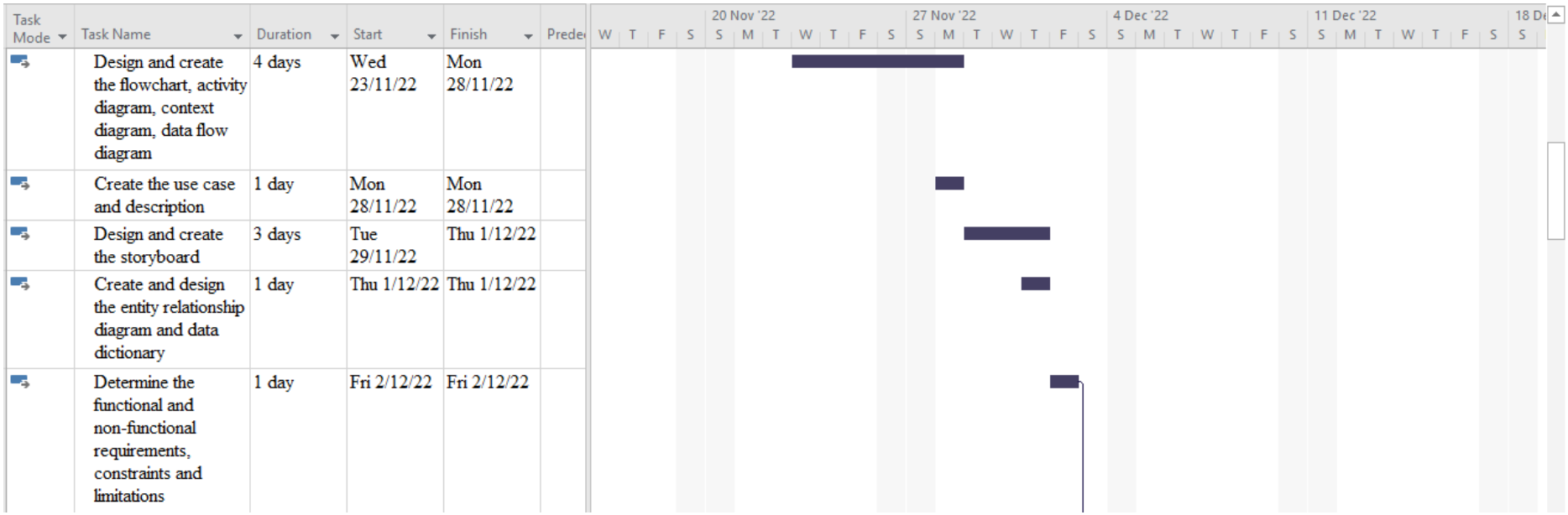
3.8 Gantt Chart

Figure 3.17 until Figure 3.23 shows the Gantt Chart of the Final Year Project Management System for Faculty of Computing from the first development until the complete development. The link to the Gantt Chart has been provided in Appendix B for more understanding.



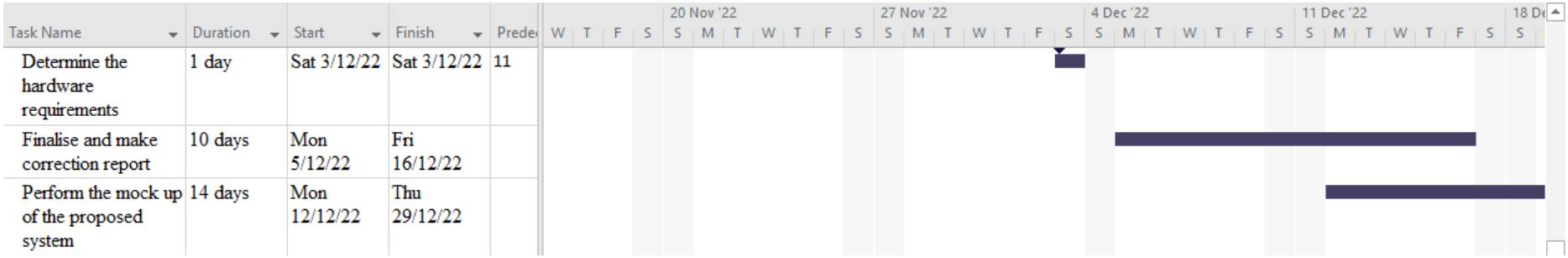
Task Mode	Task Name	Duration	Start	Finish	Predec
	Analysing the problem, objective, and scope	2 days	Tue 18/10/22	Wed 19/10/22	
	Determine three existing system	1 day	Tue 18/10/22	Tue 18/10/22	
	Analyse the three existing system	3 days	Wed 19/10/22	Sat 22/10/22	
	Obtain the review and user requirement from the user through google form	5 days	Mon 24/10/22	Fri 28/10/22	
	Obtain the user requirement from the admin through interview	1 day	Wed 2/11/22	Wed 2/11/22	
	Draft and sketch the interface design of proposed system	14 days	Thu 3/11/22	Tue 22/11/22	
	Design and create	4 days	Wed	Mon	

Figure 3.17 Gantt Chart of the Final Year Project Management System for Faculty of Computing



Task Mode	Task Name	Duration	Start	Finish	Predec
	Design and create the flowchart, activity diagram, context diagram, data flow diagram	4 days	Wed 23/11/22	Mon 28/11/22	
	Create the use case and description	1 day	Mon 28/11/22	Mon 28/11/22	
	Design and create the storyboard	3 days	Tue 29/11/22	Thu 1/12/22	
	Create and design the entity relationship diagram and data dictionary	1 day	Thu 1/12/22	Thu 1/12/22	
	Determine the functional and non-functional requirements, constraints and limitations	1 day	Fri 2/12/22	Fri 2/12/22	

Figure 3.18 Continue Gantt Chart of the Final Year Project Management System for Faculty of Computing



Task Name	Duration	Start	Finish	Predec
Determine the hardware requirements	1 day	Sat 3/12/22	Sat 3/12/22	11
Finalise and make correction report	10 days	Mon 5/12/22	Fri 16/12/22	
Perform the mock up of the proposed system	14 days	Mon 12/12/22	Thu 29/12/22	

Figure 3.19 Continue Gantt Chart of the Final Year Project Management System for Faculty of Computing

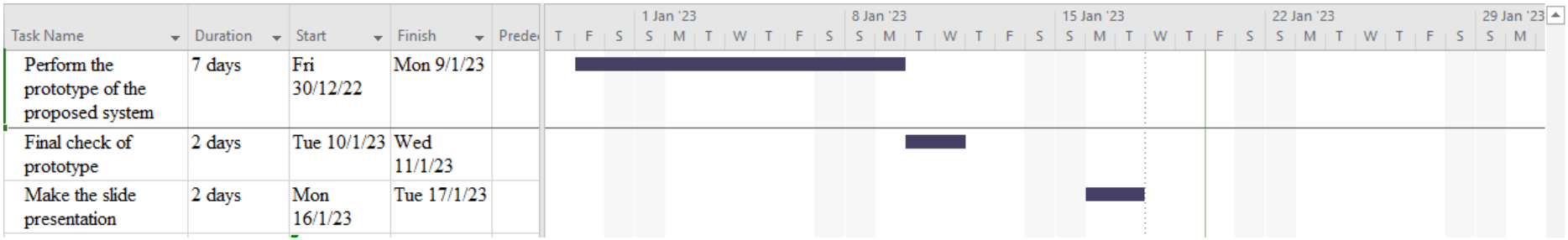


Figure 3.20 Continue Gantt Chart of the Final Year Project Management System for Faculty of Computing

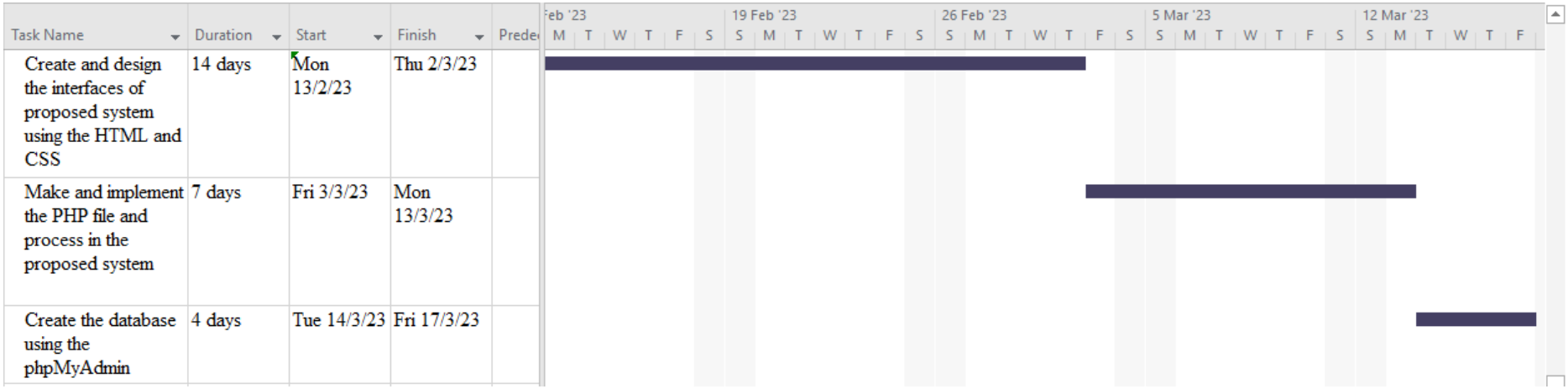


Figure 3.21 Continue Gantt Chart of the Final Year Project Management System for Faculty of Computing

Implement CRUD function using the PHP file and phpMyAdmin	7 days	Mon 20/3/23	Tue 28/3/23
Create validation using the Javascript	7 days	Wed 29/3/23	Thu 6/4/23
Conduct the final acceptance test	3 days	Fri 7/4/23	Tue 11/4/23
Implement the complete proposed system to the server	4 days	Thu 13/4/23	Tue 18/4/23

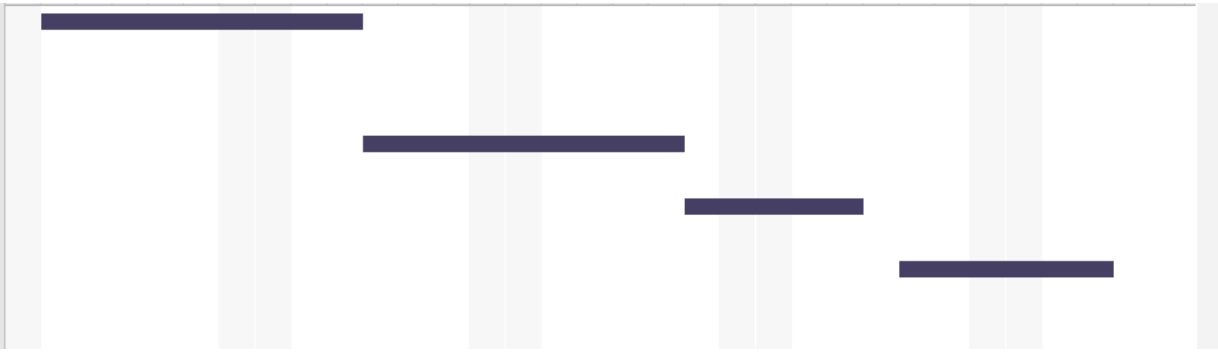


Figure 3.22 Continue Gantt Chart of the Final Year Project Management System for Faculty of Computing

Meet the users and admin to conduct the user acceptance test	9 days	Wed 19/4/23	Mon 1/5/23
Record in the report	10 days	Tue 2/5/23	Mon 15/5/2
Finalize the report	3 days	Tue 16/5/23	Thu 18/5/23
Design a poster	3 days	Fri 19/5/23	Tue 23/5/23

Figure 3.23 Continue Gantt Chart of the Final Year Project Management System for Faculty of Computing

CHAPTER 4

IMPLEMENTATION, RESULT AND DISCUSSION

4.1 Introduction

The development of the Project Management System for Faculty of Computing will be implemented using the programming language including frameworks such as JavaScript, PHP, and Laravel. Basically, all the interfaces of the Project Management System for Faculty of Computing will be developed using Laravel. Meanwhile, the validation of the system and form will be developed using the JavaScript language.

Moreover, the development of the Project Management System for Faculty of Computing also will consist of create, retrieve, update, and delete functions. In addition, the project system will implement the database execution in order to store the important data of users.

Once the development of the Project Management System for Faculty of Computing has been completed, the system will be launched to the server. Then, the Project Management System for Faculty of Computing will be tested by the PSM coordinator, final-year students, and lecturer of Faculty of Computing. The project system will go through testing plans such as User Acceptance Test. The feedback and result of users during the testing phase will be included in this chapter.

4.2 Implementation Process

In the implementation process will be discussed the development of the create, update, retrieve, and delete functions in the modules of the Project Management System for Faculty of Computing. Moreover, the implementation process also will be explained in detail about the database and coding execution. Lastly, all the interfaces in the Project Management System for Faculty of Computing will be shown and explained its functionality.

4.2.1 Create Function

The create functions in the Final Year Project Management System for Faculty of Computing will be displayed in the form for the users to create the important data. Once the users have been fill up the required data in the form, all the information will be securely stored in the database. In the Final Year Project Management System for Faculty of Computing, the create

function has been implemented in the form of sign-up, supervisor application, appointment meeting, logbook, task and so on.

Figure 4.1 shows the sign-up form for the users to create their account by filling up and submitting their personal information in the database of the Final Year Project Management System for Faculty of Computing. Once the users have submitted their personal information, they will obtain their account and has the authorization to access the Final Year Project Management System for Faculty of Computing according to their category. Each user's category such as supervisor, supervisee, and admin has different authorisation functions based on their requirement.

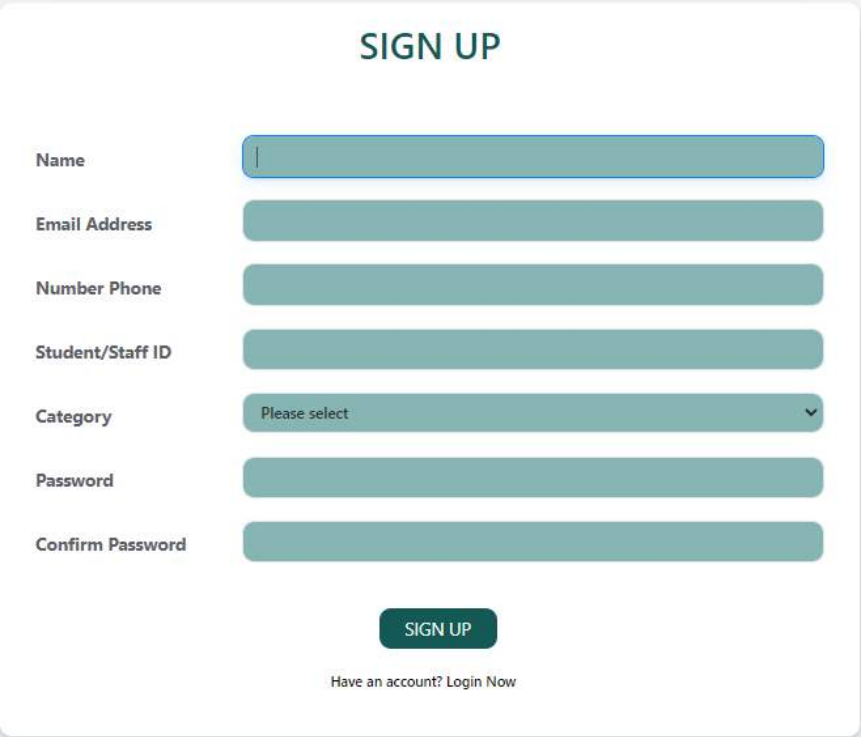


Figure 4.1 The sign-up form

Moreover, Figure 4.2 and 4.3 shows the interface of the supervisor application form. Creating and applying the supervisor application is important for the final year students that are taking the PTA 1 and PSM 1 to get their preferred lecturer to become the supervisor for their final year project. As usual, the supervisor application data that has been filled up by the users will be inserted into the database table of the supervisor application.

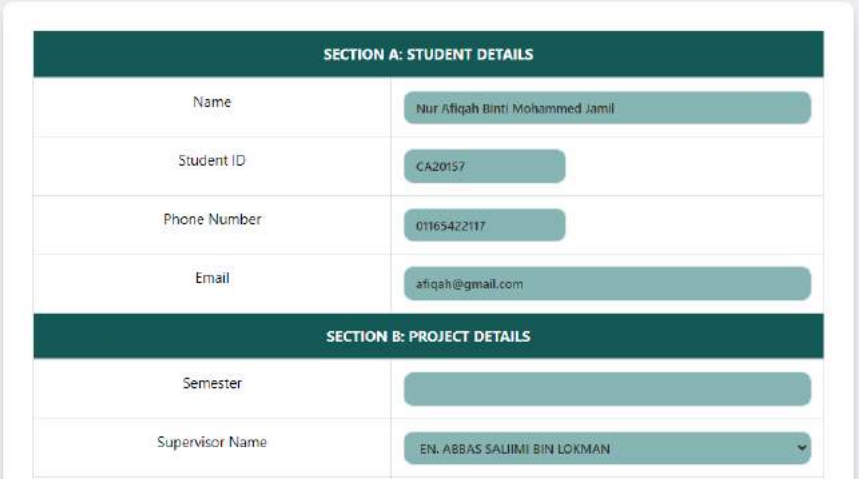


Figure 4.2 Supervisor application form

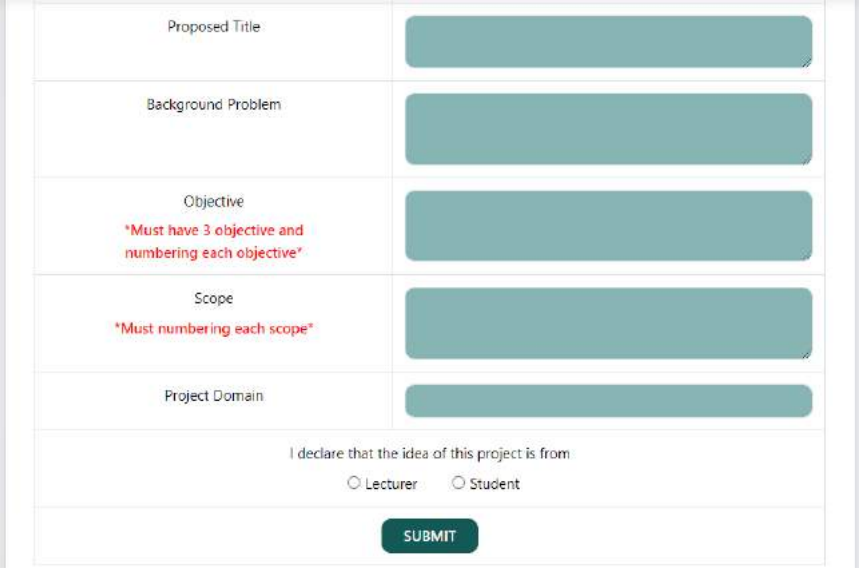


Figure 4.3 Continue supervisor application form

In the Final Year Project Management System for Faculty of Computing, users can create an appointment meeting between supervisor and supervisee using the appointment meeting form. Figure 4.4 shows the interface of the appointment meeting form.

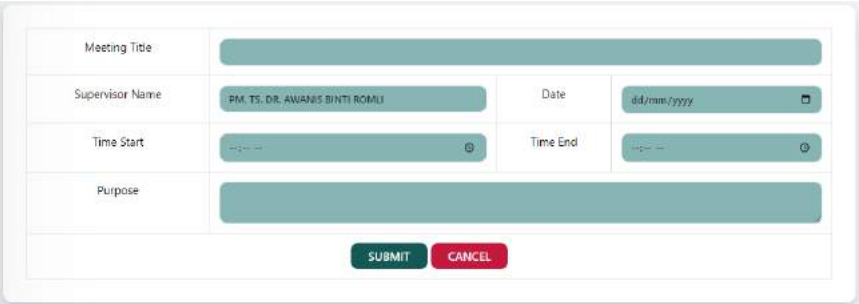


Figure 4.4 Appointment meeting form

Once the meeting between the supervisor and supervisee has been completed, the users especially the supervisee are required to create the logbook information. Logbook information will store all the meeting information details in the database. For instance, date, supervisor name, and progress of the meeting. Figure 4.5 shows the interface of the logbook form.

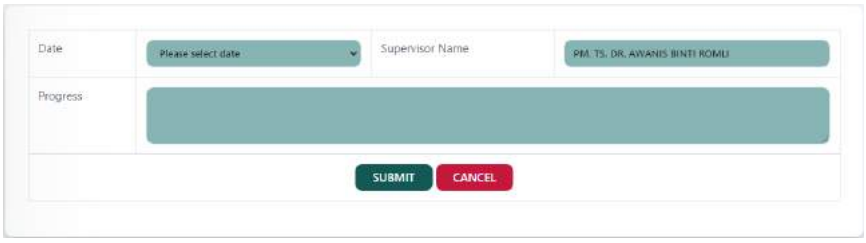


Figure 4.5 Logbook form

The users are able to create the project task using the task form as shown in Figure 4.6. The project task information will be stored in the database table of task.

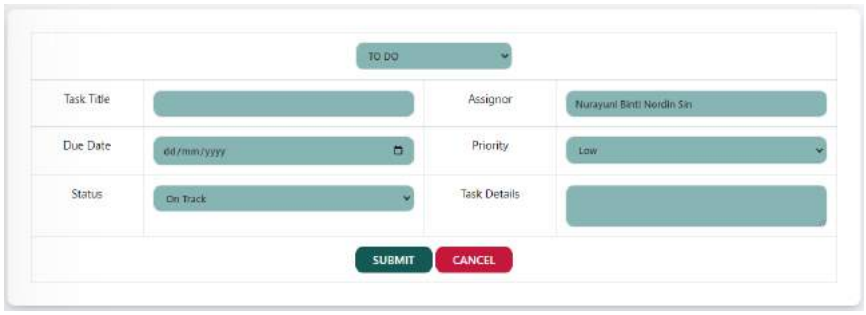


Figure 4.6 Task form

4.2.2 Retrieve Function

In the Final Year Project Management System for Faculty of Computing, the retrieve function will be obtained the data from the database and display it on the interfaces. Figure 4.7 shows the supervisor quota information that retrieves from the database table of supervisor quota.

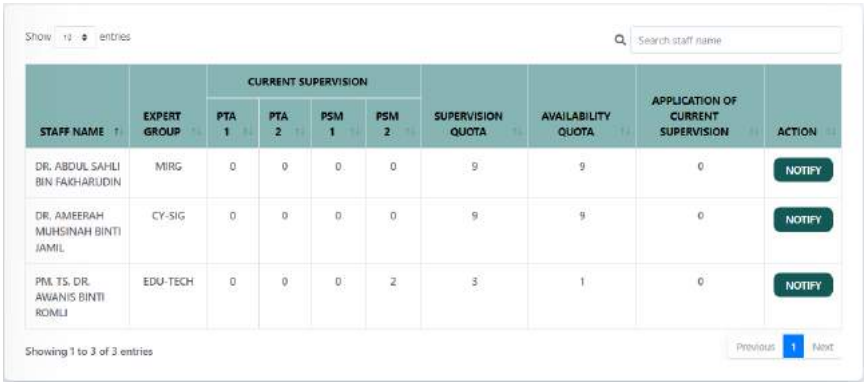
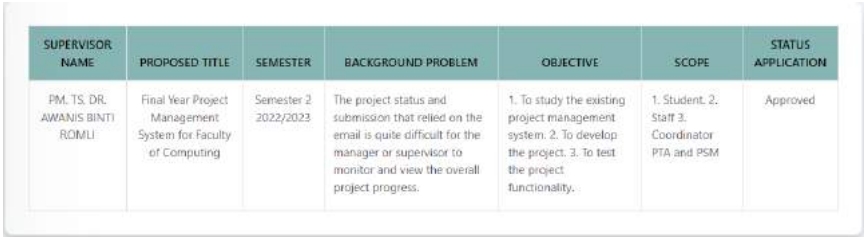


Figure 4.7 Supervisor quota information

Once the supervisee has completed applying the supervisor application, the Final Year Project Management System for Faculty of Computing will be displayed the supervisor application information as shown in Figure 4.8. The supervisor application information such as supervisor name, proposed title, semester, background problem, objective, scope, and status application has been retrieved from the database table of supervisor application.



SUPERVISOR NAME	PROPOSED TITLE	SEMESTER	BACKGROUND PROBLEM	OBJECTIVE	SCOPE	STATUS APPLICATION
PM. TS. DR. AWANIS BINTI ROMLI	Final Year Project Management System for Faculty of Computing	Semester 2 2022/2023	The project status and submission that relied on the email is quite difficult for the manager or supervisor to monitor and view the overall project progress.	1. To study the existing project management system. 2. To develop the project. 3. To test the project functionality.	1. Student. 2. Staff 3. Coordinator PTA and PSM	Approved

Figure 4.8 Supervisor application information

Besides, the appointment meeting data that created and stored in the appointment database table will be displayed in the appointment meeting interface as shown in Figure 4.9.

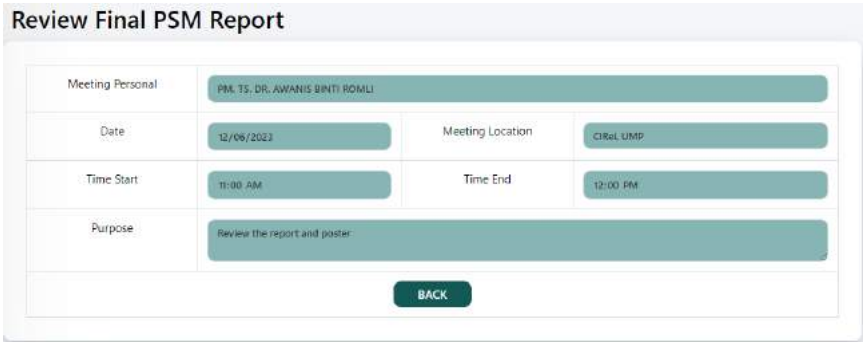


Figure 4.9 Appointment meeting information

Likewise, all the logbook data in the database that has been created by the supervisee will be displayed in the interface of the logbook module as shown in Figure 4.10.

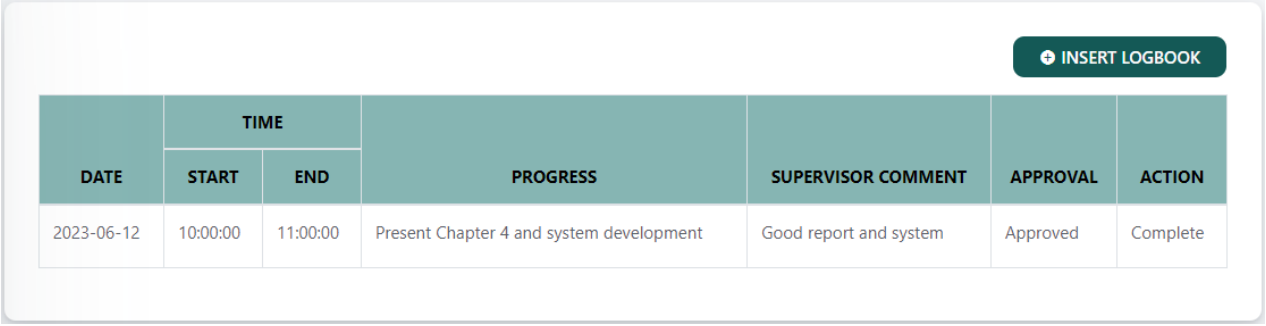


Figure 4.10 Logbook information

In addition, the task information in the database table of tasks will be displayed in the task module interface as shown in Figure 4.11. The displayed task data will make it easier for the users to review the project task that they have created.

Figure 4.11 Task information

In the reporting module, the task and project submission information will be displayed using the visualisation graph. Based on Figures 4.12 and 4.13, the task information such as total status, total priority, and total task completion will be displayed in the pie and doughnut charts. Meanwhile, the project submission data will be displayed in the numbering. All the displayed data has been retrieved from the database tables of task and project submission.

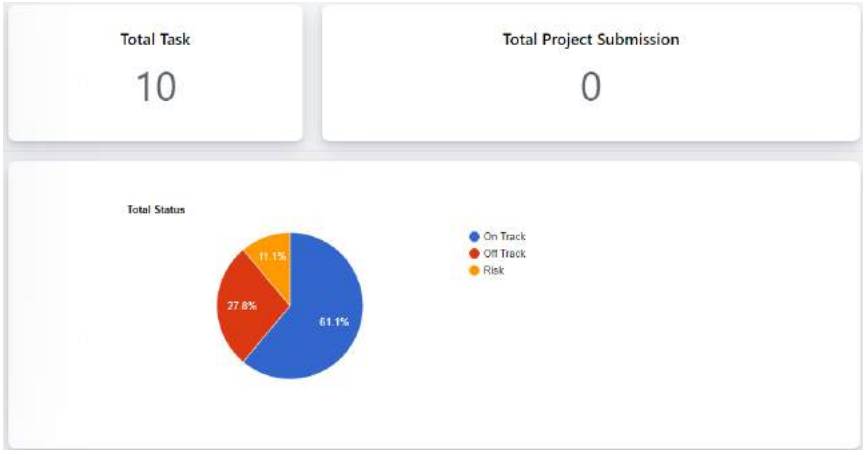


Figure 4.12 Reporting data

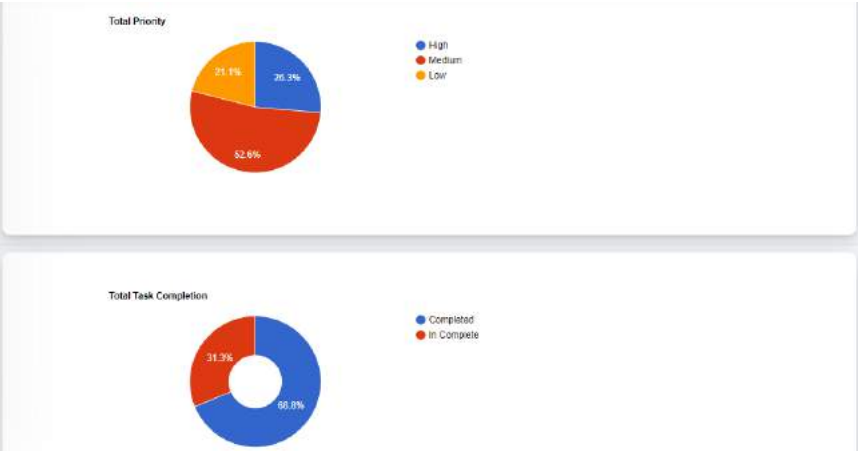


Figure 4.13 Continue reporting data

Figure 4.14 shows the interface that displayed the evaluation information that retrieve from the database table of evaluation.

Name	NURAYUNI BINTI NORDIN SIN
Student ID	CA20154
Supervisor Name	PM. TS. DR. AWANIS BINTI ROMLI
Date	2023-06-19
Time	10:00:00
Location	DKU
Evaluators 1	DR. ABDUL SAHLI BIN FAKHARUDIN
Evaluators 2	DR. AMEERAH MUHSINAH BINTI JAMIL
Comment Evaluator 1	Good presentation
Marks Evaluator 1	25
Comment Evaluator 2	Correct the report
Marks Evaluator 2	20
Total Marks	45

Figure 4.14 Evaluation information

Once the supervisor and coordinator have approved the supervisor application, the information of students' final year project will be displayed on the FYP library interface as shown in Figure 4.15. The final year project information has been retrieved from the database table of fyplibrary.

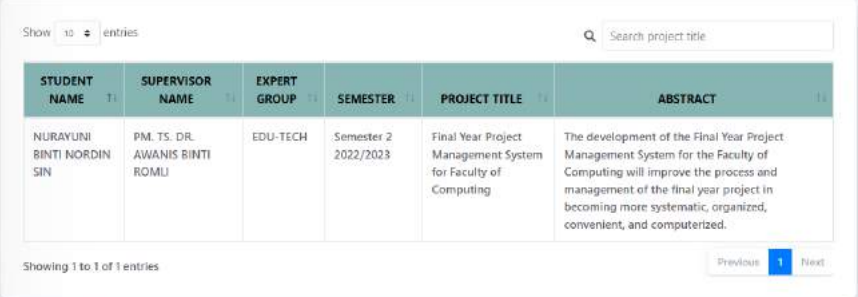


Figure 4.15 FYP library

4.2.3 Update Function

The users have been given the authority to change the data in the database by using the update function. In the Final Year Project Management System for Faculty of Computing, the users are able to update the appointment meeting if, the status of the appointment is still in progress. Once the status appointment has been approved, the users are not being able to update the appointment meeting information. Figure 4.16 shows the appointment form for updating the appointment meeting data.

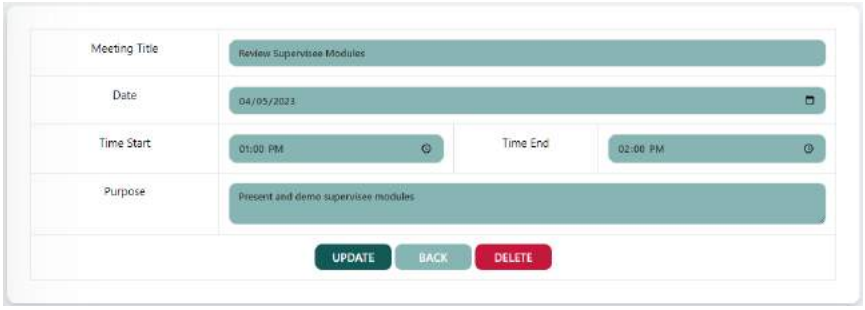


Figure 4.16 Update function in appointment meeting

In addition, the users also can edit the logbook information as shown in Figure 4.17. The logbook information can be edited if, the status logbook is still 'In Progress' only.

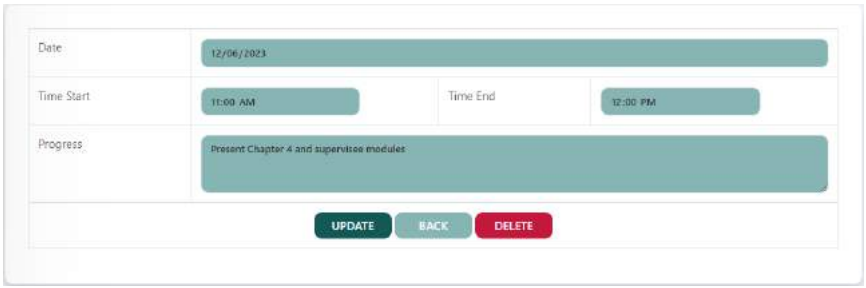


Figure 4.17 Update function in the logbook

Moreover, the Final Year Project Management System for Faculty of Computing provides flexibility for the users which are supervisors and supervisees to update the task information. For example, update the progression, task title, due date, status, priority, task details, and attach the file as shown in Figure 4.18.

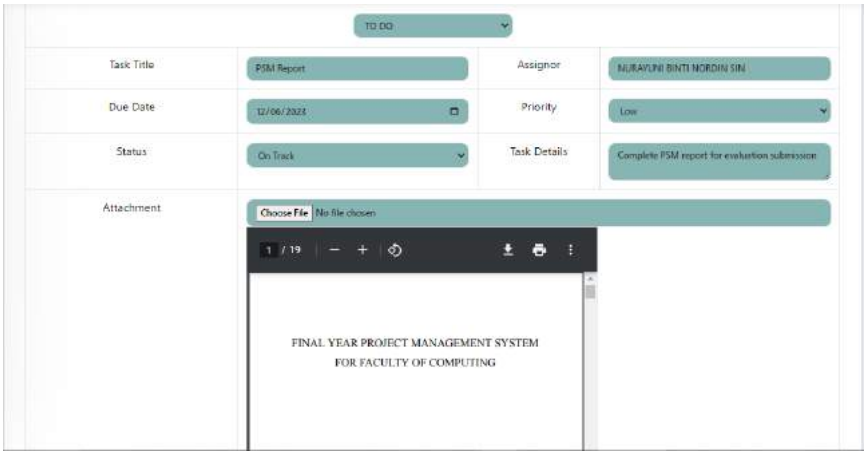


Figure 4.18 Update function in task

4.2.4 Delete Function

The Final Year Project Management System for Faculty of Computing has given the opportunity for the users to remove the wrong data by utilizing the delete function. Figure 4.19 shows that the user is able to delete the appointment meeting data. The appointment meeting data can be deleted if, the status appointment is 'In Progress' only. Otherwise, the appointment meeting data cannot be deleted.

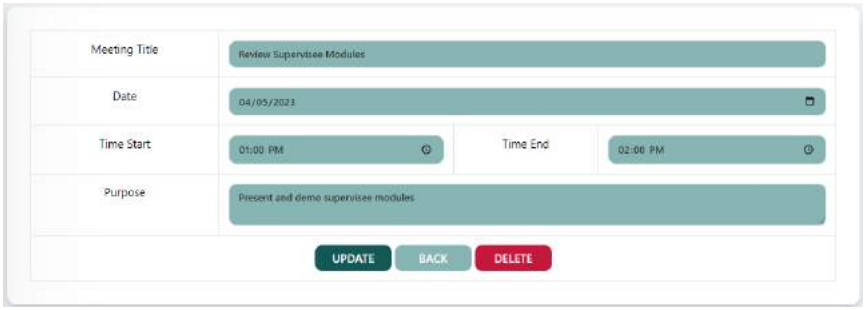


Figure 4.19 Delete function in appointment meeting

Meanwhile, Figure 4.20 shows that the users are also able to delete the logbook data. Likewise, the logbook data also can be deleted if the status logbook is 'In Progress'.

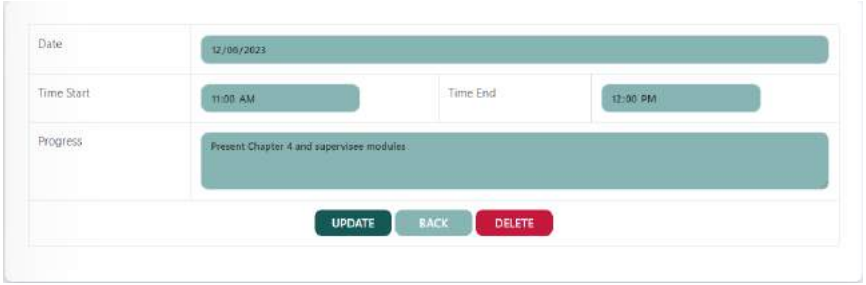


Figure 4.20 Delete function in the logbook

4.2.5 Database Implementation

During the development of the Final Year Project Management System for Faculty of Computing, the project system will use phpMyAdmin as the database in order to store all users' required data. The Final Year Project Management System for Faculty of Computing has 12 tables in the database that are named fypfk. Those 12 tables are appointment, evaluation, evaluationmarks, announcement, supervisorquota, fyplibrary, submission, superviseesubmission, logbook, supervisorapply, task, and users.

Figure 4.21 shows the users table in the fypfk database. The users table will store all the user's personal information that has been filled up and submitted using the sign-up form. Once the user's personal information has been stored in users table, they can access the Final Year Project Management System for Faculty of Computing.

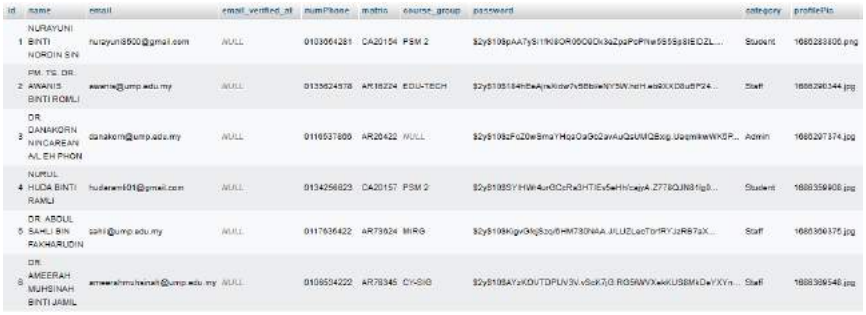


Figure 4.21 Users table

Figure 4.22 shows the appointment table. The appointment table will contain the appointment information of the meeting between the supervisor and supervisee. The appointment meeting information has been received from the appointment meeting form.

id	superviseeID	supervisorID	appointTitle	appointDate	startTime	endTime	purpose	statusAppoint	appointLocation	reasonReject
1	1	2	Review Final PSM Report	2023-06-12	11:00:00	12:00:00	Review the report and poster	Approved	CIReL UMP	*NULL*
2	4	2	Review Chapter 4	2023-06-12	10:00:00	11:00:00	Present chapter 4	Approved	CIRel	*NULL*

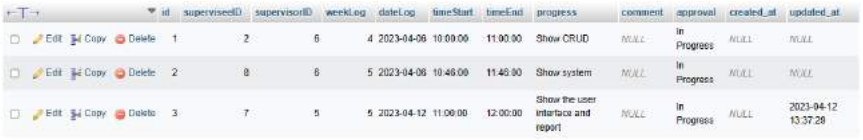
Figure 4.22 Appointment table

Figure 4.23 shows the evaluation table that contain the evaluation information for the supervisee to assess their final year project. For instances, evaluators' name, evaluation date, time, and location.

id	superviseeID	supervisorID	evaluator1	evaluator2	dateEvaluate	timeEvaluate	location
2	1	2	DR. ABDUL SAHLI BIN FAKHARUDIN	DR. AMEERAH MUHSINAH BINTI JAMIL	2023-06-19	10:00:00	DKU

Figure 4.23 Evaluation table

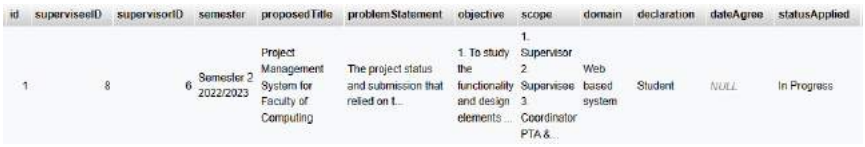
Figure 4.24 shows the logbook table that will store the activity or progression of the meeting between the supervisor and supervisee. All the data in the logbook table will be obtained from the logbook form.



	id	superviseeID	supervisorID	weekLog	dateLog	timeStart	timeEnd	progress	comment	approval	created_at	updated_at
Edit Copy Delete	1	2	6	4	2023-04-06	10:00:00	11:00:00	Show CRUD	NULL	In Progress	NULL	NULL
Edit Copy Delete	2	8	6	5	2023-04-06	10:46:00	11:46:00	Show system	NULL	In Progress	NULL	NULL
Edit Copy Delete	3	7	5	5	2023-04-12	11:00:00	12:00:00	Show the user interface and report	NULL	In Progress	NULL	2023-04-12 13:37:28

Figure 4.24 Logbook table

Figure 4.25 shows the supervisorapply table that will store all the supervisor application and final year project information. The data in the supervisorapply table will be gained from the supervisor application form.



id	superviseeID	supervisorID	semester	proposedTitle	problemStatement	objective	scope	domain	declaration	dateAgree	statusApplied
1	8	6	Semester 2 2022/2023	Project Management System for Faculty of Computing	The project status and submission that relied on t...	1. To study the functionality and design elements ...	1. Supervisor 2. Supervisee 3. Coordinator PTA &...	Web based system	Student	NULL	In Progress

Figure 4.25 Supervisorapply table

Figure 4.26 shows the task table that obtains the data from the task form. The task table will consist of the supervisees' project tasks.

	id	superviseeID	titleTask	assignor	dueDate	priority	status	taskDetails	progress	attachment	created_at	updated_at
Edit Copy Delete	1	7	Staff Module Development	Nur Afiqah Binti Mohammed Jamil	2023-05-12	Medium	On Track	All staff interface and function	To Do	1681358564.pdf	NULL	2023-04-13 04:02:44
Edit Copy Delete	3	8	Supervisor Module	Nurayuni Binti Nordin Sin	2023-05-04	High	On Track	Development of supervisor module	To Do	NULL	NULL	NULL

Figure 4.26 Task table

Moreover, the evaluationmarks table consist of evaluation file and marks as shown in Figure 4.27 once completed evaluate the supervisee's final year project.

id	evaluationID	superviseeID	supervisorID	evaluatorName	file	marks	comment
1	2	1	2	DR. ABDUL SAHLI BIN FAKHARUDIN	1686406466.pdf	25	Good presentation
2	2	1	2	DR. AMEERAH MUHSINAH BINTI JAMIL	1686490444.pdf	20	Correct the report

Figure 4.27 Evaluationmarks table

Figure 4.28 shows the announcement table information that have been created by the coordinator PTA and PSM in the Final Year Project Management System for Faculty of Computing.

id	week	title	date	time	information
1	13	Submission Evaluator Evaluation Report - 30%	2023-06-12	23:59:00	NULL

Figure 4.28 Announcement table

Figure 4.29 shows the supervisorquota table that consist of supervision quota for each Faculty of Computing staff.

id	supervisorID	quota
1	2	3
2	5	9
3	6	9

Figure 4.29 Supervisorquota table

The alumni final year project information such as project title, abstract, and file project will be stored in the fyplibrary table as shown in Figure 4.30

id	submissionID	superviseeID	projectTitle	abstract	fileProject
1	2	1	Final Year Project Management System for Faculty o...	The development of the Final Year Project Manageme...	1686302822.pdf

Figure 4.30 Fyplibrary table

Figure 4.31 shows the submission table which contain of submission title, due date, due time, and link attachment that have been create by the coordinator.

id	course	title	dueDate	dueTime	linkAttachment
1	PTA 2	PTA 2 Final Submission	2023-06-23	23:59:00	https://docs.google.com/spreadsheets/d/e/2PACX-1vT...
2	PSM 2	PSM 2 Final Submission	2023-06-23	23:59:00	https://docs.google.com/spreadsheets/d/e/2PACX-1vT...
3	PSM 2	PSM 2 Evaluator Evaluation	2023-06-12	23:59:00	https://docs.google.com/spreadsheets/d/e/2PACX-1vT...

Figure 4.31 Submission table

Figure 4.32 shows the superviseesubmission where will store all the submission information that has been submitted by the supervisee.

id	submissionID	superviseeID	supervisorID	docSubmission	marks
1	3	1	NULL	1686302041.pdf	NULL
2	3	4	NULL	1686406118.pdf	NULL

Figure 4.32 Superviseesubmission table

4.2.6 Coding Implementation

The Final Year Project Management System for Faculty of Computing has been develop using Laravel Framework, PHP and JavaScript language. In this thesis will be discuss the coding implementation for the insert, update, delete, retrieve including the specialised functions such as email and calendar in the controller.

Figure 4.33 shows the coding for the insert logbook function. The insert logbook function is able to help the users to record the logbook information in the database.

```
public function insertLogbook(Request $request)
{
    $id = Auth::user()->id;

    $supervisorID = $request->input('supervisorID');
    $appointmentID = $request->input('date');
    $progress = $request->input('progress');


    $data = array(
        'superviseeID' => $id,
        'supervisorID' => $supervisorID,
        'appointmentID' => $appointmentID,
        'progress' => $progress,
        'approval' => "In Progress",
    );

    // insert query
    DB::table('logbook')->insert($data);

    return redirect()->back()->with('message', 'Logbook Record Successfully');
}
```

Figure 4.33 Coding for insert function

Figure 4.34 shows the coding for the retrieve function. Based on Figure 4.34, the evaluation graded interfaces will display all the users' evaluation information from the evaluation and users table. Hence, it is important to implement the inner join method in order to retrieve the data from the different tables which are evaluation and users tables.

```
public function evaluationGraded($id)
{
    $name = Auth::user()->name;

    $evaluationinfo = DB::table('evaluation')
                    ->join('users as supervisee', 'evaluation.superviseeID', '=', 'supervisee.id')
                    ->join('users as supervisor', 'evaluation.supervisorID', '=', 'supervisor.id')
                    ->select([
                        'evaluation.id AS evaluationID', 'supervisee.*', 'supervisor.*', 'evaluation.*', 'supervisee.name as superviseeName',
                        'supervisor.name as supervisorName', 'supervisee.id as superviseeID', 'supervisor.id as supervisorID',
                        'supervisee.matric as superviseeMatric', 'supervisor.matric as supervisorMatric',
                        'supervisee.course_group as superviseeCourse', 'supervisor.course_group as supervisorGroup'
                        ])
                    ->where('evaluation.id', $id)
                    ->where('evaluation.evaluator1', $name)
                    ->orWhere('evaluation.evaluator2', $name)
                    ->first();

    return view('evaluation.evaluationgraded', compact('evaluationinfo', 'name'));
}
```

Figure 4.34 Coding for retrieve function

Figure 4.35 shows the coding for the update function. Based on Figure 4.35, the coding for updating the file attachment is different that updating the input type. The purpose of each coding for updating file has been explained in the figure.

```php
public function updateTask(Request $request, $id) //updateTask in database
{
    $updateTask = task::find($id); //model name

    $path = public_path() . '/assets/' . $updateTask->attachment;
    // if (file_exists($path)) {
    //     // unlink($path);
    // // }

    $updateTask->titleTask = $request->input('taskTitle');
    $updateTask->assignor = $request->input('assignor'); //blue from name input value
    $updateTask->dueDate = $request->input('dueDate');
    $updateTask->priority = $request->input('priority');
    $updateTask->status = $request->input('status');
    $updateTask->taskDetails = $request->input('taskDetails');
    $updateTask->progress = $request->input('process');
    $updateTask->attachment = $request->file('attachment');

    // to rename the proposal file
    $filename = time() . '.' . $updateTask->attachment->getClientOriginalExtension();
    // to store the new file by moving to assets folder
    $request->attachment->move('assets', $filename);

    $updateTask->attachment = $filename;

    $updateTask->update();

    return redirect()->back()->with('message', 'Task Updated Successfully');
}
```

Figure 4.35 Coding for update function

Figure 4.36 shows the coding for the delete function. Based on the Figure 4.36 shows the coding to delete the data of id that has been get from the submission table.

```php
public function deleteTask($id)
{
    $deleteSubmission = Submission::find($id); //model name

    if ($deleteSubmission) {
        // If the record exists, delete it
        $deleteSubmission->delete();
    }

    return redirect()->route('submission');
}
```

Figure 4.36 Coding for delete function

Figure 4.37 shows the coding for the email function. The declaration of $user coding is used to retrieve the data from the users table. Meanwhile, the declaration of $data coding is used to start sending the email to the staffs of Faculty of Computing.

```php
public function getEmail(Request $request, $id)
    {

        $user = DB::table('users')
        ->select([
            'name', 'email',
        ])
        ->where('users.id', $id)
        ->first();

        $to = [

            [
                'email' => $user->email,
            ]

        ];

        //send email
        $data = [

            'name' => $user->name,
        ];

        Mail::to($to)->send(new SuperviseeMail($data));

        return back()->with('success', 'Email Successfully Sent.');

    }
```

Figure 4.37 Coding for email function

Figure 4.38 shows the coding to retrieve the data from the appointment table to the calendar interface in the appointment module.

```php
public function appointmentSupervisee(Request $request)
{
    $category = Auth::user()->category;
    $id = Auth::user()->id;

    if ($category == 'Student') {

        if ($request->ajax())
        {
            $klTime = Carbon::now('Asia/Kuala_Lumpur'); // Get current KL time
            $start = $klTime->toDateString(); // Get the date part in YYYY-MM-DD format

            $data = appointment::select('id', 'appointTitle as title', 'appointDate as start')
                ->where('statusAppoint', 'Approved')
                ->where('superviseeID', $id)
                ->get();

            return response()->json($data);
        }
    }

    if ($category == 'Staff') {

        if ($request->ajax())
        {
            $klTime = Carbon::now('Asia/Kuala_Lumpur'); // Get current KL time
            $start = $klTime->toDateString(); // Get the date part in YYYY-MM-DD format

            $data = appointment::select('id', 'appointTitle as title', 'appointDate as start')
                ->where('statusAppoint', 'Approved')
                ->where('supervisorID', $id)
                ->get();

            return response()->json($data);
        }
    }

    return view('meeting.superviseemeeting');
```

Figure 4.38 Coding for calendar function

4.2.7 Interfaces

Supervisee Modules

The supervisee has 11 modules which are home, supervisor quota, supervisor application, appointment meeting, logbook, my task, reporting, evaluation, submission, FYP library and profile. Each module has a different functionality based on the users' requirements.

Figure 4.39 shows the home interface for the supervisee once they have successfully login the Final Year Project Management System for Faculty of Computing. In the home interface, the supervisee is able to review the announcement from the PSM and PTA coordinator on the announcement board section.

Figure 4.39 Home interface for supervisee

Besides, Figure 4.40 shows the supervisor quota interface for the supervisee to view the list of supervisor including their total supervisee quota information. In the supervisor quota module, the supervisee is able to sending the email to the lecturer by clicking the 'EMAIL' button in order to request their prefered lecturer in becoming the supervisor for their final year project.

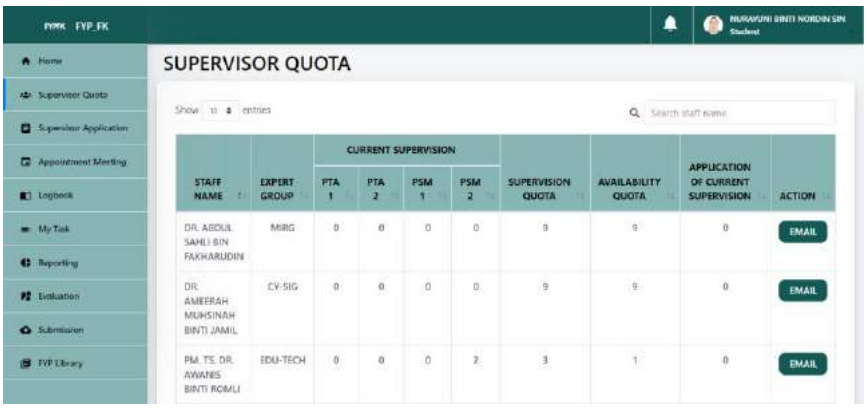


Figure 4.40 Supervisor quota interface for supervisee

Figure 4.41 and 4.42 shows the supervisor application form interface to help the supervisee in applying their preferred staff as supervisor of their final year project. The supervisor application form interface will be displayed if, the supervisee did not apply and has the supervisor yet.

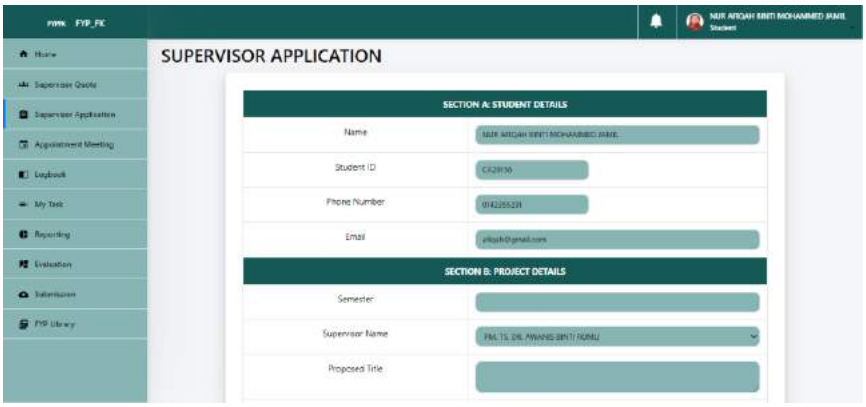


Figure 4.41 Supervisor application form interface for supervisee

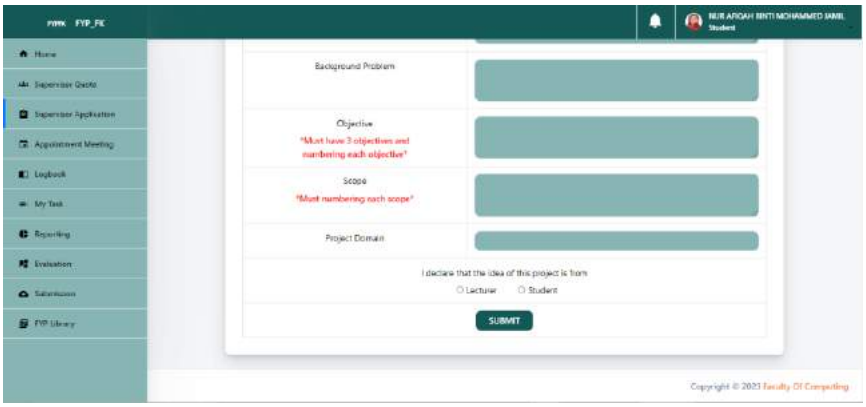


Figure 4.42 The continuous supervisor application form interface for supervisee

However, the supervisee is able to view the supervisor application interface as shown in Figure 4.43 once the supervisee has applied the supervisor application. Basically, the supervisee is able to view the application of the supervisor's name, proposed title, semester, background problem, objective, scope, and status application.

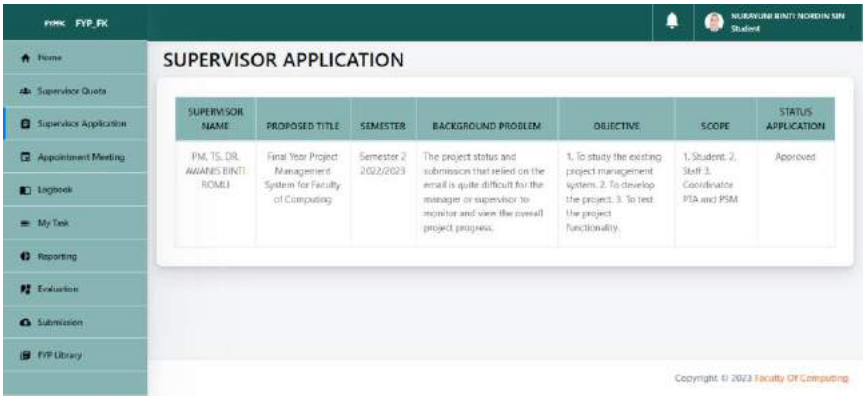


Figure 4.43 Supervisor application interface for supervisee

Moreover, Figure 4.44 shows the meeting schedule interface. In the meeting schedule interface, the supervisee is able to create the appointment meeting by clicking the 'BOOK MEETING' button. Apart from that, the supervisee also is able to view the information of the meeting schedule that has been approved by the supervisor in the calendar as shown in Figure 4.44. If the meeting schedule is still in progress status, the supervisee is able to edit the appointment meeting information by clicking the 'UPDATE MEETING' button. In fact, the supervisee also is able to view the rejected appointment meeting by clicking the 'REJECTED MEETING' button.

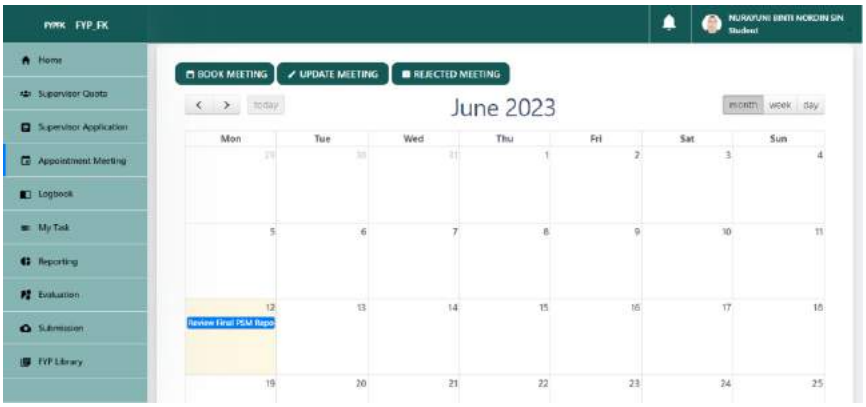


Figure 4.44 Meeting schedule interface for supervisee

Figure 4.45 shows the logbook interface that consists of meeting information between the supervisor and supervisee. For example, the date, time start, time end, progress, supervisor comment, and approval of the meeting. Besides, the supervisee is able to create the logbook in the logbook interface by clicking the 'INSERT LOGBOOK' button. Furthermore, the supervisee also is able to update the logbook information data by clicking the 'UPDATE' button once the approval status is 'In Progress'. Supervisee cannot update the logbook data after supervisor has already comment and approve it.

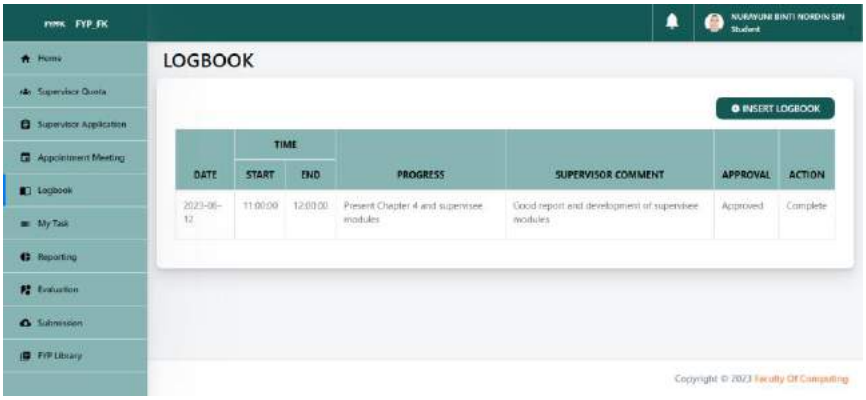


Figure 4.45 Logbook interface for supervisee

In my task interface, the supervisee is able to review their project task as shown in Figure 4.46. The Final Year Project Management System for Faculty of Computing has implemented the Kanban-style in order to categorize the project task progression whether in the 'TO DO', 'IN PROGRESS' or 'DONE'. Furthermore, the supervisee also is able to create the project task by clicking the 'Add Task' that has been provided on each category. The Final Year Project Management System for Faculty of Computing also has provided the update and delete function to edit and delete the project task data by clicking the 'View' button.

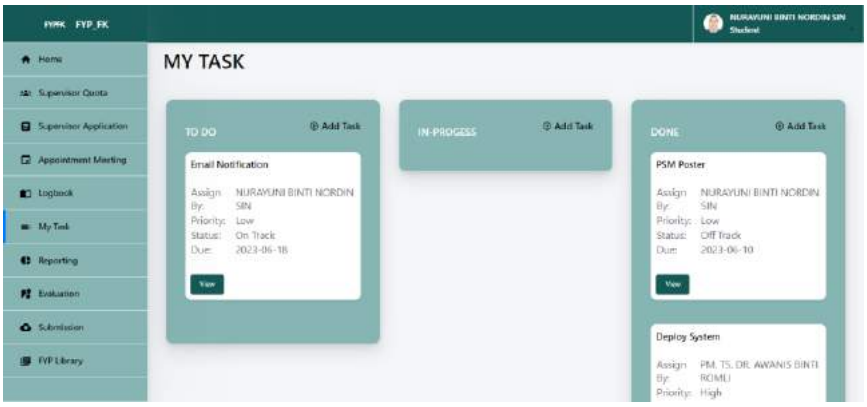


Figure 4.46 My task interface for supervisee

Figure 4.47 and 4.48 shows the reporting of the supervisee's project in the graph visualization such as pie and doughnut chart. The reporting was generated from the data of project tasks and submission.

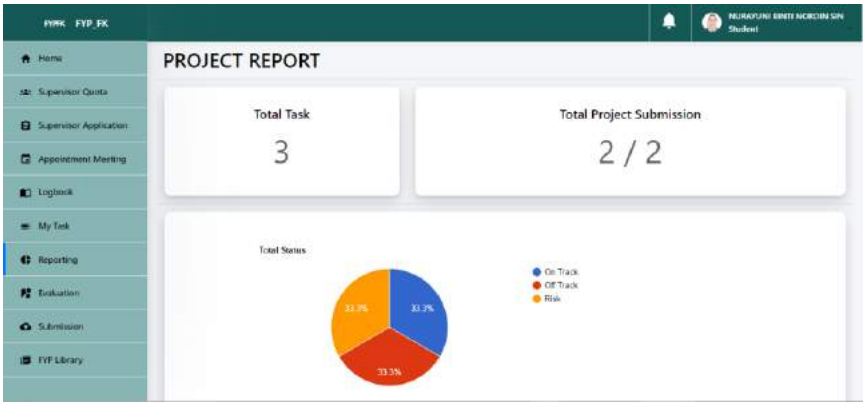


Figure 4.47 Reporting interface for supervisee

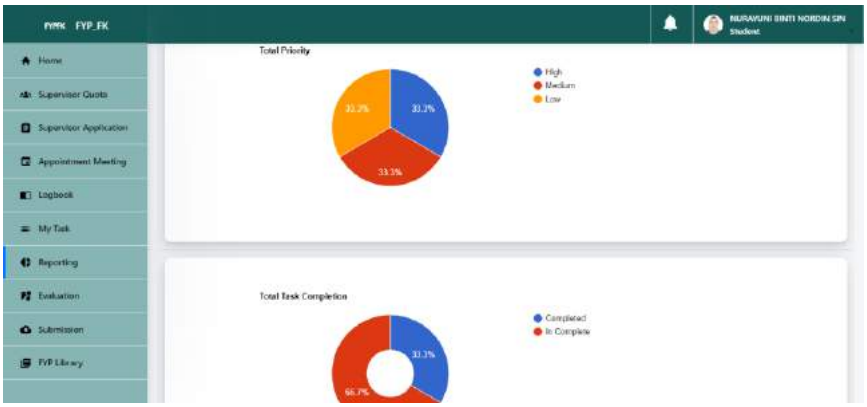


Figure 4.48 The continuous reporting interface for supervisee

Figure 4.49 shows the evaluation information interface for the supervisee to review about their evaluation information in more detail. For instance, the evaluation information of date, time, location, evaluators' name, evaluators comment, evaluators' marks, and total marks.

Figure 4.49 Evaluation information interface for supervisee

Figure 4.50 shows the project submission interface. The project submission interface will provide the list of required submissions for the supervisee. The list of required submissions has been created by the coordinator. Once the supervisee has clicking the title of the submission, the supervisee will directly go to the interface as shown in Figure 4.51.

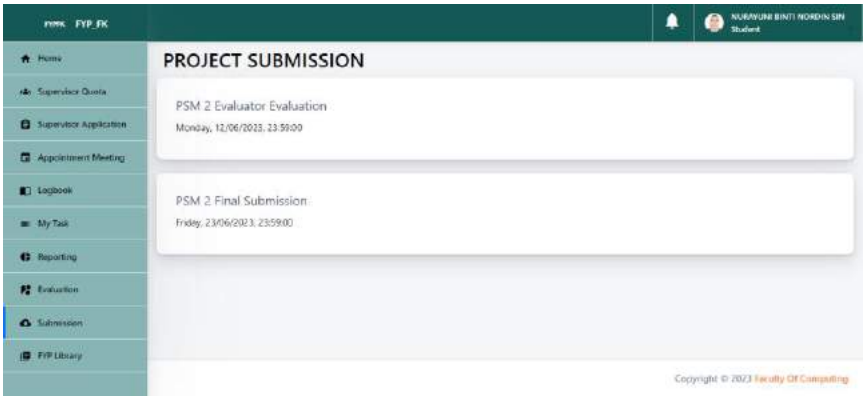


Figure 4.50 Project submission interface for supervisee

Figure 4.51 shows the interface to create the submission project. In this interface, the supervisee is required to upload the project file and click the 'SUBMIT' button in order to create the submission.

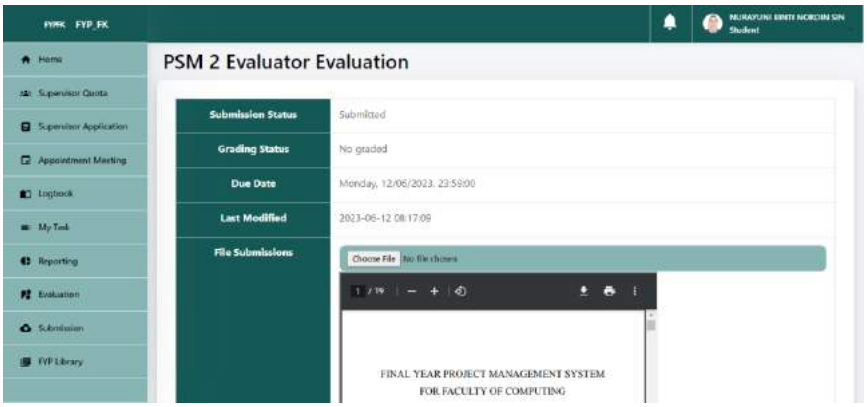


Figure 4.52 shows the FYP Library interface for the supervisee to review and search the previous final year project that has been completed by alumni students of the Faculty of Computing.

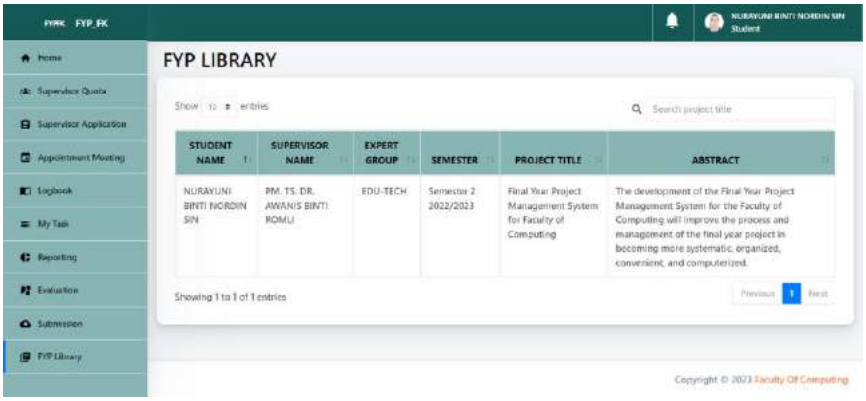


Figure 4.52 FYP Library interface for supervisee

Lastly, Figure 4.53 shows the user profile interface for the supervisee. In this interface, the supervisee is able to update their information details such as profile picture, name, student ID, email, number phone, and course.

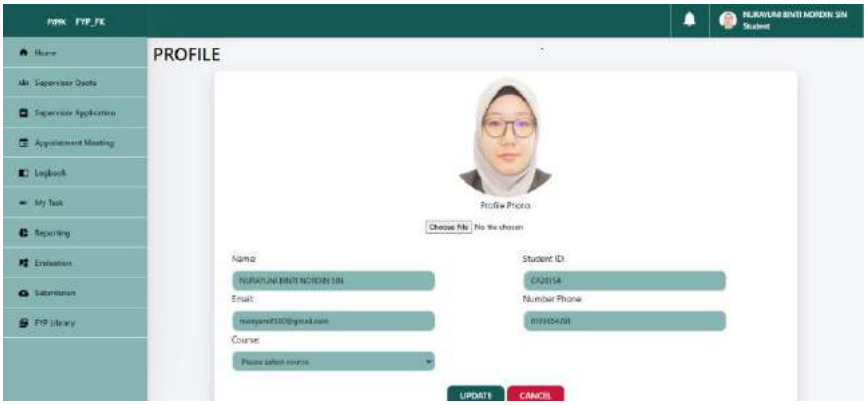


Figure 4.53 User profile for the supervisee

Supervisor Modules

Supervisor modules also similar with the supervisee modules. Therefore, the supervisor also has 11 modules which are home, supervisor quota, supervisor application, appointment meeting, logbook, supervisee task, reporting, evaluation, submission, FYP library, and user profile. However, each module has different accessibility for the supervisor to utilise it.

Figure 4.54 shows the home interface that contain the information about the announcement from the coordinator of PTA and PSM.

Figure 4.54 Home interface for the supervisor

Figure 4.55 shows the supervisor quota interface. The supervisor quota interface for the supervisor also has the similar information with the supervisee. However, the Final Year Project Management System for Faculty of Computing only provide the email function for the supervisee in the supervisor quota interface.

Figure 4.55 Supervisor quota interface for the supervisor

Figure 4.56 shows the supervisor application interface for the supervisor. Based on Figure 4.56, the supervisor needs to click the 'VIEW' button in order to accept or reject the supervisee application. If the supervisor rejects the application, the supervisor needs to fill in the reason of rejection. Once submit the rejection application, that supervisor application information will be display at the admin interface. In addition, the supervisor also can review their list of supervisee by clicking the 'LIST OF SUPERVISEE' button as shown in Figure 4.56.

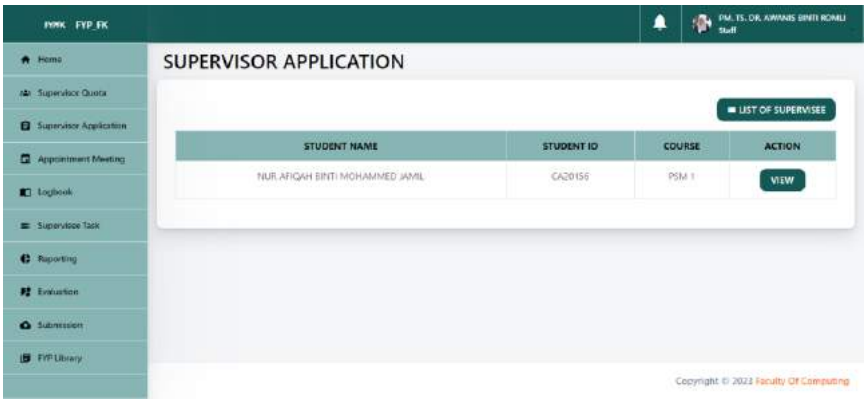


Figure 4.56 Supervisor application interface for the supervisor

Figure 4.57 shows the appointment meeting interface. In the appointment meeting interface, the Final Year Project Management System for Faculty of Computing provide the meeting information in the calendar. However, the calendar only displays the meeting information once the supervisor has approved the appointment meeting in the meeting approval interface by clicking the 'MEETING APPROVAL' button. The supervisor is able to view the list of rejected meeting by clicking the 'REJECTED MEETING' button.

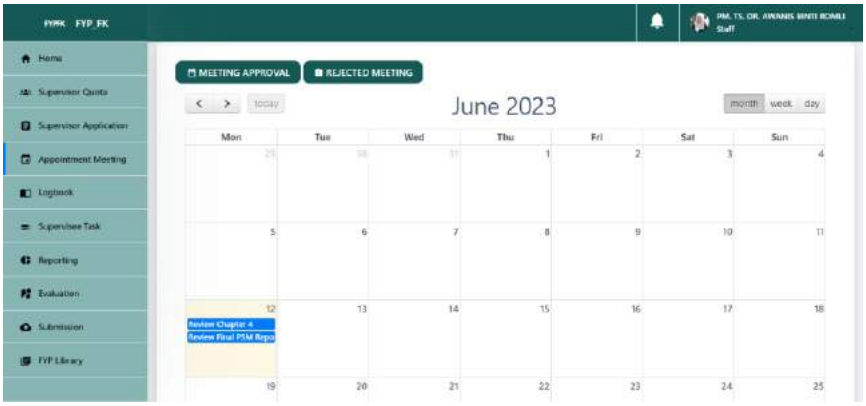


Figure 4.57 Appointment meeting interface for the supervisor

Figure 4.58 shows the logbook interface. The supervisor needs to select the supervisee name first in order to obtain the supervisee's logbook information as shown in Figure 4.58. In the logbook interface, the supervisor is required to click the 'UPDATE' button to fill in the comment and submit it in order to change the status approval from 'In Progress' to the 'Approved'. The logbook information will be declaring as complete once the status approval is approved.

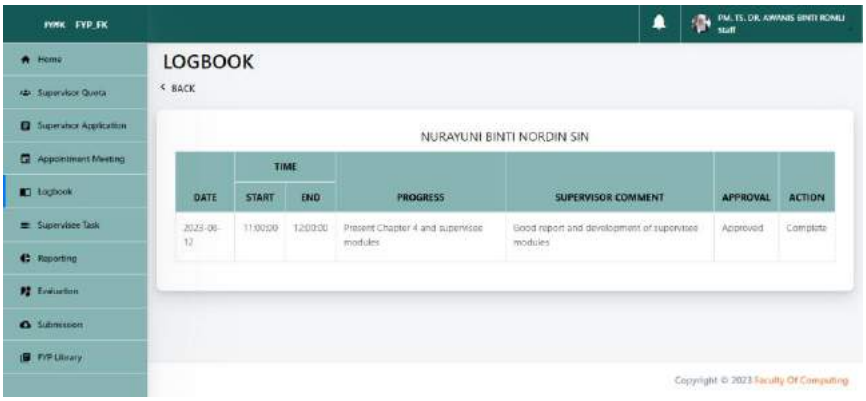


Figure 4.58 Logbook interface for the supervisor

Figure 4.59 shows the supervisee task interface. In the supervisee task interface, the supervisor is able to review the supervisee project progression information. In fact, the supervisor also can comment and attach the file for the supervisee reference in each task by clicking the 'VIEW' button.

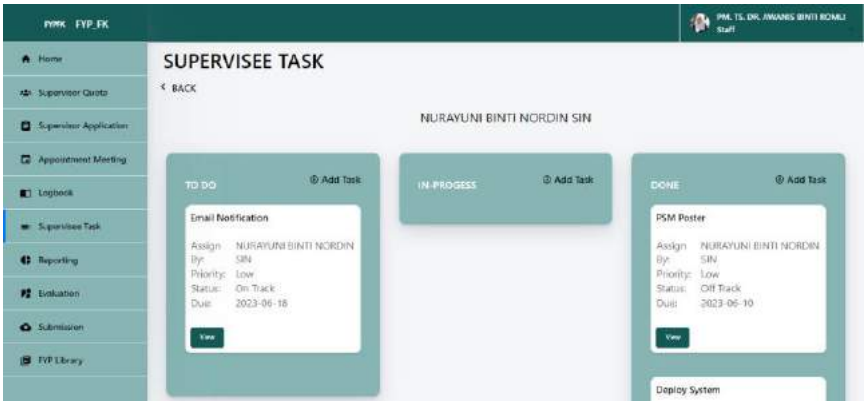


Figure 4.59 Supervisee task interface for the supervisor

Figures 4.60 and 4.61 shows the reporting interface. The supervisor will obtain the similar report data like supervisee in the reporting interface in order to review and determine the performance of their supervisee in completing the final year project task.

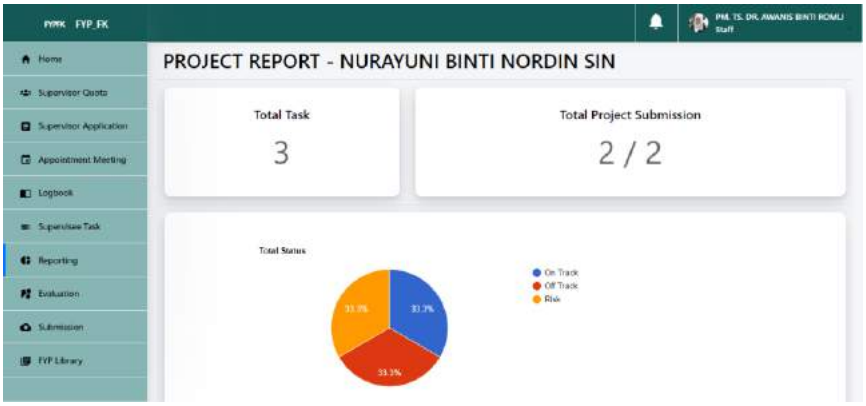


Figure 4.60 Reporting interface for the supervisor

Figure 4.61 The continuous reporting interface for the supervisor

Figure 4.62 shows the evaluation interface. In the evaluation interface, the supervisor needs to evaluate the final year students that has been assigned by the coordinator of PTA and PSM. Therefore, the supervisor needs to click the ‘GRADED’ button as shown in Figure 4.62 in order to obtain the details of student information, link of evaluation file and fill in the evaluation marks.

Once supervisor has submitted the evaluation marks, the students and coordinator are able to view the evaluation marks in their evaluation interface. In addition, the Final Year Project Management System for Faculty of Computing will change the 'GRADED' button to the 'UPDATE' button for the supervisor to edit the evaluation information once they has been graded before.

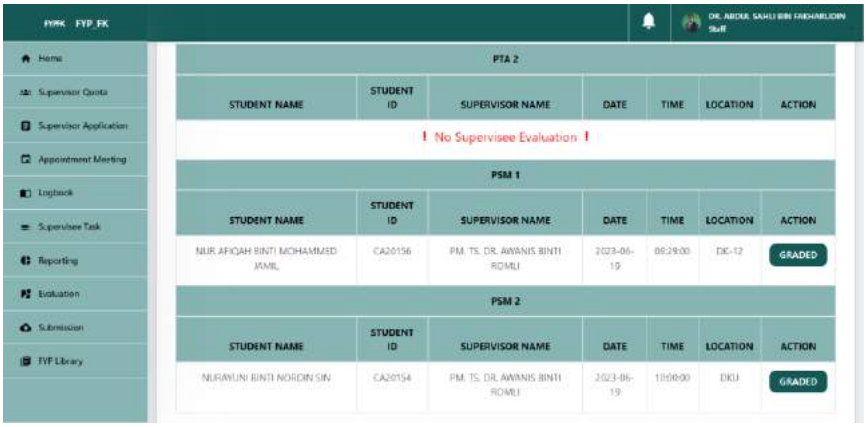


Figure 4.62 Evaluation interface for the supervisor

Figure 4.63 shows the list of submission in the project submission interface. The supervisor needs to click the submission title and select the supervisee's name in order to view the file submission from the supervisee as shown in Figure 4.64.

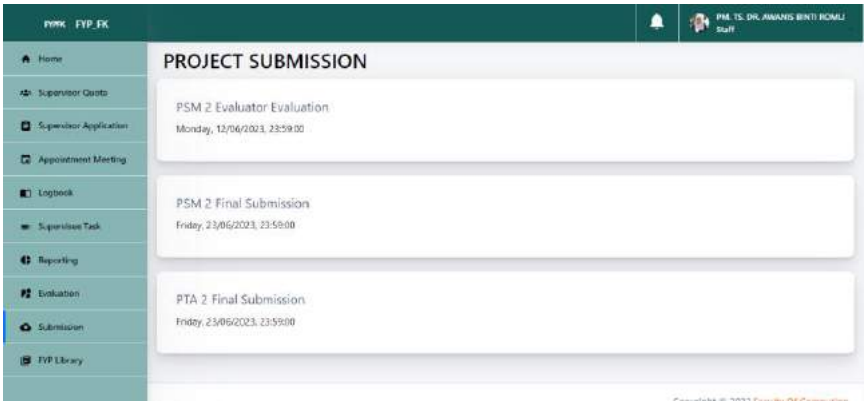


Figure 4.63 Submission interface for the supervisor

The Final Year Project Management System for Faculty of Computing allow the supervisor to grade the supervisee's project submission by clicking the 'GRADED' button. The supervisor will obtain the link of evaluation project submission file once clicking the 'GRADED' button. In addition, the supervisor also needs to click the 'GRADED' button in order to submit the marks for project submission.

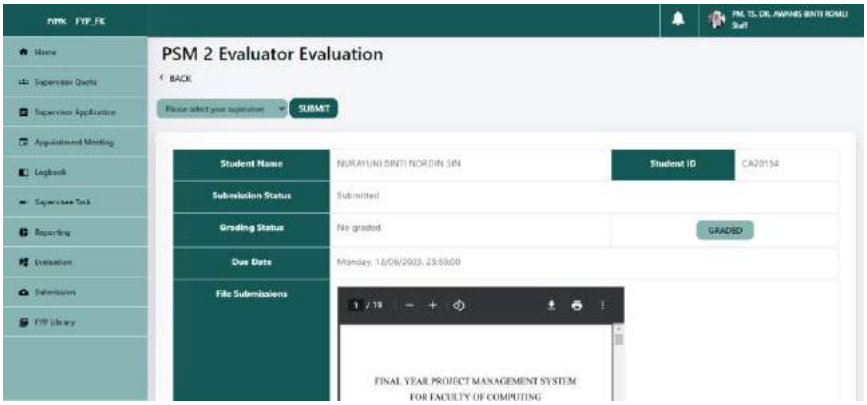


Figure 4.64 The continuous submission interface for the supervisor

The supervisor can obtain the previous completed final year project information by the alumni students in the FYP library interface as shown in Figure 4.65. For example, the supervisor can get the information of student name, supervisor name, expert group, semester, project title, and abstract.

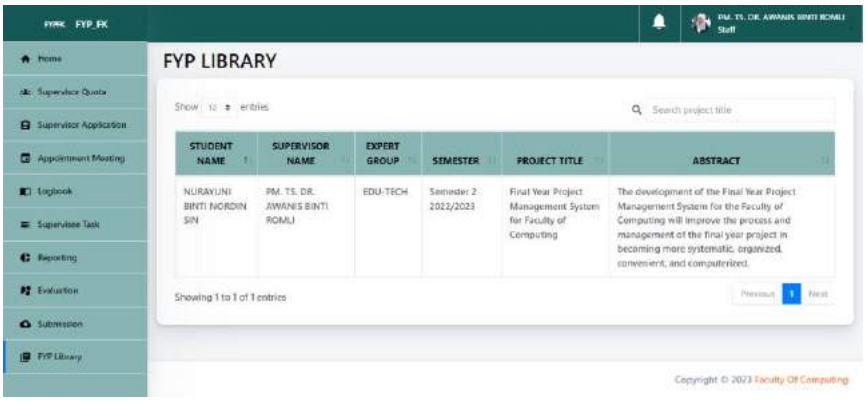


Figure 4.65 FYP library interface for the supervisor

Lastly, Figure 4.66 shows the user profile interface for the supervisor to update their information details.

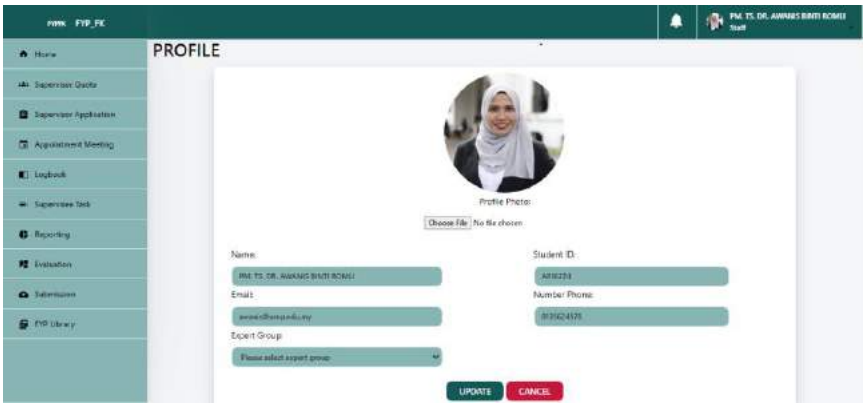


Figure 4.66 User profile interface for the supervisor

Admin Modules

The Final Year Project Management System for Faculty of Computing has provide 9 modules for the administrator which is the coordinator of PTA and PSM. The 9 modules are home, supervisor quota, supervisor application, logbook, submission, reporting, evaluation, FYP library, and user profile. In each modules of administrator also have different functionality and accessibility according to the user requirements.

Figure 4.67 shows the main interface. The main interface for the administrator is different than main interface for supervisor and supervisee. Based on the Figure 4.67, the coordinator of PTA and PSM are allow to create, update and delete the announcement. To create the announcement, the coordinator must click the '+' icon. Meanwhile, the pencil icon is for update the announcement and the dustbin icon is for delete the announcement that has been created.

Figure 4.67 Main interface for the administrator

Figure 4.68 shows the supervisor quota interface for the administrator. The coordinator is required to create the supervision quota for each staff in the Faculty of Computing by clicking the 'ADD STAFF' button. The staff name will not display in the supervisor quota if the supervisor not assigned the quota yet. In addition, the coordinator also can update the supervision quota for each staff that have been created by clicking the 'UPDATE' button as shown in Figure 4.68.

Figure 4.68 Supervisor quota interface for the administration

Figure 4.69 shows the supervisor application interface. The list of rejected supervisor applications will be displayed in the supervisor application interface for the administrator. Therefore, the coordinator need to assign the other staff or lecturer to become the supervisor for the rejected supervisor application students by clicking the 'VIEW' button. Once coordinator has clicked the 'VIEW' button, the coordinator will obtain the details supervisor application information of students in order assign the suitable supervisor for them. In addition, the coordinator also is able to view all the supervisor application record that has been approved as shown in Figure 4.70.

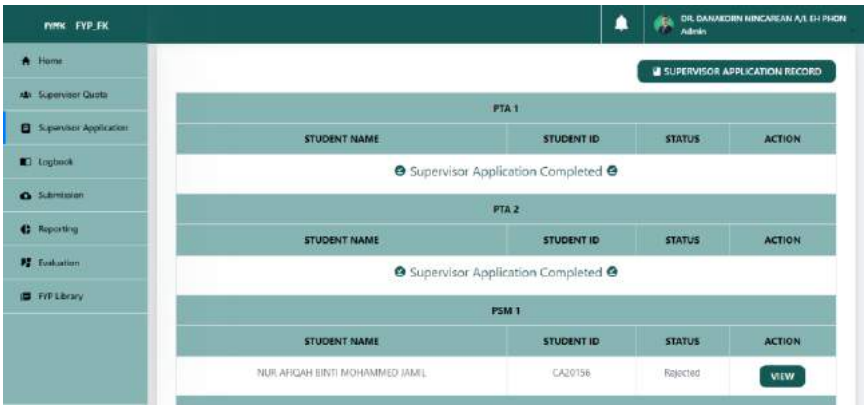


Figure 4.69 Supervisor application interface for the administrator

Based on Figure 4.70, the coordinator will obtain the list of supervisee information such as student name, course, semester, project title, background problem, objective and scope for each supervisor. Besides, the coordinator is allowing to assign the supervisor replacement for the student that has the issues of their supervisor resign or further studies. The 'UPDATE' button is the function for the coordinator to assign the new supervisor for the students.

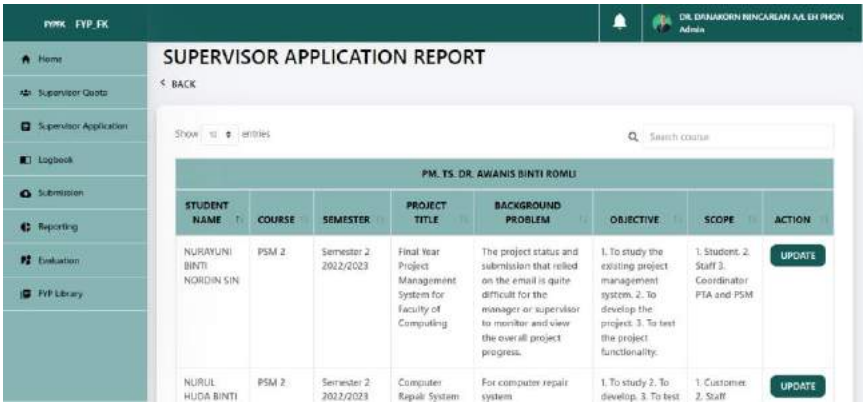


Figure 4.70 Supervisor application report interface for the administrator

Figure 4.71 shows the logbook interface for the coordinator to review the progression of meeting discussion information between the supervisor and supervisee. Hence, the coordinator is able to know the number of supervisees who meet with their supervisor.

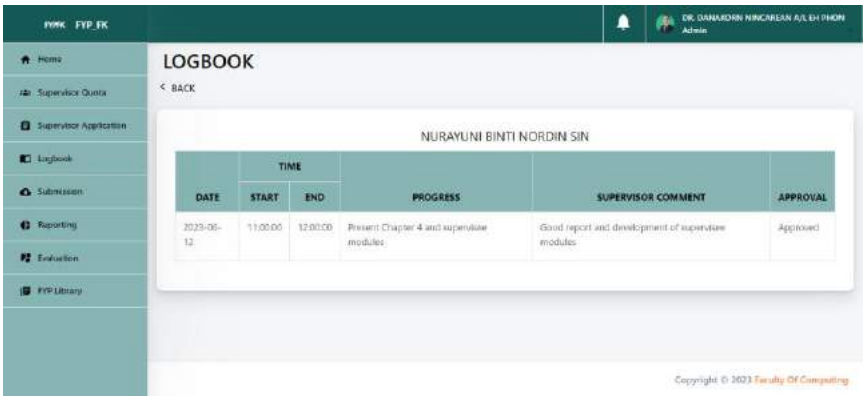


Figure 4.71 Logbook interface for the administrator

Figure 4.72 shows the project submission interface. In the project submission interface, the coordinator is allowing to create, edit and delete the project submission. The 'CREATE SUBMISSION' button is to create the submission. The pencil icon is to edit the submission. Meanwhile, the dustbin icon is to delete the unnecessary submission.

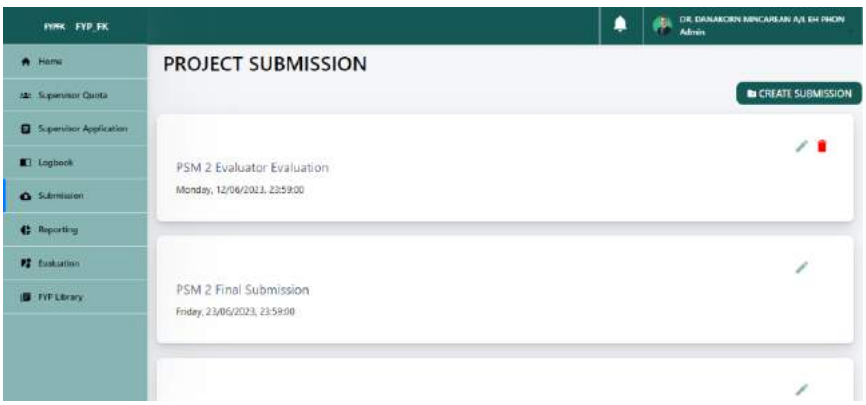


Figure 4.72 Project submission interface for administrator

The coordinator also allows reviewing the student file of project submission as shown in Figure 4.73 by clicking the submission title and selecting the supervisor and supervisee name.

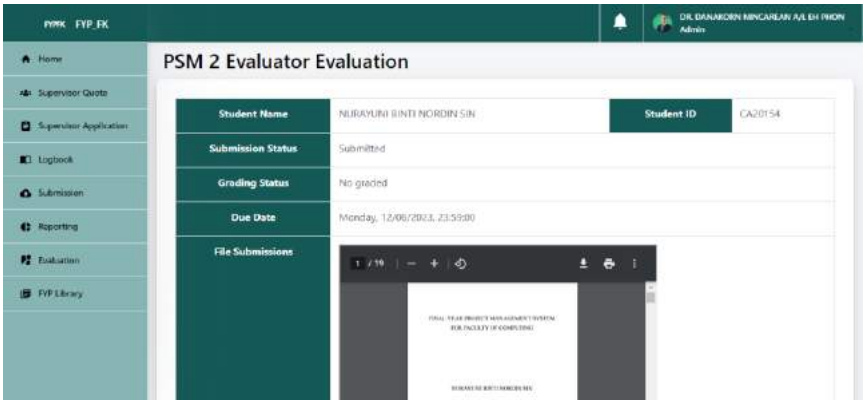


Figure 4.73 The continuous of submission interface for administrator

Figures 4.74 and 4.75 shows the supervisee report of project progression.

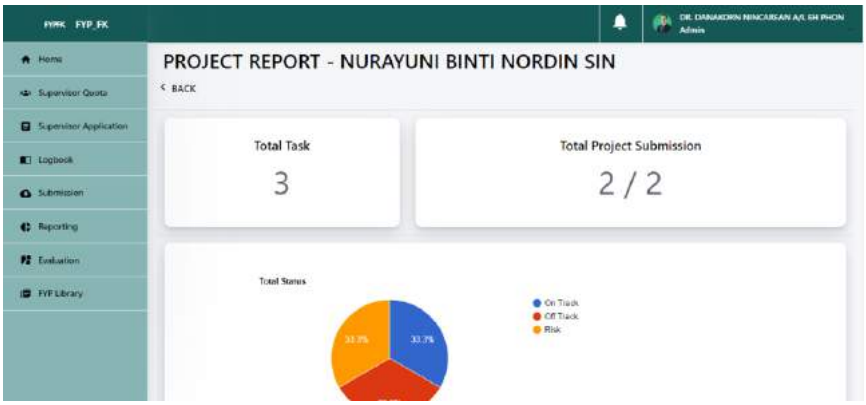


Figure 4.74 Reporting interface for administrator

Figure 4.75 The continuous of reporting interface for administrator

Figure 4.76 shows the evaluation interface. In the evaluation interface, the coordinator is able to update and view the evaluation information for each student by clicking the ‘UPDATE’ and

'VIEW' button. Moreover, the coordinator also needs to create the evaluation information to the student that not assigned yet by clicking the 'CREATE EVALUATION' button.

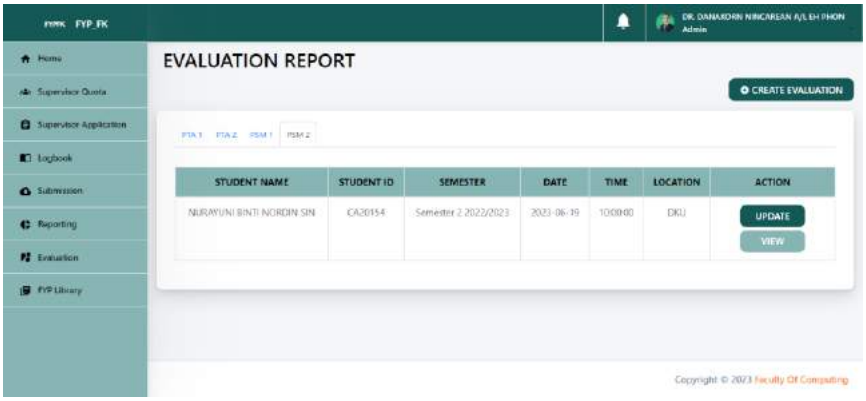


Figure 4.76 Evaluation interface for the administrator

Figure 4.77 shows the FYP library interface for the coordinator to review the previously completed final year project information.

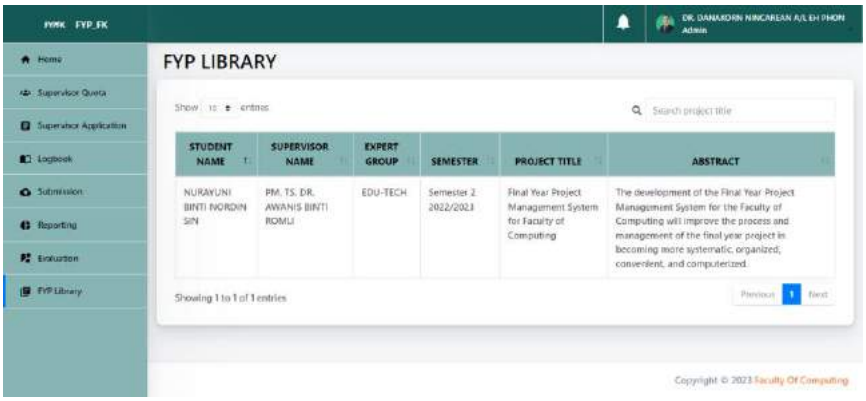


Figure 4.77 FYP library interface for the administrator

Lastly, Figure 4.78 shows the user profile interface for the administrator to update their details information such as profile picture, name, staff ID, email and number phone.

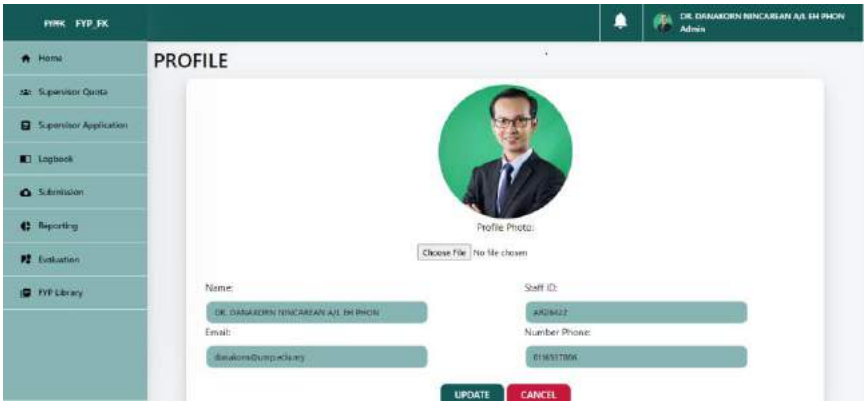


Figure 4.78 User profile interface for the administrator

4.3 Testing and Result Discussion

The effectiveness and accessibility of the Final Year Project Management System for Faculty of Computing has been tested by the 5 users among the final year students and 1 coordinator, and 1 supervisor in the Faculty of Computing. The users will go through and test each features and function in the all modules of supervisee, supervisor, and coordinator first. Once complete the testing process, they will fill in the User Acceptance Test form in order to obtain the feedback about the Final Year Project Management System for Faculty of Computing. Figure 4.79 and 4.80 shows the example of User Acceptance Test that has been fill in by the users. The other User Acceptance Test and prove conducting the testing has been inserted in Appendix C.

Module	Activities	Status		Comments
		Yes	No	
Button "Sign Up"	Functional	✓		
Button "Log In"	Functional	✓		
Sign up (Student)	User registration	✓		
Sign up (Staff)	User registration	✓		
Log in	Username	✓		
	Password retrieval	✓		
Log out	User log out	✓		
Announcement board	Information appropriate	✓		
	Edit (Admin)	✓		
	Add (Admin)	✓		
Profile	Information appropriate	✓		
	Edit	✓		
Supervisor quota	Accurate information	✓		
	Edit (Admin)	✓		
	Add (Admin)	✓		
Supervisor application	Create (Supervisee)	✓		
	Approval (Supervisor, Admin)	✓		
Appointment meeting	Create (Supervisee)	✓		
	Edit (Supervisor, Supervisee)	✓		
	Delete (Supervisee)	✓		

Logbook	Accurate information	✓		
	Add (Supervisee)	✓		
	Delete (Supervisee)	✓		
Project task	Functional	✓		
	Create (Supervisor, Supervisee)	✓		
	Edit (Supervisor, Supervisee)	✓		
	Delete (Supervisor, Supervisee)	✓		
Project submission	Upload file	✓		
	Update file	✓		
	Add marks (Supervisor)	✓		
Project Report	Accurate information	✓		
Evaluation	Accurate information	✓		
	Add (Admin)	✓		
	Delete (Admin)	✓		
	Edit (Admin)	✓		
FYP Library	Accurate information	✓		

This test has been performed by:

Name : NURAIN ALEEYA BINTI CHE ZAHARUDIN

Date : 11/6/2023

Signature:

Figure 4.79 User Acceptance Test Form of user 1

Module	Activities	Status		Comments
		Yes	No	
Button "Sign Up"	Functional	/		
Button "Log In"	Functional	/		
Sign up (Student)	User registration	/		
Sign up (Staff)	User registration	/		
Log in	Username	/		
	Password retrieval	/		
Log out	User log out	/		
Announcement board	Information appropriate	/		Suggested to have a notification on new announcement
	Edit (Admin)	/		
	Add (Admin)	/		
Profile	Information appropriate	/		Suggested can add photo
	Edit	/		
Supervisor quota	Accurate information	/		
	Edit (Admin)	/		
	Add (Admin)	/		
Supervisor application	Create (Supervisee)	/		
	Approval (Supervisor, Admin)	/		
Appointment meeting	Create (Supervisee)	/		
	Edit (Supervisor, Supervisee)	/		
	Delete (Supervisee)	/		
Logbook	Accurate information	/		
	Add (Supervisee)	/		
	Delete (Supervisee)	/		
Project task	Functional	/		
	Create (Supervisor, Supervisee)	/		

	Edit (Supervisor, Supervisee)	/		
	Delete (Supervisor, Supervisee)	/		
Project submission	Upload file	/		
	Update file	/		
	Add marks (Supervisor)	/		Suggested the mark come from the rubric
Project Report	Accurate information	/		
Evaluation	Accurate information	/		Suggested the mark come from the rubric
	Add (Admin)	/		
	Edit (Admin)	/		
FYP Library	Accurate information	/		

Comment:

Overall all the function working well. Can be used in real application. Suggested to have a notification whenever student apply the application for SV. For evaluation mark, the mark should come from the rubric and SV and EV can evaluate directly in the system. As coordinator, suggested to have a function of generating the report that contains each mark for all student.

This test has been performed by:

Name : TS DR DANAKORN NINCAREAN
Date : 18/6/2023

Signature: Danakorn

Figure 4.80 User Acceptance Test Form of user 2

According to the feedback from the User Acceptance Test Form, most final year students, supervisors, and coordinators were satisfied with the features and accessibility provided in the Final Year Project Management System for the Faculty of Computing and there were some comments that can take it as future improvements to the system. Therefore, the development of the system successfully achieved the needs of the users. In addition, the Faculty of Computing's Final Year Project Management System has been successfully tested without any errors or problems. Since all the users have given positive feedback and no errors occurred in the User Acceptance Test, therefore, the Final Acceptance Test will not be conducted.

CHAPTER 5

CONCLUSION

5.1 Conclusion

In conclusion, the Final Year Project Management System for Faculty of Computing is able to assist the final year project operations become more systematic and convenient. In fact, the Final Year Project Management System for Faculty of Computing manage to visualization the progression the student's final year project and digitalization the logbook. Therefore, the visualization of project progression is able to facilitate the supervisor to review about their supervisee project progression. In fact, the digitalization of logbook manages to help the Universiti Malaysia Pahang achieve the Green Campus Plan.

Apart from that, the Final Year Project Management System for Faculty of Computing manage to achieve the user requirements and objectives without any error and issues. The data of the Final Year Project Management System for Faculty of Computing can been successfully stored, updated and deleted in the database. In fact, all the language, features, icons, and buttons in the Final Year Project Management System for Faculty of Computing are easily makes the users understand to use the system. The evidence can be referring at feedback from the users testing.

In short, the Final Year Project Management System for Faculty of Computing managed to achieve the objective of the system without any problem and error.

5.2 Recommendation

Even though the Final Year Project Management System for Faculty of Computing manages to achieve the user requirements, however, there have some suggestions from the tester and evaluator that can be implemented in order to improve the functionality of the system. One of the suggestions is to create an email notification in order to assist the supervisee be aware of the announcement. In addition, the tester also wants the system to provide a rubric for the supervisor and evaluator to grade the submission and evaluation marks rather than insert the overall marks only. In fact, the evaluator requested to create the slot meeting appointment in order to provide the supervisor schedule each week for the supervisee easier make an appointment meeting.

APPENDIX

Appendix A

Appendix B

Project and database design link:

https://drive.google.com/file/d/1iAEd24Qs34D4b0_wzQHzClD-Zl2Ijo0N/view?usp=sharing

Gantt Chart link:

https://drive.google.com/file/d/1CGWgHARJyDCAu1NPLbP2Zkx8XTOTmnwE/view?usp=sharing

Appendix C

Module	Activities	Status		Comments
		Yes	No	
Button "Sign Up"	Functional	✓		
Button "Log In"	Functional	✓		
Sign up (Student)	User registration	✓		
Sign up (Staff)	User registration	✓		
Log in	Username	✓		
	Password retrieval	✓		
Log out	User log out	✓		
Announcement board	Information appropriate	✓		
	Edit (Admin)	✓		
	Add (Admin)	✓		
Profile	Information appropriate	✓		
	Edit	✓		
Supervisor quota	Accurate information	✓		
	Edit (Admin)	✓		
	Add (Admin)	✓		
Supervisor application	Create (Supervisee)	✓		
	Approval (Supervisor, Admin)	✓		
Appointment meeting	Create (Supervisee)	✓		
	Edit (Supervisor, Supervisee)	✓		
	Delete (Supervisee)	✓		
Logbook	Accurate information	✓		
	Add (Supervisee)	✓		
	Delete (Supervisee)	✓		
Project task	Functional	✓		
	Create (Supervisor, Supervisee)	✓		

	Edit (Supervisor, Supervisee)	✓		
	Delete (Supervisor, Supervisee)	✓		
Project submission	Upload file	✓		
	Update file	✓		
	Add marks (Supervisor)	✓		
Project Report	Accurate information	✓		
Evaluation	Accurate information	✓		
	Add (Admin)	✓		
	Delete (Admin)	✓		
	Edit (Admin)	✓		
FYP Library	Accurate information	✓		

This test has been performed by:

Name : NURIN AZYYATI BINTI KAMILIZAHRI

Date : 11/6/2023

Signature:

Module	Activities	Status		Comments
		Yes	No	
Button "Sign Up"	Functional	✓		
Button "Log In"	Functional	✓		
Sign up (Student)	User registration	✓		
Sign up (Staff)	User registration	✓		
Log in	Username	✓		
	Password retrieval	✓		
Log out	User log out	✓		
Announcement board	Information appropriate	✓		
	Edit (Admin)	✓		
	Add (Admin)	✓		
Profile	Information appropriate	✓		
	Edit	✓		
Supervisor quota	Accurate information	✓		
	Edit (Admin)	✓		
	Add (Admin)	✓		
Supervisor application	Create (Supervisee)	✓		
	Approval (Supervisor, Admin)	✓		
Appointment meeting	Create (Supervisee)	✓		
	Edit (Supervisor, Supervisee)	✓		
	Delete (Supervisee)	✓		
Logbook	Accurate information	✓		
	Add (Supervisee)	✓		
	Delete (Supervisee)	✓		
Project task	Functional	✓		
	Create (Supervisor, Supervisee)	✓		

	Edit (Supervisor, Supervisee)	✓		
	Delete (Supervisor, Supervisee)	✓		
Project submission	Upload file	✓		
	Update file	✓		
	Add marks (Supervisor)	✓		
Project Report	Accurate information	✓		
Evaluation	Accurate information	✓		
	Add (Admin)	✓		
	Delete (Admin)	✓		
	Edit (Admin)	✓		
FYP Library	Accurate information	✓		

This test has been performed by:

Name : NURUL HUDA BINTI RAMLI

Date : 11/6/2023

Signature:

Module	Activities	Status		Comments
		Yes	No	
Button "Sign Up"	Functional	✓		
Button "Log In"	Functional	✓		
Sign up (Student)	User registration	✓		
Sign up (Staff)	User registration	✓		
Log in	Username	✓		
	Password retrieval	✓		
Log out	User log out	✓		
Announcement board	Information appropriate	✓		
	Edit (Admin)	✓		
	Add (Admin)	✓		
Profile	Information appropriate	✓		
	Edit	✓		
Supervisor quota	Accurate information	✓		
	Edit (Admin)	✓		
	Add (Admin)	✓		
Supervisor application	Create (Supervisee)	✓		
	Approval (Supervisor, Admin)	✓		
Appointment meeting	Create (Supervisee)	✓		
	Edit (Supervisor, Supervisee)	✓		
	Delete (Supervisee)	✓		
Logbook	Accurate information	✓		
	Add (Supervisee)	✓		
	Delete (Supervisee)	✓		
Project task	Functional	✓		
	Create (Supervisor, Supervisee)	✓		

	Edit (Supervisor, Supervisee)	✓		
	Delete (Supervisor, Supervisee)	✓		
Project submission	Upload file	✓		
	Update file	✓		
	Add marks (Supervisor)	✓		
Project Report	Accurate information	✓		
Evaluation	Accurate information	✓		
	Add (Admin)	✓		
	Delete (Admin)	✓		
	Edit (Admin)	✓		
FYP Library	Accurate information	✓		

This test has been performed by:

Name : NURSYAHKINA BINTI OTHAMAN

Date : 11/6/2023

Signature:

Module	Activities	Status		Comments
		Yes	No	
Button "Sign Up"	Functional	✓		
Button "Log In"	Functional	✓		
Sign up (Student)	User registration	✓		
Sign up (Staff)	User registration	✓		
Log in	Username	✓		
	Password retrieval	✓		
Log out	User log out	✓		
Announcement board	Information appropriate	✓		
	Edit (Admin)	✓		
	Add (Admin)	✓		
Profile	Information appropriate	✓		
	Edit	✓		
Supervisor quota	Accurate information	✓		
	Edit (Admin)	✓		
	Add (Admin)	✓		
Supervisor application	Create (Supervisee)	✓		
	Approval (Supervisor, Admin)	✓		
Appointment meeting	Create (Supervisee)	✓		
	Edit (Supervisor, Supervisee)	✓		
	Delete (Supervisee)	✓		
Logbook	Accurate information	✓		
	Add (Supervisee)	✓		
	Delete (Supervisee)	✓		
Project task	Functional	✓		
	Create (Supervisor, Supervisee)	✓		

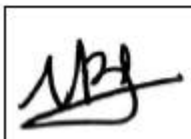
	Edit (Supervisor, Supervisee)	✓		
	Delete (Supervisor, Supervisee)	✓		
Project submission	Upload file	✓		
	Update file	✓		
	Add marks (Supervisor)	✓		
Project Report	Accurate information	✓		
Evaluation	Accurate information	✓		
	Add (Admin)	✓		
	Delete (Admin)	✓		
	Edit (Admin)	✓		
FYP Library	Accurate information	✓		

This test has been performed by:

Name : MAISARAH BINTI FAISAL

Date : 11/6/2023

Signature:



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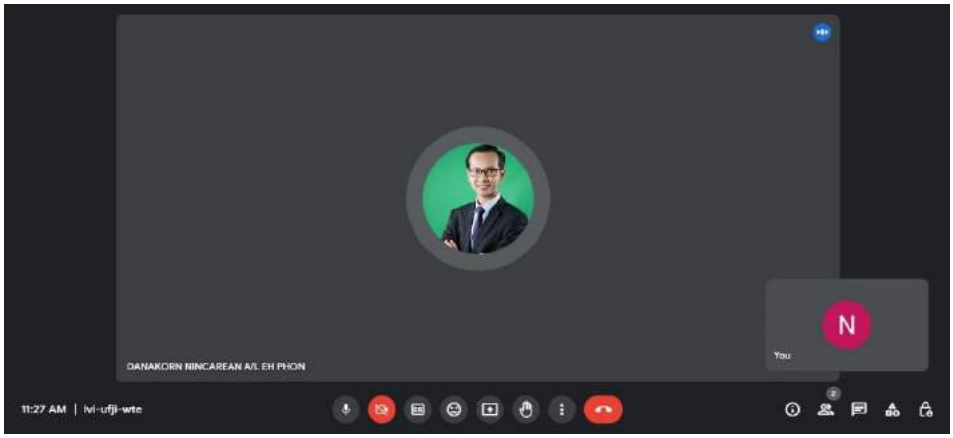

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