



## **Faculty of Computer Science and Information Technology**

### **PERTEKMA ACTIVITY MONITORING**

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# PERTEKMA ACTIVITY MONITORING

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## ABSTRACT

PERTEKMA Activity Monitoring is a management system that will be used by the PERTEKMA's Advisors and Committee Members. This system will help the committee members in term of managing their activity's record. Currently, PERTEKMA manually keep and does not have an appropriate tool to manage their activity's record. The downside of this are a higher chance of data loss and hard for the PERTEKMA's advisors to follow up their activity executions and task performance. By purposing this system, it can help the committee members of PERTEKMA to manage the activity's record and handle the data more efficiently with the help of this system. The methodology that was used to develop the proposed system is a Rapid Application Development (RAD) and the data requirement technique that was used is by interviewing the advisor Dr Suhaila, and Mr. Muhammin, the president of PERTEKMA.

## **ABSTRAK**

*Pemantauan Aktiviti PERTEKMA adalah sebuah sistem pengurusan yang akan digunakan oleh Ahli Penasihat dan Ahli Jawatankuasa PERTEKMA. Sistem ini akan membantu setiap ahli jawatankuasa dalam menguruskan rekod aktiviti mereka. Pada masa ini, PERTEKMA menyimpan secara manual dan tidak mempunyai alat yang sesuai untuk menguruskan rekod aktiviti mereka. Kelemahan ini memberi peluang kehilangan data yang lebih tinggi dan sukar bagi penasihat PERTEKMA untuk memantau pelaksanaan aktiviti dan prestasi tugas mereka. Dengan menumpukan kepada sistem ini, ia dapat membantu ahli-ahli jawatankuasa PERTEKMA untuk menguruskan rekod aktiviti dan mengendalikan data dengan lebih cekap dengan bantuan sistem ini. Metodologi yang digunakan untuk membangunkan sistem yang dicadangkan adalah Pembangunan Aplikasi Rapid (RAD) dan teknik keperluan data yang digunakan adalah dengan menemubual penasihat Dr Suhaila dan Muhaimin, presiden PERTEKMA.*

# CHAPTER 1

## INTRODUCTION

### 1.1 Background

The Persatuan Teknologi Maklumat or better known as PERTEKMA is an organization in Faculty of Computer Science and Technology (FCSIT), UNIMAS. PERTEKMA acts to represent students in all respects and expresses the hearts and the views of students to the Institution. PERTEKMA is responsible for helping produce excellent students in skills, sports, and so on in order to carry out any other activities as determined by the Student Affairs Unit (HEPA), faculty and lecturer's extra request from time to time.

Basically, the current situation of PERTEKMA in handling their activities, they do not have an appropriate tool to manage and keeping their activity records. Therefore, it is hard for the advisor to follow up in real time their activity executions and performance. Thus, the solution is to propose a quality management system named PERTEKMA Activity Monitoring. A quality management system consists of the organizational structure, responsibilities, procedures, and resources to ensure products, processes or services satisfy stated or implicit needs (ISO 8402). In conclusion, PERTEKMA Activity Monitoring beneficial in improving the current traditional way of monitoring student's activity. This system provides efficiency in managing their activity record.

## **1.2 Problem Statement**

- i) PERTEKMA committee has improper documentation for every activity execution due to unclear workflow. In order to conduct the activities, the job scope is required to perform a role that goes their personal values and compatible with their job scope demand
- ii) Unorganized record in managing the task allocation and activity execution. PERTEKMA need to have a clear way of recording status and stage of their activity execution so that they can work effectively and the advisor easy to monitor them

## **1.3 Objectives**

The objectives of the system are:

- i) To propose a workflow of the activity execution of PERTEKMA's exco in managing their activities
- ii) To design and develop a monitoring system for managing PERTEKMA's records
- iii) To display the statistical data of PERTEKMA Activities monthly or yearly

## **1.4 Brief Methodology**

In this project, the structured design methodology used is Rapid Application Development (RAD). All functions are modularized, so it is easy to work with. The development time can be reduced and reusability of components help to speed up development. RAD-based development cycles have resulted in a lower level of rejection when the application is placed into production, but this success most often comes at the expense of dramatic overruns in project costs and schedule. Figure 3.1 shows the process of Rapid Application Development (RAD).

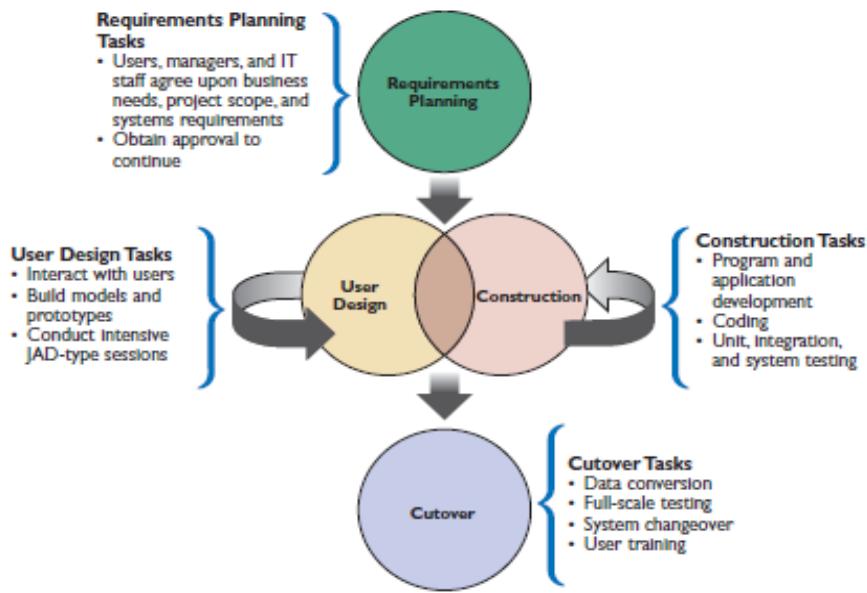


Figure 1.1 – The four phases of RAD Model (System Analysis and Design 9th Edition, 2012)

#### 1.4.1 Requirements Planning Tasks

Before starting the project, research and review for the proposed system were needed.

At this stage, it involves researching the current problem faced by PERTEKMA and then defining their requirements to be added to the project. Interview session with the President of PERTEKMA was held to understand the current situation. According to the McNamara (1999), interviews are particularly useful for getting the story behind a participant's experiences and the interviewer can pursue in-depth information on the topic. Finally, all the requirements being finalized with the approval of PERTEKMA's President and their advisor.

#### 1.4.2 User Design Tasks

During this phase, the developments of database, models, and prototypes that represent all system processes, inputs and outputs. In the design phase, all the required function and detailed specification of all system elements for this project are determined and explained. Other than that, exploring the existing student monitoring system is needed as a guide to make sure this system fulfills the user requirements and enhanced the user experiences.

#### **1.4.3 Construction Tasks**

In this phase, the prototypes are taken from the design phase and convert them into the working model. Web-based programming skills are required during this phase to develop the system as well. The system would come out as an online management system if possible for better access at anytime and anywhere. After that, the development of the database, prototype, user interface, features and functionalities of the system. Once the development is done, the system could be accessed by internet connection using any device such as pc, laptops or gadgets.

#### **1.4.4 Cutover Tasks**

This is the implementation phase where the finished system goes to launch. It includes testing new components and all the interface. After finishing the system, system integration and system testing are needed to determine if the proposed design meets the initial set of project goals. Testing is important to ensure this project meets all the user requirements including key-in the test data into the system. If there are any errors and unfulfilled requirement detected, improvement is needed and problem fixing in order to develop a quality system with great performance. Testing against the requirement is the best way to make sure the system is actually solving the problem.

## 1.5 Project Scope

The scope of this project is for advisor and committee member of PERTEKMA. In this project, the system will be used by both advisor and committee member with three different level of user login.

- i) **Superadmin:** PERTEKMA's advisors are able to monitor the activity, analyse the records, generate report and manage admin or the user of the system
- ii) **Admin:** The high Council of PERTEKMA consist of President, Secretary and Treasurer. They are able to manage the activity proposal and exco's workflow and record the activity
- iii) **User:** Main Excos of PERTEKMA. They are able to manage and update only their job scope and make activity's report

## 1.6 Significance of Project

The significance of this project is the transition of manual keeping record to a computerized system as well. Since the workflow is linked to a database, it keeps a record of what occurs in the system. In summary, it makes an organization become more efficient by helping to save time, remove wastage, cut out unnecessary work, better use of human resources, which overall saves money and 16 will help an organization to grow and improve. Besides that, the statistical view will provide visual information regarding PERTEKMA's activity, thus allowing for a quick and easy classification based on activity records by monthly or yearly. Furthermore, instructors can use complementary qualitative monitoring reports, issued by the excos themselves, to anticipate potential problems such as complaints and possible conflicts inside the groups during the activity. Therefore, the advisor can take operational and tactical decisions to handle them. As a result, the system provides functionality that makes the record more effective and efficient to the advisor and committee member of PERTEKMA.

## **1.7 Project Schedule**

Project schedule consists of Gantt Chart for FYP 1 and FYP 2. Refer to Appendix A of FYP 1 and FYP 2 Gantt Chart.

## **1.8 Expected Outcome**

The expected outcome from this project is a PERTEKMA Activity Monitoring system for committee member and advisor of PERTEKMA. The purpose is for proper documentation of workflow for activity execution. Besides that, the system properly manages and organize the records of PERTEKMA's activity, sponsorship memos, and complaints. The system also would come out with report generate, activity dashboards and statistical view of PERTEKMA's activity monthly and yearly.

## 1.9 Thesis Outline

There are six chapters cover in this project which consists of:

**Chapter 1:** Introduction. This chapter describes the idea briefly about the purpose of developing the project, objectives, and goals of this project.

**Chapter 2:** Literature Review. This chapter study the background of the project. The main sources for this study are from journals, articles, e-book, and websites that related to the project. At the end of this chapter, the statement for the requirements of the problem clearly identifies and study should be clear why it is worthy to work for. The review and analysis that had obtained should be relevant to the proposed system.

**Chapter 3:** Requirement Analysis and Design. This chapter discusses the detailed requirements and specification of the project. The requirement of the project that has been obtained will be analysed, solve and should meet with the project. The design of the proposed project should meet with the requirements and the objectives.

**Chapter 4:** Implementation and Testing. In this chapter, the implementation of the project will be conduct and relate to the framework design. During this stage, the prototype of the project will develop. After the prototype has successfully developed, testing the project is needed in order to know this project meet the user requirement.

**Chapter 5:** Result. In this section, results are the findings of the research and the methodology used in this project. It focuses on the outcome of the project that reaches the objective and this is the signs that lead to the successfulness of the project.

**Chapter 6:** Conclusion. In this section, it refers to the functionality of the PERTEKMA Activity Monitoring system that meets all the objectives and the user requirements.

# CHAPTER 2

## LITERATURE REVIEW

### 2.1 Background

Chapter 2 primarily focusing on reviewing the existing system by extracting the features of the existing system, tools and it's technologies that have been used. This chapter discusses in detail about the comparison between the existing system and the proposed system to ensure the proposed system reach the standard level of the system's features. Other than that, it is compulsory to define the tools and technology that has been used in the existing system in order to compare the tools and technology that will be used in the proposed.

### 2.2 Review of Existing System

In this section, there are five existing systems that are quite similar to the proposed system. Each of them has their own features and functionality as well. In order to develop the proposed system, there are some similarity and standard features for each of the existing system that should be identified. The existing systems are:

#### a) Features of the System

This section introduces some of the online Faculty Activities Database's primary and advanced features, which can greatly expedite the process of entering the activities (Faculty Activities Database (FAD), 2018). Below is the list of the features:

- Online Faculty Activity Database Marquette University
- Project Tracking System Florida Department of Education (PTSFDOE)

- MonSys - Monitoring System for Students and Tutors of Postgraduate Courses of UNASUS/UFMA in Distance mode using Moodle
- Faculty Activity System (FAS)
- HOSA Activity Tracking System

### 2.2.1 Online Faculty Activity Database Marquette University

Faculty Activities Database (FAD) developed by Digital Measures, which allows the faculty to track their accomplishments and professional activities and generate report. The activities including accreditation, identifying opportunities for scholarly collaboration, recruiting graduate and undergraduate students and creating periodic reports of faculty scholarly work (Faculty Activities Database (FAD), 2018).

- Logging in to the system
- Manage activities page
- Rapid Report (generating report)
- PasteBoard (the advanced feature)

Below is the detailed explanation for each of the features.

**i) Logging in to the system:**

Figure 2.1 – Login page for Faculty Activity Database Marquette University

Figure 2.1 shows the login form needs to be filled in by the user in order to access the online faculty activities database. Simply enter Marquette email address in (1) then, enter CheckMarq/emarq password in (2). Click the login button after user entering their email and password as in (3).

ii) **Manage activities page:**

(1) Activities Reports

Search All Activities... (2)

[Review a guide to manage your activities.](#)

▼ General Information →(3)

- Personal and Contact Information
- Administrative Data - Permanent Data | Yearly Data | **Report Permissions**
- Academic, Government, Military and Professional Positions
- Administrative Assignments
- Awards and Honors
- Consulting

▼ Teaching →(4)

- Academic Advising

Figure 2.2 – Manage Activities page

Based on Figure 2.2 above, once the user logged in to the system, it will be automatically directed to the Manage Your Activities page. The Manage Your Activities page contains four highly-customized categories used to report faculty activities, which are (1) is Currently in Activities Page and (2) is a search function to search all the activities in the system. (3) is a category that contains personal and contact information, permanent and yearly data, education, awards and honors, professional memberships, licensures and certifications, and other sections that do not fit into any of the three subsequent categories. (4) is a category that contains information related to teachings, such as scheduled teaching, academic advising, non-credit instruction, and directed

student learning (i.e. thesis, dissertations).

**iii) Rapid Report (generating report):**

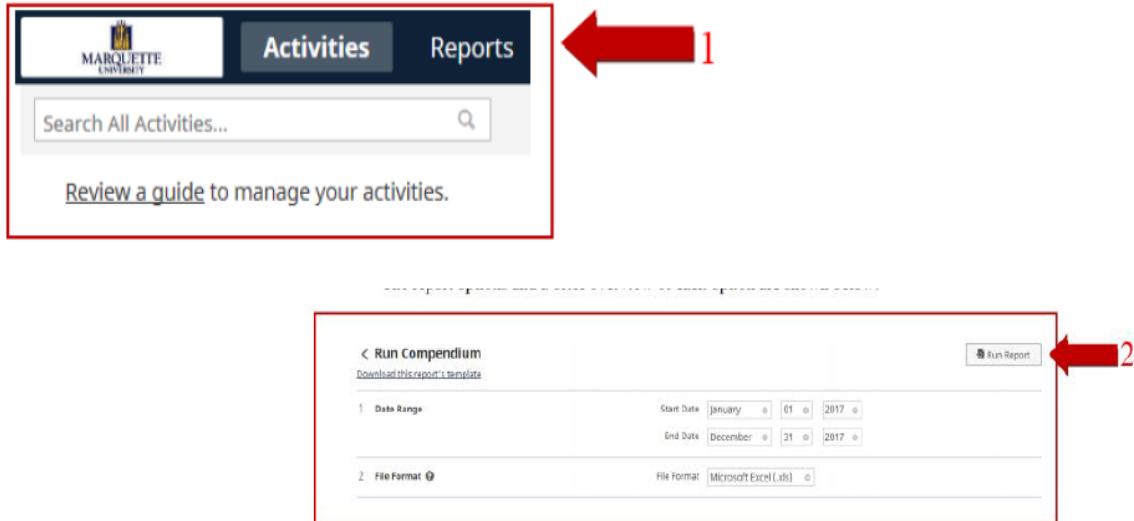


Figure 2.3 – Enter the data in Activities page

Based on figure 2.3 generating a report by click the Reports link on the navigation menu as in (1). Then, by clicking Run Report button as in (2) at the top of the page to generate the report in Microsoft Word, PDF, or HTML (and other formats, for some reports) for a variety of uses.

**iv) PasteBoard (the advanced feature):**

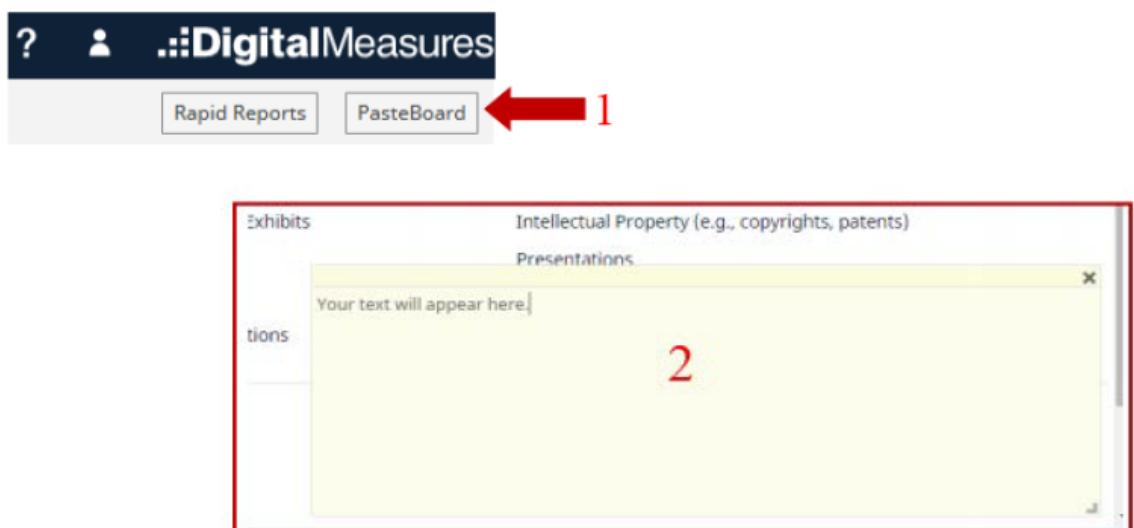


Figure 2.4 – The PasteBoard

Based on Figure 2.4 above, the PasteBoard button (1) provides a handy place to deposit and organize “working” content as the user’s entering activities. Simply select the portion of the text user’s like to enter into the desired activity screen in the online system as in (2), then click and drag it on top of the appropriate field in the database.

**b) Limitation of the System**

Below is the list of advantages and disadvantages of the system:

Advantages:

- This system helps faculty members to record and manage their faculty activities in a good manner. Features for add, edit and delete activities are provided by the system
- The pasteboard feature provided by this system effectively can greatly reduce the amount of time user spend entering the activities.
- Search function reduced the time spend to search the desired recorded activities
- The system can generate report and rapid report features

Disadvantages:

- No information view page
- No progress monitoring in term of student’s activities either monthly or yearly
- No activity evaluation to determine the degree of achievement of the objectives

**2.2.2 Project Tracking System Florida Department of Education (PTSFDOE)**

The Project Tracking System (PTS) is a secure online data system used by Florida Department of Education (FDOE), Bureau of Exceptional Education and Student Services (BEESS) (Florida Department of Education, 2017). The purpose of this project is:

- To capture and store descriptive, status and performance information related to the project’s deliverables

- To provide unduplicated data for the purpose of evaluating the effectiveness of technical assistance
- To provide relevant data for reports requested by the FDOE, BEESS discretionary projects, and other constituents
- To provide documentation to the FDOE Bureau of the Comptroller and the Florida Department of Financial Services for payment of deliverables. The deliverables include product, training and service delivery

#### **a) Features of the System**

This section discusses in detail the main features of the PTS System. Listed below are the main features of the system:

- Login Page
- Home Page
- Project Summary Page
- Implementation Pages

Below is the brief explanation for each of the features.

##### **i) Login Page:**

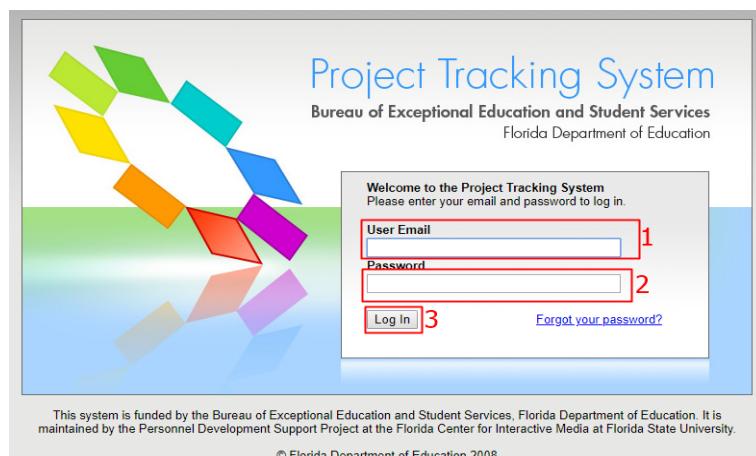


Figure 2.5 – Login Page Project Tracking System

Figure 2.5 shows the login page needs to be filled in by the user in order to access the online faculty activity database. The User ID is required to be filled in as in (1) and user password as in (2). (3) is the login button to access into the system.

ii) **Home Page:**

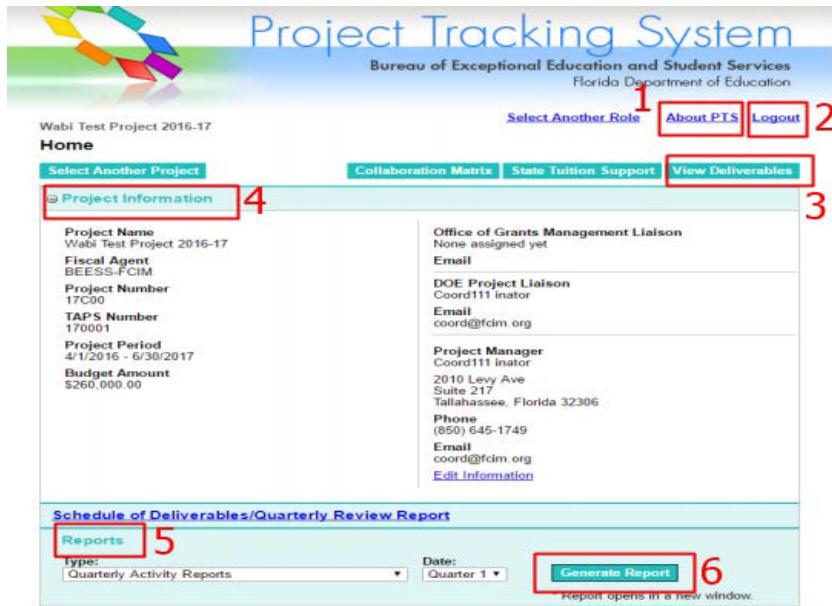


Figure 2.6 – Home Page Project Tracking System

Based on Figure 2.6, in order to access technical support and the PTS User Guide user can click (1). By clicking (2) to log out from the system and (3) is to proceed to the Project Summary page, which contains a list of the project deliverables. (4) is project information including the project name, fiscal agent, TAPS number, project award period, budget amount and contact information for both the project manager and the BEESS project liaison. The user also can download reports including quarterly activity reports, year-to-date activity reports and export evaluation questions by clicking (5). Button (6) is to Generate Report then the report will open in a new window.

### iii) Project Summary Page:

The screenshot shows a 'Project Summary' page with a table of deliverables. The table has columns for 'Product' and 'Implementation'. A red box labeled '1' highlights the 'Add Deliverable' button at the top left. A red box labeled '2' highlights the 'Add Implementation' button at the top right. The table rows show 'Analytical' products with descriptions and implementation dates.

Product	Implementation
Analytical	E = evaluation questions data; P = progress monitoring data
P1 Test	
Description: Test	
Implementations: <a href="#">4/1/2015<sup>E</sup></a> , <a href="#">6/1/2015</a> , <a href="#">6/3/2015</a> , <a href="#">6/3/2015<sup>E</sup></a> , <a href="#">8/10/2015<sup>EP</sup></a> , <a href="#">8/10/2015</a>	

Figure 2.7 – Project Summary Page

In the Project Summary page, the user can review the deliverables imported from the user's online grant application. Refer Figure 2.7, button (1) is to add new deliverable and (2) is a button for new implementation data can be added, or existing implementation data can be viewed for each activity from this page.

### iv) Activity Pages:

The screenshot shows an 'Activity Page' for a 'Product' deliverable. The page has sections for 'Status Update' (1), 'Date Product(s) Completed' (2), 'Total Number of Products Completed' (3), 'Evaluation Questions' (4), and 'Progress Monitoring'. The 'Evaluation Questions' section includes a list of intended audiences with checkboxes.

Test		P1
* Required		
Do you have specific recipient details? <input checked="" type="radio"/> Yes <input type="radio"/> No		
Status Update		
1		
Date Product(s) Completed*	2	Intended Audience*
Total Number of Products Completed*	3	<input type="checkbox"/> Adult with Disabilities <input type="checkbox"/> Business/Community/Advocate <input type="checkbox"/> Child (birth – PreK) <input type="checkbox"/> Child (K – 12) <input type="checkbox"/> Discretionary Project Personnel <input type="checkbox"/> District Staff <input type="checkbox"/> Faculty/Staff (College/University) <input type="checkbox"/> Instructional Personnel <input type="checkbox"/> Non-Instructional Personnel <input type="checkbox"/> Parent/Guardian/Family Member <input type="checkbox"/> School Administrators <input type="checkbox"/> State/Agency Personnel <input type="checkbox"/> Student (College/University) <input type="checkbox"/> Teacher
Evaluation Questions		
Do you have evaluation questions data? *		
<input checked="" type="radio"/> Yes <input type="radio"/> No		
Status: <a href="#">Enter Data</a>		
Progress Monitoring		
Do you have progress monitoring data? *		
<input checked="" type="radio"/> Yes <input type="radio"/> No		
Type of Strategy *		
- Select -		

Figure 2.8 – Activity Page

Figure 2.8 shows the Activity Page for Product deliverable. (1) is for review or update the activity name. Add description as in (2) and drop-down menu in (3) is to add BEESS Strategic Plan. (4) are the set of indicators.

v) **Implementation Page:**

The screenshot shows a form titled 'Product' with the following fields:

- Type of Product\***: Analytical (dropdown menu with a question mark icon)
- Product Name\***: Test (input field with a red '1' in the top right corner)
- Description\***: Includes the content to be covered. (Text area with a red '2' in the top right corner)  
Test
- Addressed in the BEESS Strategic Plan**: Dispute Resolution and Monitoring (dropdown menu with a question mark icon)
- Indicator(s)\***: 4 (checkboxes numbered 1-14, with checkboxes 1, 2, 3, and 4 checked, and a red '4' in the top right corner)
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 9
  - 10
  - 11
  - 12
  - 13
  - 14
  - Restraint/Seclusion
- N/A

Figure 2.9 – Product Implementation Page

In the Implementation pages, the user can add a status update and/or specific product, training, or service delivery data and specific audience details. The content on these pages will vary depending on the type of deliverable (product, training or service delivery). Based on Figure 2.9, status update for Product is in (1). There are three types of products: analytical, informational and instructional and (2) is the start date. The number of completed (3) and the checkbox for Intended Audience involved as stated in (4).

vi) **Progress Monitoring:**

The screenshot shows a form titled 'Progress Monitoring' with the following fields:

- Do you have progress monitoring data? \***: 1 (radio button 'Yes' selected, with a red '1' in the top right corner)
- What is the reason for not collecting this data? \***: 2 (radio buttons 'District collects', 'N/A', and 'Other' available, with a red '2' in the top right corner)
- Type of Strategy \***: 4 (dropdown menu with a question mark icon, showing '- Select -' with a red '4' in the top right corner)

Figure 2.10 – Product Monitoring Page

BEESS requires projects to indicate the progress monitoring strategies and measures they use for each deliverable (if applicable). Based on Figure 2.10 above, if the user did not collect progress monitoring data and select No as in (1). Then, the user needs to give the reason for not collecting the data (e.g., "district collects it," "not applicable to the deliverable," or "other") as in (2). If user collects progress monitoring data and select Yes as stated in (3) and strategy from the drop-down list is chosen as in (4) (e.g., Checklist, Coaching, Follow-up Visit, Interview, Journal/Log, Lesson Study, Observation, Peer Discussion/Activity or Product).

#### **b) Limitation of the System**

Below is the list of advantages and disadvantages of the system:

Advantages:

- This system provide proper documentation of the project deliverable for FDOE
- The system provides good project deliverable where progress (before, current and after) of the project are recorded
- This system has report generate and search function

Disadvantages:

- No project or activity evaluation to determine the degree of achievement of the objectives

#### **2.2.3 MonSys – Monitoring System for Students and Tutors of Postgraduate Courses of UNASUS / UFMA in Distance mode using Moodle**

The MonSys is designed to monitor the performance of tutors and student activities in Moodle (Learning Management System). It is in accordance with the guidelines established by the UNASUS/UFMA- (Open University of SUS of Federal University of Maranhao)

Monitoring Coordination. Monitoring activity includes the number of accesses of tutors and students, students' grades, activities that were not evaluated by the tutors and activities not posted by the students. The MonSys has only one type of user which is the technicians who track and monitor students and tutors in Moodle (Heraklion, 2012).

### **a) Features of the System**

This section introduces some of the MonSys features, below is the list of the features:

- Login Page
- Home Page
- Summary Activity Page

Below is the brief explanation for each of the features.

#### **i) Login Page:**



Figure 2.11 – MonSys's User login screen

Based on Figure 2.11 above, the user simply enters their username as in (1) and password as shown in field (2) in order to access into the system.

ii) Home Page:



Figure 2.12 – MonSys's initial screen

After the user logs, the user can see the initial screen of the system as in Figure 2.12 above. In the Courses Module (1), this area is designed to manage the information about the courses and their respective disciplines.

iii) Summary Activity Page:

Nome	Avaliação 01	Avaliação 02	União de	Pré	Atividades	Tutor	Acesso	Tutor - Atividades	Aluno - Acesso
ADRIELA AGIBIAN	00% (0)	00% (0)	00% (0)	00% (0)	00.00				
ADEQUITDA JARDIM BELO									
ADERLANE SEBA					00.00	70.00	4.60		
Adriana Moreira (TUTORA SAÚDE MENTAL)									
ADRIANA PINHEIRO	90.00	95.00	100.00	95.00	100.00		5.78		
Adriano Cruz de Moura Filho	90.00		90.00		90.00	3.99			
ADRIELINI PIÇA	100.00	100.00	100.00	100.00	100.00	7.30			
ADRIYANE MARINHOS	nan-nan	*	nan-nan	nan-nan	nan-nan		4.79		

Figure 2.13 – Courses Module - view summary information of a course or discipline in a virtual classroom of Moodle

As can be seen in Figure 2.13 above in (2), the Courses Module lists registered rooms presents a summary of information such as the start date, number of students, number

of ratings, average number of accesses since the room was opened. In tab (1) shows the summary information about this course students' grades in all course or discipline activities.

### **b) Limitation of the System**

Below is the list of advantages and disadvantages of the system:

Advantages:

- Alerts Module: area to configure the alerts to students and/or tutors who do not access into the system for a certain period of days.
- The system help in measuring the productivity of the Monitoring team by timing, which is determining the amount of time through chronometric surveys.

Disadvantages:

- No search function and report generating
- No activity deliverable to record the activity progress
- No activity evaluation to determine the degree of achievement of the objectives

#### **2.2.4 Faculty Activity System (FAS)**

Digital Measures Activity Insight (hereafter referred to as Faculty Activity System or FAS) is an online information management system designed to organize and report on your users' teaching, research, creative and service activities.

### **a) Features of the System**

This section discussed in detail the main features of the Faculty Activity System (FAS).

Listed below are the main features of the system:

- Login Page
- Home Page

- Activity Page

Below is the brief explanation for each of the features.

**i) Login Page:**

The image shows a login form with the following elements:
 

- Username:** A text input field labeled 'Username' with a blue border, marked with a red number **(1)**.
- Password:** A text input field labeled 'Password' with a light gray border, marked with a red number **(2)**.
- LOGIN:** A green rectangular button with the word 'LOGIN' in white capital letters, marked with a red number **(3)**.

Figure 2.14 – Login Page of FAS

Figure 2.2.14 shows the login page needs to be filled in by the user in order to access the online faculty activity system. Username is required to be filled in as in (1) and user password as in (2). (3) is login button to access into the system.

**ii) Home Page:**



Figure 2.15 – Navigation bar in Home Page of FAS

Based on Figure 2.15, the Navigator Bar is on all FAS screens contains the basic navigation links. The main buttons will provide different functionality. Activities as in (1) provide options Manage Activities and Manage Data. Run customized reports based on the information entered as in (2). Help button in (3), send a question or provide feedback directly to the University Administrator for FAS. Notifications bar, when the user has a message a red dot will appear on the bell as in (4).

### iii) Activity Page:



Figure 2.16 – Manage Activity Utilities Page

Based on Figure 2.2.16, The Manage Activities (1) utility enables users to keep track of their own teaching, research, creative, service activities and select items to populate a web profile. There are four possible actions in managing activities which are adding a new item, import items, delete record and duplicate existing record.

### b) Limitation of the System

Below is the list of advantages and disadvantages of the system:

Advantages:

- The Rapid Reports feature provides a way for you to run custom reports quickly and easily on the data in FAS
- The PasteBoard enables the user to copy up to 4K (4,000 bytes) of text from another document, such as your vita in Microsoft Word, and paste it into the PasteBoard
- FAS gives administrators an efficient, centralized, easy-to-navigate source for generating reports on the data. With FAS, admin is more aware of users' activities and better positioned to publicize their accomplishments because of this awareness.

Disadvantages:

- No activity evaluation to determine the degree of achievement of the objectives

### 2.2.5 HOSA Activity Tracking System

The Health Occupations Students of America (HOSA) Service Project involves the sponsorship of a health organization by local HOSA chapters (HOSA Service Project, 2018).

Chapters document their involvement and submission of the documentation are via the online HOSA Activity Tracking System by the state deadline to be eligible for state recognition and by May 15 to be eligible for national recognition.

### **a) Features of the System**

This section discussed in detail the main features of the HOSA Activity Tracking System.

Listed below are the main features of the system:

- Login Page
- Add Activities or Review Activities
- View Approved and Declined Entries

Below is the brief explanation for each of the features.

#### **i) Login Page:**



The image shows a screenshot of the HOSA Activity Tracking Login Page. At the top left is the HOSA logo with the tagline "future health professionals". To the right of the logo is a link labeled "Activity Input(6)". Below the logo is a dark blue header bar with the word "Login" in white. Below the header is a light gray form with two input fields: "Email" and "Password", each with a red number in parentheses indicating a required field. Below the fields are two red links: "Forgot Password?" and "Registration". To the right of the "Forgot Password?" link is a red number "3" and a "Login" button, which is also red with white text.

Figure 2.17 – HOSA Activity Tracking Login Page

Based on Figure 2.2.17, the user must officially affiliate with the local chapter before proceeding with user login. User must fill in a valid email address "on-file" in the system before can create an account. Before start user need to register into the system as in (5). Then the user can log in into the system by key-in the email address provided as in (1) and temporary password given in (2), then click login as in (3). User then can go to Activity Input in (5) to add the activities.

## ii) Add Activities or Review Activities:

Date	Activity Code	Hours	Dollars (\$)	Action
09/06/2014	NS	2.00	\$50.00	<span style="color: red;">Delete</span>
09/06/2014	NS	1.00	\$35.00	<span style="color: red;">Delete</span>
09/05/2014	MV	3.00	\$90.00	<span style="color: green;">Approve</span>
09/03/2014	NS	9.00	\$100.00	<span style="color: red;">Decline</span>
07/17/2014	NS	0.00	\$250.00	<span style="color: green;">Approve</span>
another test for July				

Figure 2.18 – HOSA Add and Reviews Activity Page

Based on Figure 2.2.18 above, once the user logged in, all the activities the user have entered appeared at the bottom of the screen as seen in (2). The user also can add new activity in the Activity Input in (1).

## iii) View Approved and Declined Entries:

09/06/2014	BJ	3.00	\$0.00	<span style="color: red;">Delete</span>
another test entry for system				
<b>Total Pending</b>		18.5	\$85.00	<span style="color: red;">Delete</span>
<b>Total Declined</b>		0	\$101.00	<span style="color: red;">Delete</span>
<b>Total Approved</b>		48	\$250.00	<span style="color: green;">Approve</span>

Figure 2.19 – HOSA View Approved and Decline Page

The user also can see the total number of hours that are pending, declined, and approved at the very bottom of the screen for each of the recognition events.

## b) Limitation of the System

Below is the list of advantages and disadvantages of the system:

Advantages:

- Provide simplicity in user input

Disadvantages:

- No Search function and report generate are provide in the system
- No progress monitoring for every activity that has been done and evaluation for every activity

### **2.2.6 Comparison of The Features in The Reviewed Existing Systems**

Given in Table 2.1 below are the comparison of the features in each of the reviewed existing system. The (\*) symbol denotes that an application satisfies the feature against which it is evaluated. The (X) symbol signifies that an application does not possess the particular feature against which it is evaluated.

#### **a) Summary of The Features in The Reviewed Existing Systems**

**Login Page:** Based on Table 2.1, it shows that all existing system had this kind of feature. The login feature is necessary for security purpose of the system. This is important to ensure that only authorized users are allowed to access into the system.

**Manage Activity Form:** Manage Activity Form is a field provided in the system that allows the user to add their activities entries, edit or even delete the entries. Based on the reviewed that has been done, all the existing system had these futures in their system.

**Report Generating:** It should be noted that these are an essential part of project/programme monitoring. Only three out of five from the reviewed existing system had this future.

**Search Function:** Providing a search function to the user in the system is a design strategy that offers user a way to find content. Based on the reviewed existing system that has been done, only MonSys and HOSA Activity Tracking System that provide this functionality.

**Progress Monitoring:** Monitoring is the collection and analysis of information about a project or programme, undertaken while the project/programme is ongoing (A step by step

guide to Monitoring and Evaluation, 2014). Based on the reviewed of five existing system only Project Tracking System (PTS-FDOE) does not provide this functionality.

**Activity Evaluation:** Evaluation can be defined as a process which determines as systematically and as objectively as possible the relevance, effectiveness, efficiency, sustainability and impact of activities in the light of a project/ programme performance (A step by step guide to Monitoring and Evaluation, 2014). It is focusing on the analysis of the progress made towards the achievement of the stated objectives ongoing. Based on the reviewed on the existing system. All the system does not provide this functionality to evaluate their project/activity performance.

Table 2.1 – Comparison of The Features in The Reviewed Existing Systems

Systems Features		Existing System				
		Faculty Activity Database (FAD)	Project Tracking System (PTS- FDOE)	MonSys	Faculty Activity System (FAS)	HOSA Activity Tracking System
1	Login Page	*	*	*	*	*
2	Manage Activity Form (Add, Edit, Delete)	*	*	*	*	*
4	Report Generating	*	*	X	*	X
5	Search Function	*	*	X	*	X
6	Progress Monitoring	X	*	X	X	X
7	Activity Evaluation	X	X	X	X	X

## 2.3 Technology and tools used to develop the proposed system

Given Table 2.2 below are the comparison of the features in each of the reviewed existing system. The (X) symbol denotes that the technology used in the application were undefined. Table 2.2 below shows the summary of the tools and technology used in the reviewed system.

Table 2.2 – Comparison of Tools and Technology Used in The Reviewed Existing Systems

Systems Technology Used		Existing System				
		Faculty Activity Database (FAD)	Project Tracking System (PTS-FDOE)	MonSys	Faculty Activity System (FAS)	HOSA Activity Tracking System
1	Database	STAR Database	X	PHP, MySQL	X	X
2	Programming Language	X	X	X	X	X
3	Internet Connection	Accessible from any computer with an Internet Connection	X	X	X	X
4	Hardware	X	X	X	X	X

## 2.4 A direction of Proposed System

This section discussed the standard features that have been select from the evaluation of the reviewed existing system to be implemented in the PERTEKMA Activity Monitoring. These features will define the functionality of the purposed system and some new features will be added into this system. The features that have been select from the reviewed existing system are login, manage activity page, report generating, search function, progress monitoring and

activity evaluation. In addition, the additional feature will be added into the system is the statistical view. The statistical view is able to represent the data into data visualization.

## **2.5 Summary**

In this chapter, there are five existing system that has been reviewed for the functionality of their features. This chapter also studied the tools and technology used in the reviewed of the existing system. All the information that has been identified are allowed for a better development of the proposed system as well. All the information gathering about the existing system are required and crucial to be applied in the proposed system.

# CHAPTER 3

## REQUIREMENT ANALYSIS AND DESIGN

### 3.1 Methodology

This section describes the methodology used to build the proposed system. Rapid Application Development (RAD) is the methodology used as incremental development approach to build the proposed system. RAD methodology can be defined as the process which accelerates the cycle of the development phase of an application development (Naz & Khan, 2015). Rapid Application Development enables quality products to be developed faster and saving valuable resources. The development of PERTEKMA Activity Monitoring generally follows a cyclical process of RAD that includes four basic phases consist of Requirements Planning, User Design, Construction and Cutover. In this chapter, only two phases of RAD are being covered and focus which are Requirements Planning and User Design.

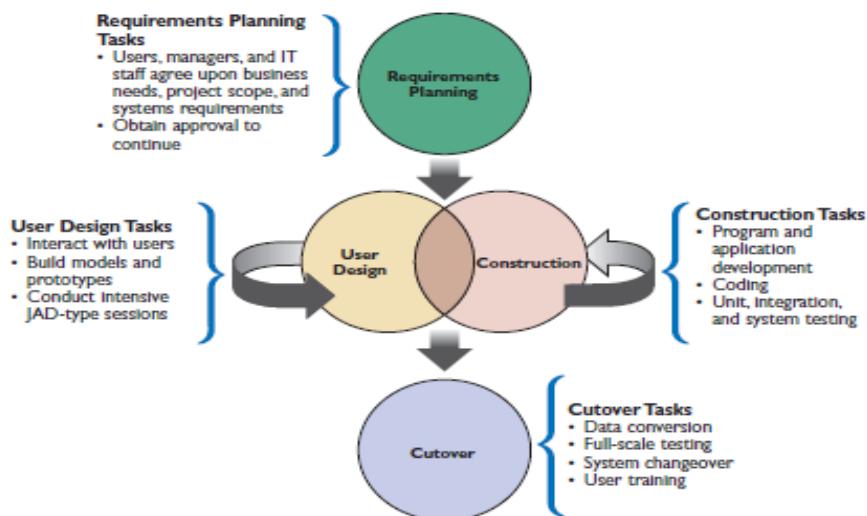


Figure 3.1 – Rapid Application Development (RAD) Model (Ghahrai, 2018)

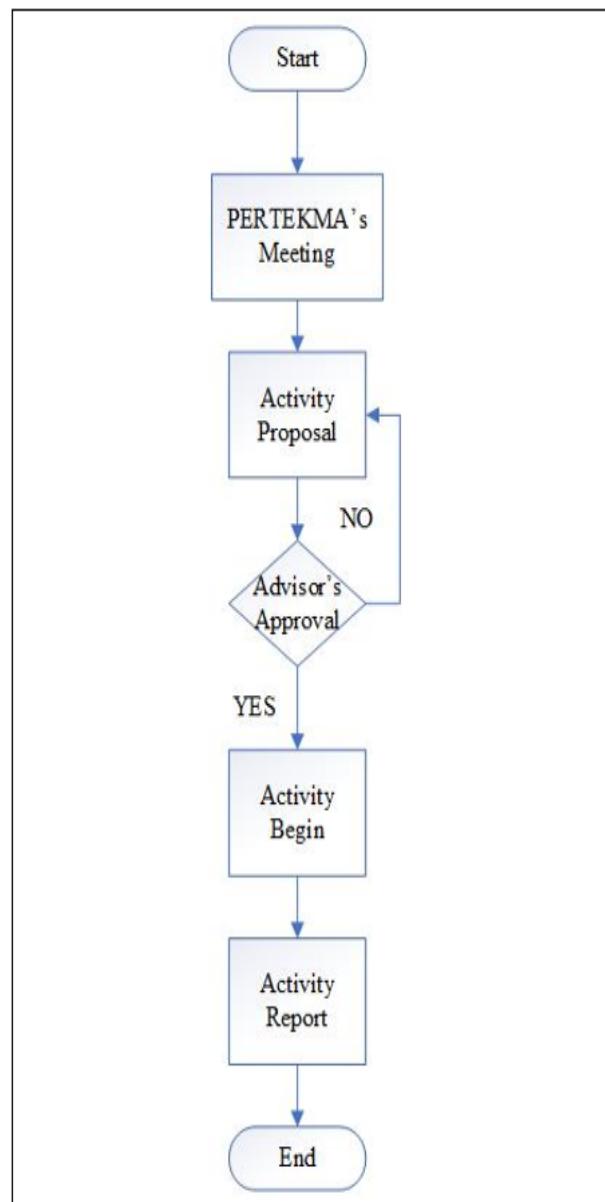
### **3.1.1 Requirement Planning Task**

In the requirement planning phase, this phase defines the functions of PERTKEMA Activity Monitoring and data subject areas that the system will support and determine the system's scope. In order to gather this information, it is required to have an effective way of technique survey for requirement gathering. The technique survey that has been used in this phase is the interviewing session.

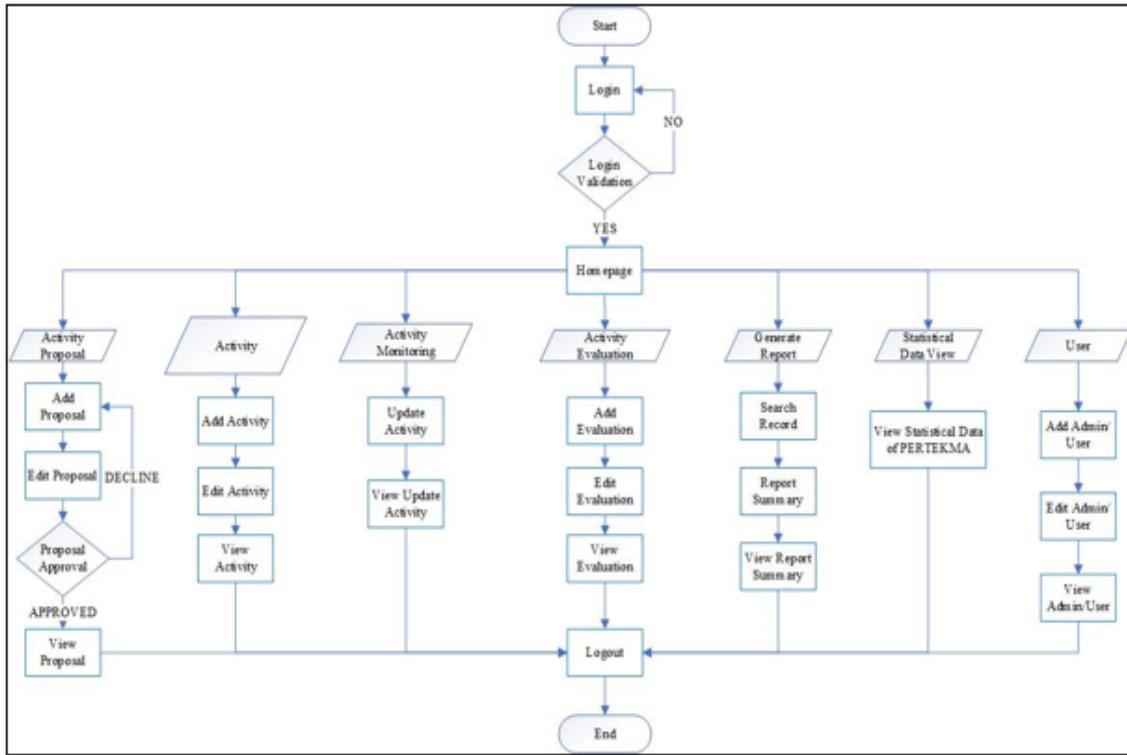
#### **a) Technique Survey**

There are numerous survey research methods, including in-person and telephone interviews, mailed and online questionnaires. Interviewing can be defined as a tool in the repertoire of the qualitative researcher, and yet the intricate relationship between the "how's" and the "whys" of the interview process (Kvale, S., 1994). In this section, the approach that has been used is an in-person interview session with one of the advisors, Dr. Suhaila Sae and Mr. Muhammin, the president of PERTEKMA. The type of interview used is semi-structured interviews where it begins with focused questions and move to open-ended discussion. The data and information gain through interviews session that related to PERTEKMA are recorded using voice recording and note down.

**b) Flowchart of the Manual System**



a) Flowchart of Manual Procedure



b) Flowchart of Proposed System

Figure 3.2 – Comparison of the flowchart between a) Manual Procedure and b) Proposed System

Figure 3.2 above shows the comparison of the flowchart between the manual procedure that currently happen in PERTEKMA and the proposed system. The workflow of the proposed system discussed in detail in section **3.6.2 Activity Diagram**.

### 3.1.2 User Design Task

#### a) Proposed System Functionality

A use case diagrams are important for visualizing, specifying and documenting the behaviour of an element. According to (Sengupta & Bhattacharya, 2006), they are applied to capture the intended behaviour of the system being developed without specifying how the behaviour is implemented. Refer to Figure 3.3 for Use Case Diagram of the Proposed System.

## 3.2 Software Requirement

Software requirement are the list of the software tools and programs that will be used for the development of PERTEKMA Activity Monitoring. Table 3.1 below are the list of software requirement that are needed for the development of the system.

Table 3.1 – Software Requirement

No.	Software and Operating System	Requirement
1	Operating System (OS)	Windows 7 and above
2	Web Development Tools	Notepad++ Adobe Dreamweaver CC 2017
3	Graphical User Interface (GUI) Design Tools	Balsamiq Mockup 3 PhotoScape
4	Programming Language	HTML, PHP, CSS, MySQL
5	Database	XAMPP
6	Documentation	Microsoft Office 2016
7	Diagram	Microsoft Visio Professional 2016 Visual Paradigm
8	Web Browser	Google Chrome

## 3.3 Hardware Requirement

Hardware requirement and their specification are the hardware needed to implement and deploy in the PERTEKMA Activity Monitoring system. By having the suitable fulfilment of the hardware requirement are crucial as it is lead to the success of implementation and deployment of the system. The maximum and minimum hardware requirement specification provided is based on the compatibility of the software and operating system used. Table 3.2 shows the list of the hardware requirement that are needed to develop the system.

Table 3.2 – Hardware Requirement

No.	Hardware Requirement	Minimum	Maximum
1	Central Processing Unit (CPU)	Intel® Core™ i5-7200U 2.5GHz Processor	Intel® Core™ i5-7200U 2.5GHz Processor or better
2	Memory (RAM)	2048 MB / 2 GB	2048 MB / 2 GB or more
3	Hard Disk Space (HDD)	1024 MB / 1 GB or more	1024 MB / 1 GB or more
4	Display Monitor	SVGA color monitor, 800x600 screen resolution, 256 colors	1024x768 or higher screen resolution, high color 16 bits

### 3.4 Functional Requirement

A functional requirement defines the capabilities of the system or the system's components reacts with particular inputs. Below are the list of the system performance that will be developed in the PERTEKMA Activity Monitoring. This depends on the software used:

i) Superadmin is the advisors of PERTEKMA which are able to:

- log in/log out from the system
- add/edit/delete/view admin and user in the system
- add/edit/delete/view PERTEKMA's activity in the system
- add/edit/delete/view activity job scope and role in the system
- add/edit/delete/view PERTEKMA's sub-activity in the system
- update/edit/delete/view activity monitoring
- generate activity proposal in the system
- view the statistical data in the system

ii) Admin is the high Council of PERTEKMA which are able to:

- log in/log out from the system
- add/edit/delete/view PERTEKMA's activity proposal
- add/edit/delete/view PERTEKMA's activity in the system

- add/edit/delete/view activity job scope and role in the system
  - add/edit/delete/view PERTEKMA's sub-activity in the system
  - update/edit/delete/view activity monitoring
- iii) The user is the main excos of PERTEKMA which are able to:
- log in/log out from the system
  - update/edit/delete/view activity monitoring

### **3.5 Non-Functional Requirement**

Non-functional requirement describes any requirements which specifies how the system perform a certain function. In other words, a non-functional requirement will describe how a system should behave and what limits there are on its functionality. Below are the non-functionality requirement of the proposed system:

- The log in timing will take no longer than 5 seconds
- The system will record all input from the system in the database
- The system will have a database to store all information
- The system will retrieve report when requested
- The system will provide security to access into the system to avoid an interruption from the third party like outsiders. Therefore, only an authorized user of the system that has been registered only can access into the system.

### **3.6 System Design**

During this phase, the user will experience the working prototype and starts to give feedback on new requirements if there are any changes to the prototype. This involves the creation of the project scope. The system interface model is designed by using mock-ups and

start to develop by following the timeline of the Gantt chart to ensure a smooth development progress. A flowchart is also created to see a clear view of the system flow. As for the mock-ups design, Balsamiq Mockups 3 is used to create this system mock-ups.

In this phase, the UML Diagram is used to illustrate the flow of the system in detailed. According to (Lange, Chaudron, & Muskens, 2006) in most projects, UML models are the first document to systematically represent a software architecture design. They're subsequently modified and refined in the development process. Their importance has increased with the advent of the model-driven architecture methodology. There are four diagrams used to visualize how the actor interacts with the system. The list of diagrams is:

- Use Case Diagram
- Activity Diagram
- Class Diagram
- Data Dictionary

### **3.6.1 Use Case Diagram**

A use case diagrams are important for visualizing, specifying and documenting the behaviour of an element. According to (Sengupta & Bhattacharya, 2006), they are applied to capture the intended behaviour of the system being developed without specifying how the behaviour is implemented.

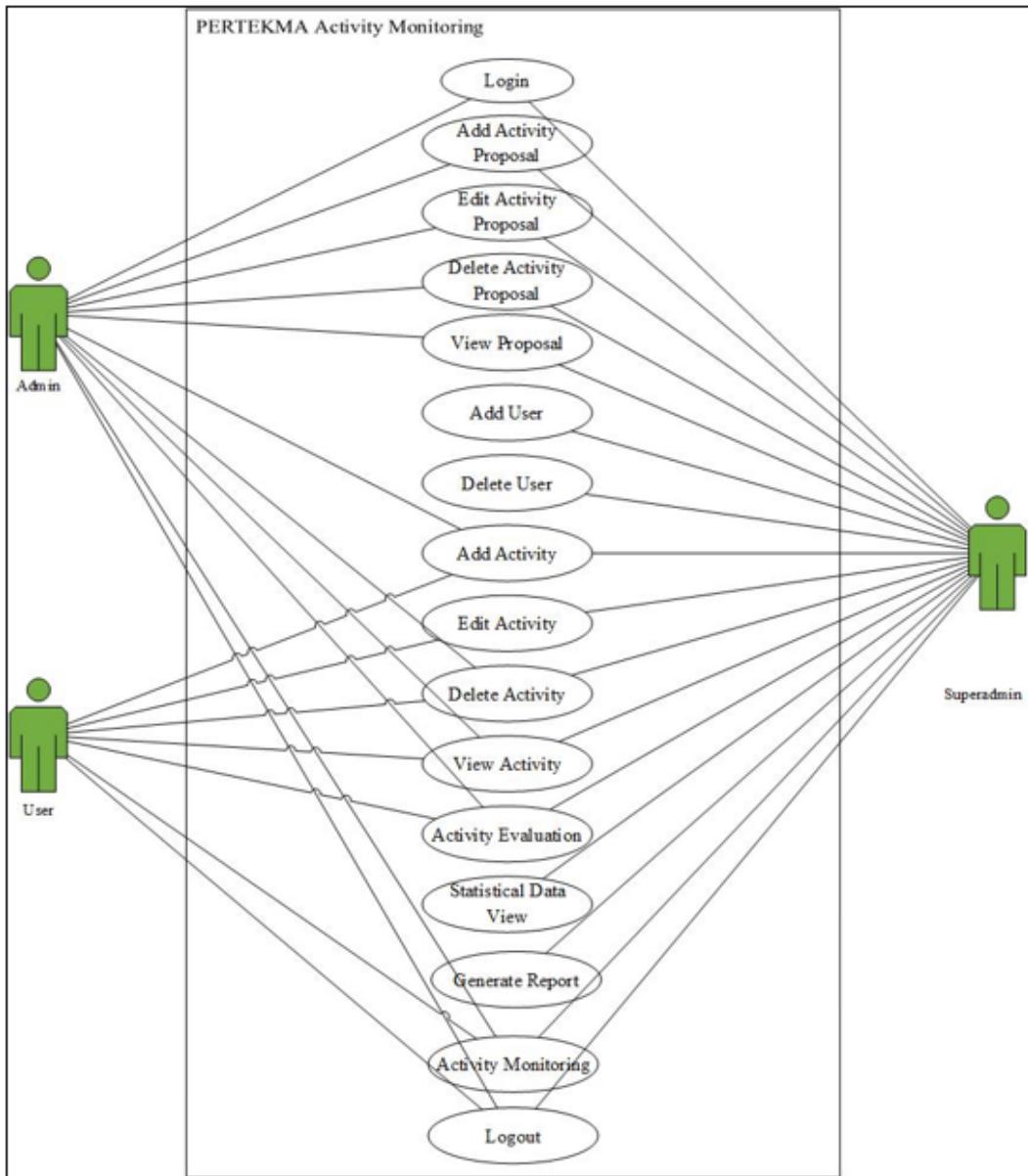


Figure 3.3 – Use Case Diagram of the Proposed System

Below are the use cases scenario for the main function of the Proposed System based on

Figure 3.3 above.

Table 3.3 – The Use Case Scenario for Login

Use Case:	Login
Actors:	Superadmin, Admin, User
Pre-Conditions:	The Superadmin, Admin and User has been issued a login ID and password to login into the system
Basic Flow:	<ol style="list-style-type: none"> <li>1. Login into the system</li> <li>2. Access module in the system</li> <li>3. Logout from the system</li> </ol>
Post-Conditions:	Superadmin, Admin and User accessed into the system

Table 3.4 – The Use Case Scenario for Add Activity Proposal

Use Case:	Add Activity Proposal
Actors:	Superadmin, Admin, User
Pre-Conditions:	Create a proposal for an upcoming activity
Basic Flow:	<ol style="list-style-type: none"> <li>1. Login into the system</li> <li>2. Add the name of an event</li> <li>3. Add the name of the promoter</li> <li>4. Add dates and time of the application</li> <li>5. Add the location of an event</li> <li>6. Add the introduction of the application</li> <li>7. Add synopsis of the event</li> <li>8. Add objective of the event</li> <li>9. Add the main activities of the event</li> <li>10. Add the tentative of the program</li> <li>11. Add the list of official invitation</li> <li>12. Add the job scope of the event</li> <li>13. Add the list of the equipment of the event</li> <li>14. Add budget outlines</li> <li>15. Add sponsorships or partners</li> <li>16. Save the added record</li> <li>17. Logout from the system</li> </ol>
Post-Conditions:	The activity proposal has been created and waiting for the approval from the advisor

Table 3.5 – The Use Case Scenario for Add Activity

Use Case:	Add Activity
Actors:	Superadmin, Admin, User
Pre-Conditions:	Create activity
Basic Flow:	<ol style="list-style-type: none"> <li>1. Login into the system</li> <li>2. Select Activity Page</li> <li>3. Add a name of an activity</li> <li>4. Add location of an event</li> <li>5. Add date of an event</li> <li>6. Add time of an event</li> <li>7. Add synopsis of the event</li> <li>8. Save the added record</li> <li>9. Logout from the system</li> </ol>
Post-Conditions:	The activity has been created after the activity proposal has been approved by PERTEKMA's advisor

Table 3.6 – The Use Case Scenario for Add Sub Activity

Use Case:	Add Sub-Activity
Actors:	Superadmin and Admin
Pre-Conditions:	Create sub-activity
Basic Flow:	<ol style="list-style-type: none"> <li>1. Login into the system</li> <li>2. Select created activity</li> <li>3. Add activity's job scope and role</li> <li>4. Add sub-activity</li> <li>5. Add date of an event</li> <li>6. Add time of an event</li> <li>7. Add synopsis of the event</li> <li>8. Add location of the event</li> <li>9. Save the added record</li> <li>10. Logout from the system</li> </ol>
Post-Conditions:	The sub-activity has been created after created the activity

Table 3.7 – The Use Case Scenario for Activity Monitoring

Use Case:	Add Activity Monitoring
Actors:	Superadmin, Admin and User
Pre-Conditions:	Create Activity Monitoring
Basic Flow:	<ol style="list-style-type: none"> <li>1. Login into the system</li> <li>2. Select Activity Monitoring Page</li> <li>3. Add activity's job scope and role</li> <li>4. Fill Reflection Form before activity</li> <li>5. Add date of an event</li> <li>6. Add time of an event</li> <li>7. Add location of the event</li> <li>8. Update activity progress</li> <li>9. Save the added record</li> <li>10. Logout from the system</li> </ol>
Post-Conditions:	The activity progress has been created. Superadmin are able to monitor the progress of the exco along the activity

Table 3.8 – The Use Case Scenario for Activity Evaluation

Use Case:	Activity Evaluation
Actors:	Superadmin, Admin and User
Pre-Conditions:	Create Activity Evaluation
Basic Flow:	<ol style="list-style-type: none"> <li>1. Login into the system</li> <li>2. Select Activity Evaluation Page</li> <li>3. Fill Reflection Form before activity</li> <li>4. Logout from the system</li> </ol>
Post-Conditions:	The activity evaluation is created after the activity successfully done.

Table 3.9 – The Use Case Scenario for Generate Report

Use Case:	Generate Report
Actors:	Superadmin
Pre-Conditions:	Superadmin select and generate the report
Basic Flow:	<ol style="list-style-type: none"> <li>1. Login into the system</li> <li>2. Access the system</li> <li>3. Select report</li> <li>4. Generate a report</li> <li>5. Logout from the system</li> </ol>
Post-Conditions:	View Report

Table 3.10 – The Use Case Scenario for Statistical Data View

Use Case:	Statistical Data View
Actors:	Superadmin
Pre-Conditions:	Superadmin select and generate a statistical data view
Basic Flow:	<ol style="list-style-type: none"> <li>1. Login into the system</li> <li>2. Select activity record yearly</li> <li>3. Select statistical date</li> <li>5. Logout from the system</li> </ol>
Post-Conditions:	View Statistical date

### 3.6.2 Activity Diagram

Activity diagram is used to communicate an operational step-by-step workflow of components in the system. It represents the occurring sequence of activities, objects involving the activity, including control flows, message flows and signal flows (Wang et al., 2004). The flow of the proposed system is represented using the activity diagram. Each actor specified a role played by the user that interacts with the subject. Below is the activity diagram for PERTEKMA Activity Monitoring.

**a) Activity Diagram for Superadmin**

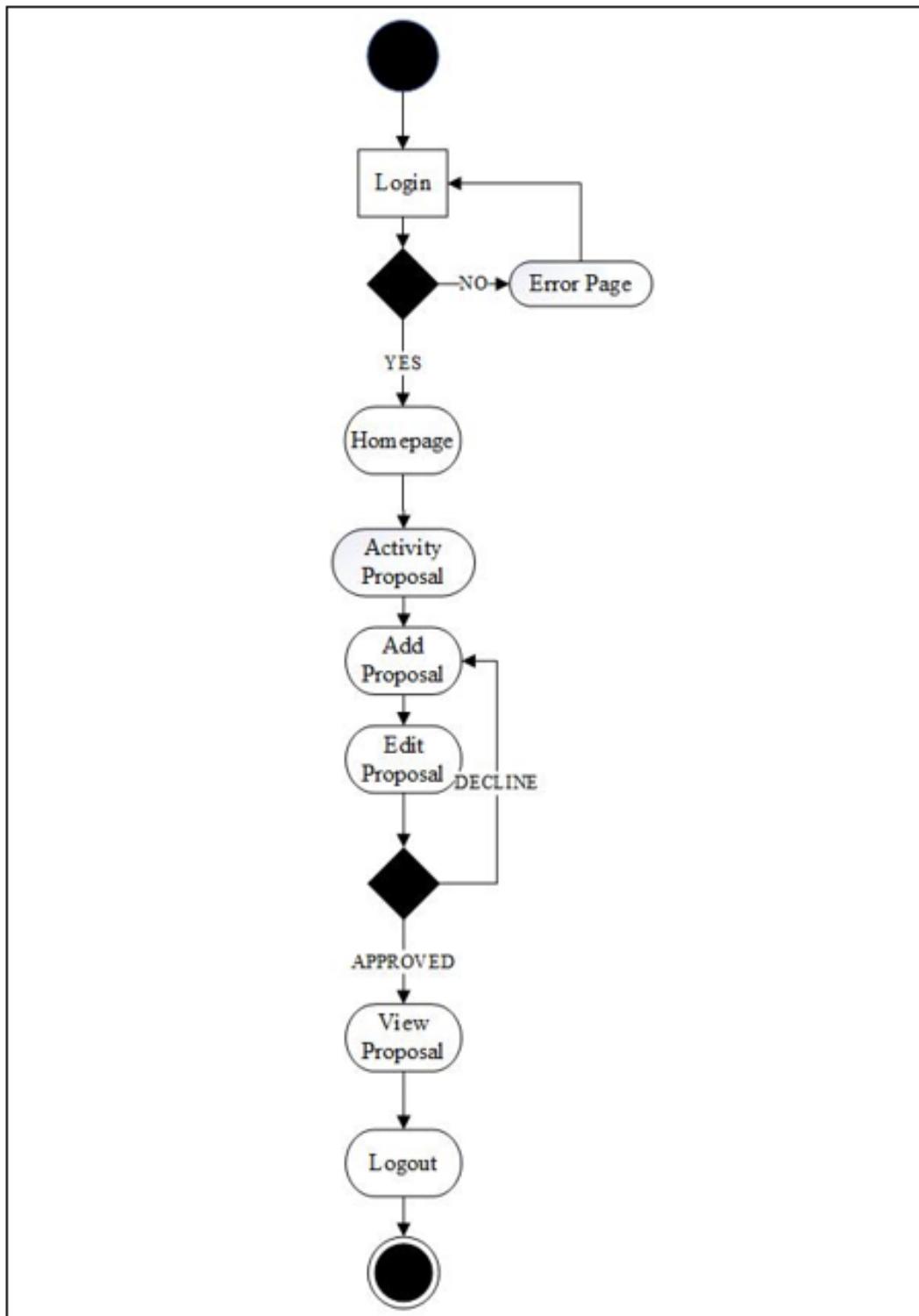


Figure 3.4 – Activity Diagram for activity proposal in PERTEKMA Activity Monitoring

Figure 3.4 above shows Activity Diagram of Superadmin for PERTEKMA Activity Monitoring. In the homepage, superadmin is able to view the proposal created by the admin in the system. The superadmin then can do the action either to approve or decline the activity proposal.

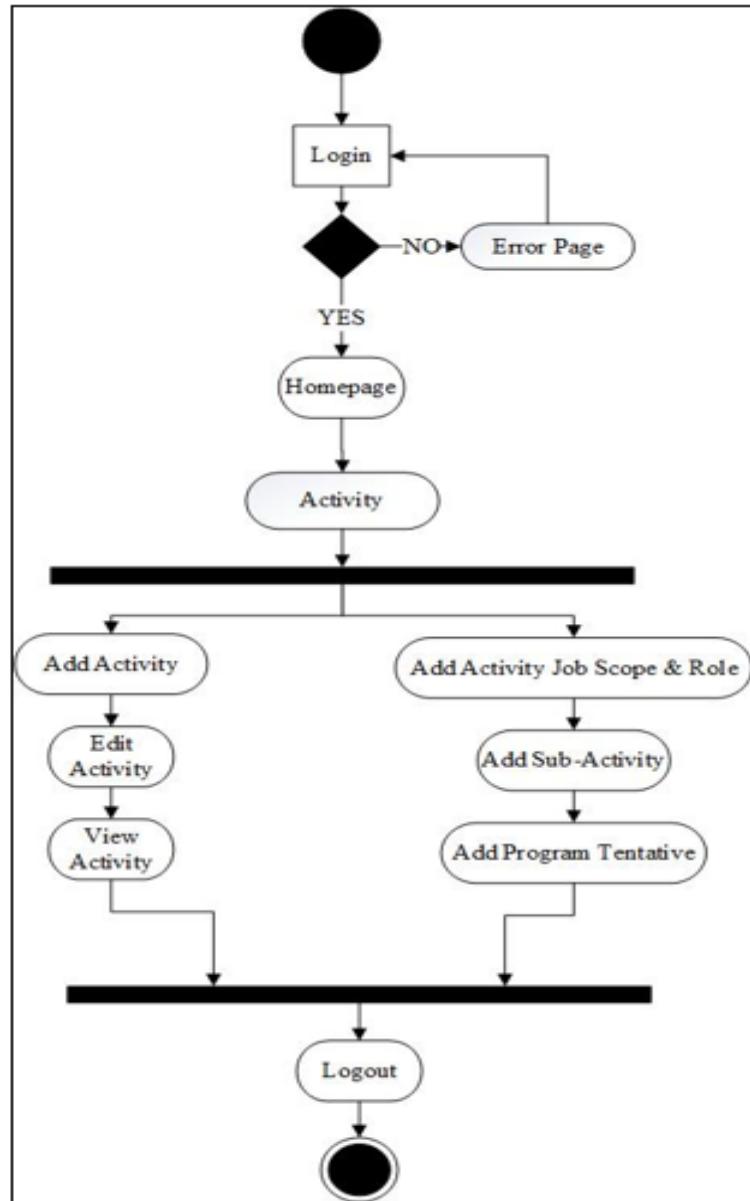


Figure 3.5 – Activity Diagram for Activity Page in PERTEKMA Activity Monitoring

Figure 3.5 above shows activity diagram for Activity Page. In this section, superadmin and admin are able to do this. After proposal has been created, new activity is created based on the approved proposal. The Superadmin or Admin then can start to add

the job scope and exco's role for this activity. This job scope define the role allocation of the activity for an example Job Scope for IT Week. After that, program tentative can be created. The details of the activity clearly shows in this part. In this section, the activity page also able to create the new activity without adding any activity proposal. This action is applicable for the activity that is not demanding any activity proposal to start the activity. The activity listed then could be sorts the records by their activity ID. The records could be sorted in descending order where the arrangement of the records is bottom up (latest activity is on the top of the list followed by the past activity). Next, in every activity created, the activity job scope and exco's role are crucial and should be clearly determined. Filters allow to view on specific data of this records. Then, the list of sub-activity in the activity could be create. In each sub-activity, the records will show the date, time, location and task in each of the sub-activity.

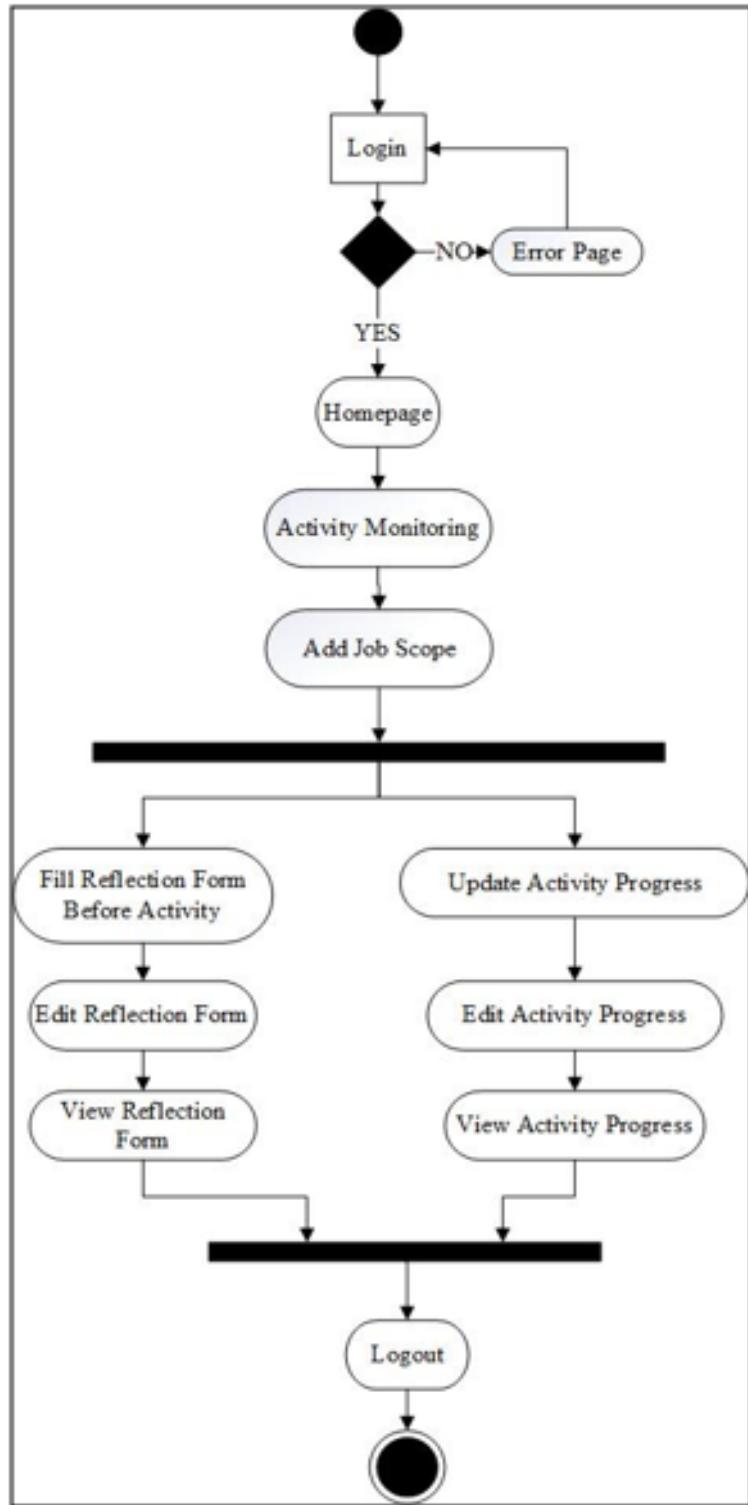


Figure 3.6 – Activity Diagram for Activity Monitoring in PERTEKMA Activity Monitoring

Figure 3.6 above shows the activity diagram for activity monitoring. In this page the superadmin is able to monitor the activity progress conducted by the excos based on their job scope in the activity. This job scope define the role allocation of the activity.

In this page, admin or user will add their job scope in the particular activity. After that, they are required to proceed with the reflection form before starting of the activity. Once the activity start, the excos then will update their progress along the activity they are conducted that related with their job scope only.

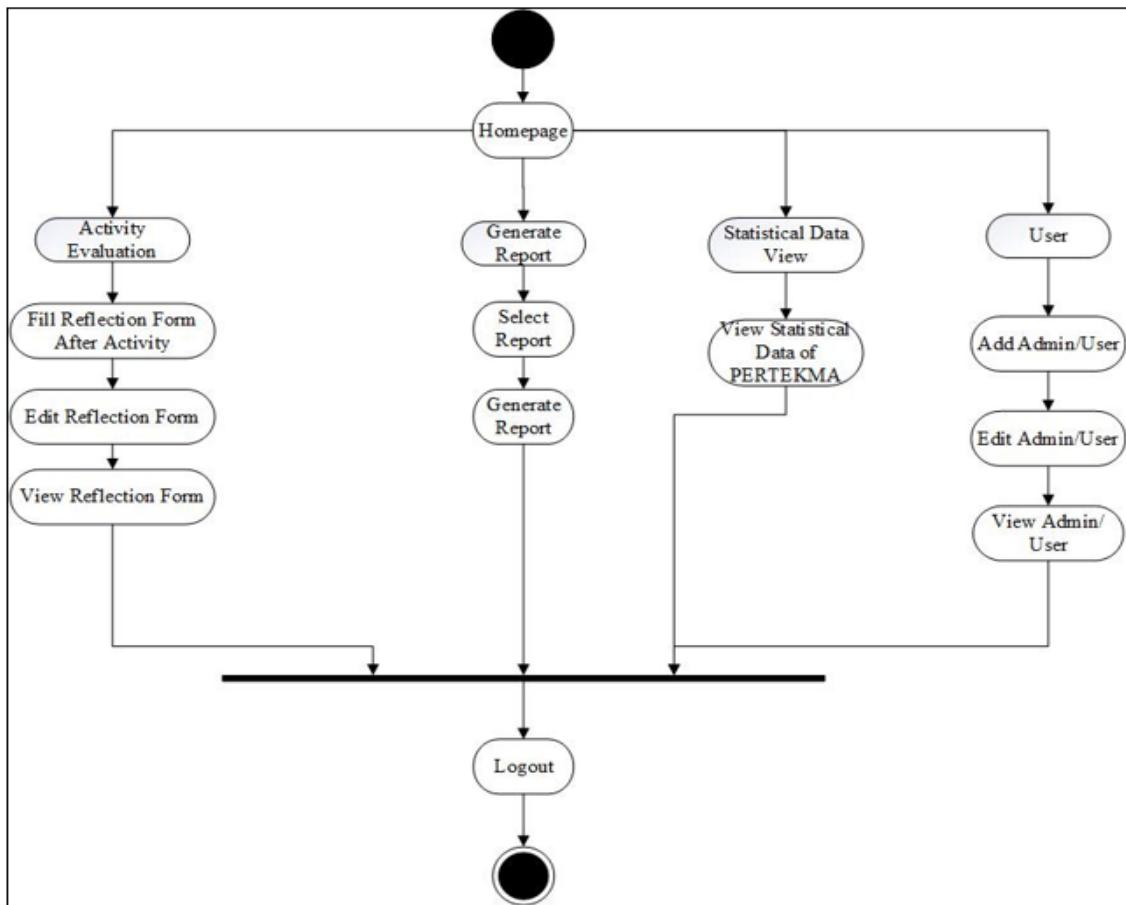


Figure 3.7 – Activity Diagram for Activity Evaluation, Generate Report, Statistical Data View and Add User in PERTEKMA Activity Monitoring

Figure 3.7 above shows the activity diagram for the Activity Evaluation, Generate Report, Statistical Data View and Add User. Basically, in Activity Evaluation page, admin and user will fill in the reflection form after activity. The record for this form could be able to be viewed by superadmin for evaluation purposes. Besides that, superadmin is able to generate the activity report by selecting the report and run it. Statistical data view will show the activity records in the form of data visualisation by monthly or yearly. This

is to ensure for better understanding of the data. Lastly, superadmin would be able to add/edit or even delete the admin of the system and the user which is the main exco of the PERTEKMA in the particular activity.

### b) Activity Diagram for Admin

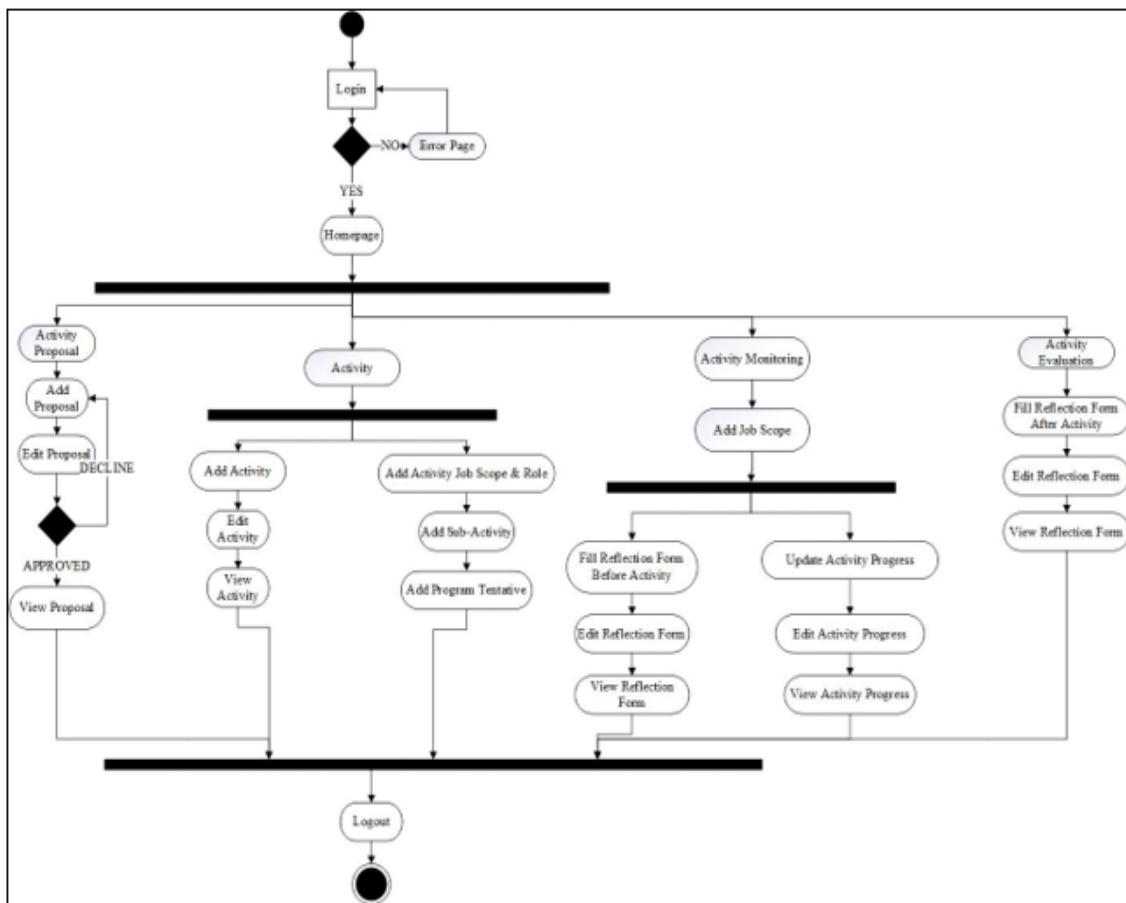


Figure 3.8 – Activity Diagram of Admin for PERTEKMA Activity Monitoring

Figure 3.8 above shows clearly Activity Diagram of Admin after Login into PERTEKMA Activity Monitoring. Admin need to have an account to access module in the system. Therefore, in order to have the account, Superadmin need to assign the admin for the system. Basically, in the Admin site, the admin are able to access the Activity Proposal Page, Activity and Sub-Activity Page, Activity Monitoring Page and Activity Evaluation Page. The operational step-by-step workflow of each components in the system explained in detailed in section 3.6.2. a). Refer to this section for further

explanation.

c) **Activity Diagram for User**

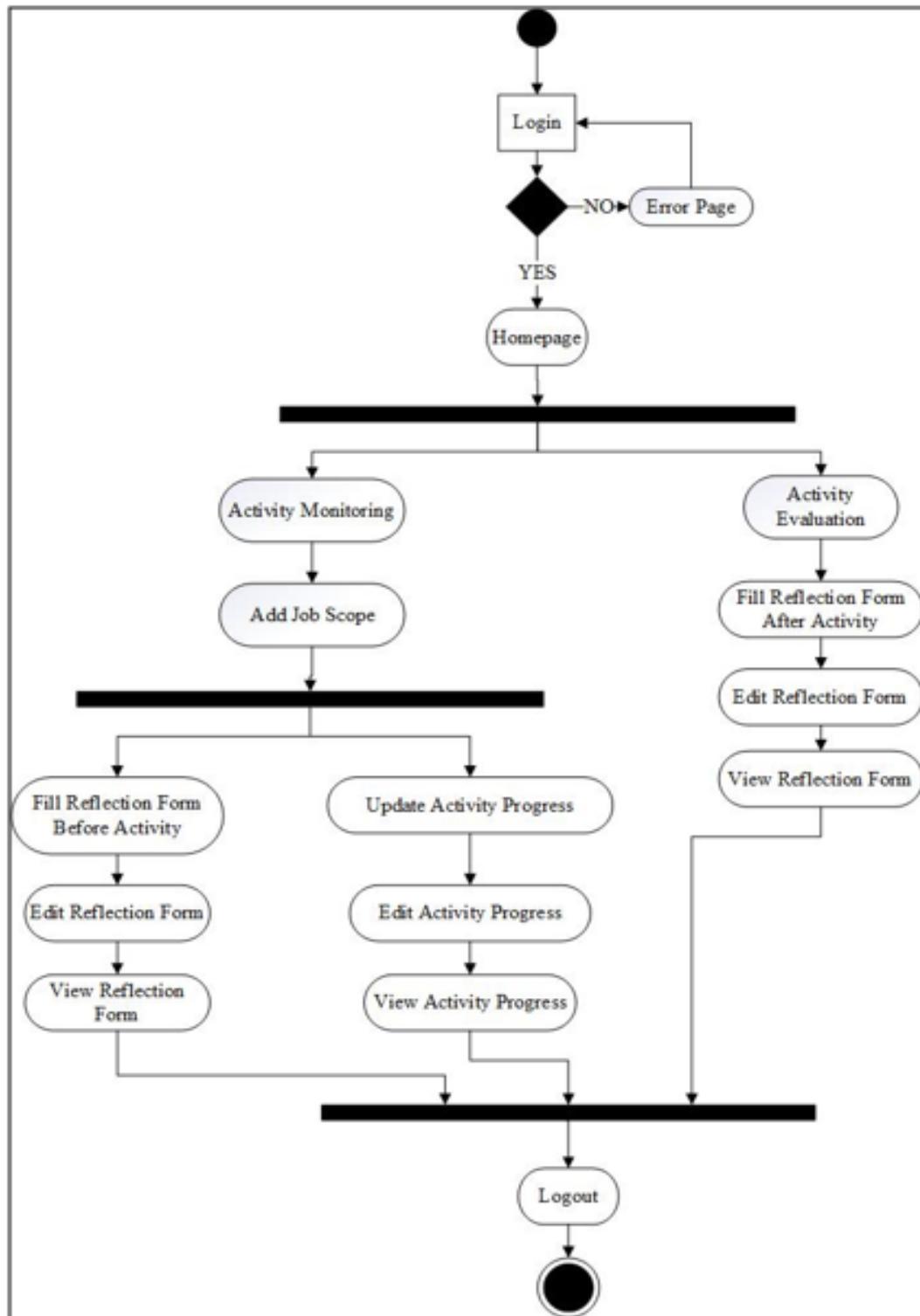


Figure 3.9 – Activity Diagram of User for PERTEKMA Activity Monitoring

Figure 3.9 above shows Activity Diagram of User who access into PERTEKMA

Activity Monitoring. User basically can access into the system once the Superadmin added and assign an account for them to access into the system. In the User site, the User are able to access the Activity Monitoring Page and Activity Evaluation Page only. Refer to section **3.6.2.a**) for operational step-by-step workflow of each components in the system for further explanation.

## **3.7 Database Design**

This phase discusses in detail the fundamental design of a database as the component of the system. In the UML Diagram, the design involved Class Diagram and Data Dictionary. The class diagram shows how the entities relate to each other and its relations in the system while data dictionary explains the contents, format, and structure of the database. Below is the explanation for each of the component.

### **3.7.1 Class Diagram**

The class diagram will illustration of the relationships and source code dependencies among classes. The class diagrams are used to describe the static view of the application of the main constituents are classes and their relationships (Purchase, Colpoys, Carrington, & McGill, 2003). In this context, a class defines the methods and variables in an object, which is a specific entity in a program or the unit of code representing that entity.

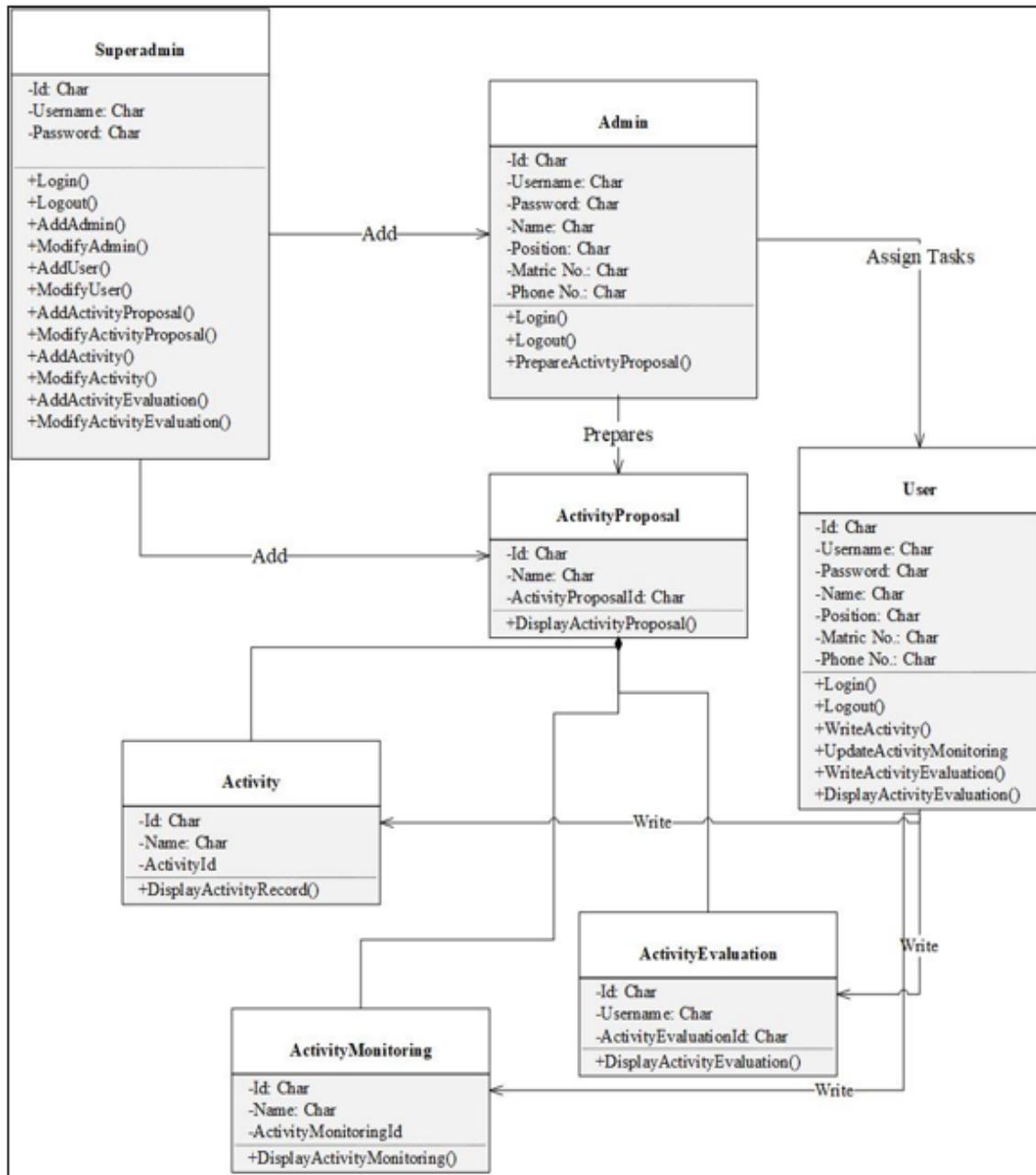


Figure 3.10 – Class Diagram of PERTEKMA Activity Monitoring

The Class Diagram of PERTEKMA Activity Monitoring is shown in Figure 3.10 above, Superadmin, Admin, User, ActivityProposal, Activity, ActivityMonitoring and ActivityEvaluation are identified as the Classes of the system.

### 3.7.2 Data Dictionary

A data dictionary is a collection of descriptions of the data objects or items in a data model for the benefit of programmers and others who need to refer to them. The expected Data Dictionary of PERTEKMA Activity Monitoring is shown in Table 3.7 below. The data dictionary stated below is not static and will change based on the requirements of the system development later on. The changes will be update in the FYP 2 report.

Table 3.11 – Data Dictionary for table academicssession

Data Store ID	Data Store Name	Data Store Description	Data Store Element			
			Name	Description	Type of Data	Default Value
D1	academicssession	Stored PERTEKMA Batch based on academic session	acaSessionId (Primary)	PERTEKMA Batch	Integer	11
			iduser	Id user	Integer	11
			pertekma	Title of PERTEKMA Batch	VarChar	255
			acaSession	Year batch	VarChar	255
			totalProposal	Count for number of proposals handled by PERTEKMA Batch	Integer	11

Table 3.12 – Data Dictionary for table acadetail

Data Store ID	Data Store Name	Data Store Description	Data Store Element			
			Name	Description	Type of Data	Default Value
D2	acadetail	Stored all details about PERTEKMA Committee Member	idacaDetail (Primary)	Id acaDetail	Integer	11
			idacaSession	Id acaSession	Integer	11
			acaName	Committee Members name	VarChar	255
			acaJawatan	Positions	VarChar	255
			acaNoMatric	Matric Number	Integer	11
			acanoTel	Phone Number	Integer	11

Table 3.13 – Data Dictionary for table activity

Data Store ID	Data Store Name	Data Store Description	Data Store Element			
			Name	Description	Type of Data	Default Value
D3	activity	Stored program or activity details for “Perincian Program”	activityId (Primary)	Id Activity	Integer	11
			proposalId	Id Proposal	Integer	11
			idUser	Id user	Integer	11
			activityTitle	Year batch	VarChar	255
			date1	Start date	VarChar	255
			date2	End date	VarChar	255
			time1	Start time	VarChar	255
			time2	End time	VarChar	255
			activityLocation	Location of the activity being held	VarChar	255
			objective	Objective of the activity	VarChar	255
			ketuaUnit	Person who's in charge of the activity	VarChar	255

Table 3.14 – Data Dictionary for table activitymonitoring

Data Store ID	Data Store Name	Data Store Description	Data Store Element			
			Name	Description	Type of Data	Default Value
D4	activitymonitoring	Stored exco's activity log details	id_activitymonitoring (Primary)	Id Activity	Integer	11
			Id_proposal	Id Proposal	Integer	11
			username	Id user	VarChar	255
			date	Date of the activity	VarChar	255
			logdetail	Activity updates by the excos	VarChar	255
			advisor_comment	Comment from advisor if any	VarChar	255

Table 3.15 – Data Dictionary for table b\_income

Data Store ID	Data Store Name	Data Store Description	Data Store Element			
			Name	Description	Type of Data	Default Value
D5	b_income	Stored expected income of the activity proposal	income_id (Primary)	Id Income	Integer	11
			Iproposal	Id Proposal	Integer	11
			perkara	Details	VarChar	255
			hargaSeunit	Price per quantity	VarChar	255
			kuantiti	Quantity	VarChar	255
			jumlah	Total expected income	Integer	11

Table 3.16 – Data Dictionary for table b\_outcome

Data Store ID	Data Store Name	Data Store Description	Data Store Element			
			Name	Description	Type of Data	Default Value
D6	b_outcome	Stored expected outcome of the activity proposal	outcome_Id (Primary)	Id Outcome	Integer	11
			Oproposald	Id Proposal	Integer	11
			perkara	Details	VarChar	255
			hargaSeunit	Price per quantity	VarChar	255
			kuantiti	Quantity	VarChar	255
			jumlah	Total expected income	Integer	11

Table 3.17 – Data Dictionary for table equipment

Data Store ID	Data Store Name	Data Store Description	Data Store Element			
			Name	Description	Type of Data	Default Value
D7	equipment	Stored equipment title	idequipment (Primary)	Id Equipment	Integer	11
			IDproposal	Id Proposal	Integer	11
			bahagian	Unit or Bahagian	VarChar	255

Table 3.18 – Data Dictionary for table equipmentdetail

Data Store ID	Data Store Name	Data Store Description	Data Store Element			
			Name	Description	Type of Data	Default Value
D8	equipmentdetail	Stored equipment details	idequipmentdetail (Primary)	Id Equipment Detail	Integer	11
			idequipment	Id Equipment	Integer	11
			keperluan	Needs	VarChar	255
			kuantiti	Quantity for every need	VarChar	255
			unit	Four division of units	VarChar	255
			catatan	Brief description of needs	VarChar	255

Table 3.19 – Data Dictionary for table job\_scope

Data Store ID	Data Store Name	Data Store Description	Data Store Element			
			Name	Description	Type of Data	Default Value
D9	job_scope	Stored jobscope of the Jawatankuasa Pelaksana	Jobscope_id (Primary)	Id Equipment Detail	Integer	11
			id_orgDetail	Id Equipment	Integer	11
			jobScope	Needs	VarChar	255
			job_status	Quantity for every need	VarChar	255
			unit	Four division of units	VarChar	255
			catatan	Brief description of needs	VarChar	255

Table 3.20 – Data Dictionary for table org\_detail

Data Store ID	Data Store Name	Data Store Description	Data Store Element			
			Name	Description	Type of Data	Default Value
D10	org_detail	Stored details for names of Jawatankuasa Pelaksana and their positions	idOrg_detail (Primary)	Id Org Detail	Integer	11
			id_proposal	Id Proposal	Integer	11
			nama	Names for Jawatankuasa Pelaksana	VarChar	255
			ja_watan	Positions	VarChar	255
			password	Login Password	Integer	11

Table 3.21 – Data Dictionary for table org\_name

Data Store ID	Data Store Name	Data Store Description	Data Store Element			
			Name	Description	Type of Data	Default Value
D11	org_name	Only stored the name list for Jawatankuasa Pelaksana	idorg_name (Primary)	Id Org Name	Integer	11
			nama	Names for Jawatankuasa Pelaksana	VarChar	255

Table 3.22 – Data Dictionary for table program

Data Store ID	Data Store Name	Data Store Description	Data Store Element			
			Name	Description	Type of Data	Default Value
D12	program	Stored date for program tentative	programId (Primary)	Id Program	Integer	11
			proposalId	Id Proposal	Integer	11
			date	Date for Program Tentative	VarChar	255

Table 3.23 – Data Dictionary for table programDetail

Data Store ID	Data Store Name	Data Store Description	Data Store Element			
			Name	Description	Type of Data	Default Value
D13	programDetail	Stored details for program tentative	IdprogramDetail (Primary)	Id Program Detail	Integer	11
			programid	Id Program	Integer	11
			time1	Start time	VarChar	255
			time2	End time	VarChar	255
			acara	Details of the event	VarChar	255
			programLocation	Location of the event	VarChar	255

Table 3.24 – Data Dictionary for table proposal

Data Store ID	Data Store Name	Data Store Description	Data Store Element			
			Name	Description	Type of Data	Default Value
D14	proposal	Stored details for proposal	proposalId (Primary)	Id Proposal	Integer	11
			idUser	Id User	Integer	11
			proposalTitle	Title of the proposal	VarChar	255
			date1	Start date	VarChar	255
			date2	End date	VarChar	255
			time_1	Start time	VarChar	255
			time_2	End time	VarChar	255
			location	Location of the event	VarChar	255
			tujuan	Purpose of the proposal	VarChar	255
			pendahuluan	Introduction	VarChar	255
			objektif	Objective of the proposal	VarChar	255
			penganjur	FCSIT	VarChar	255
			sasaran	Target of the event	VarChar	255
			jemputanLuar	Guest outside from UNIMAS	VarChar	255
			jemputanDalam	Guest within UNIMAS	VarChar	255
			kolaborasi	Collaboration	VarChar	255
			penutup	Conclusion of the proposal	VarChar	255
			activityPostmortem	Objective achievement after the activity	VarChar	255
			dekan_comment	Dean comment for proposal	VarChar	255
			td_comment	Deputy Dean comment for proposal	VarChar	255
			proposalStatus	Status of the Proposal by Dean	VarChar	255

Table 3.25 – Data Dictionary for table proposal (continued)

Data Store ID	Data Store Name	Data Store Description	Data Store Element			
			Name	Description	Type of Data	Default Value
D14	proposal	Stored details for proposal	proposalStatus2	Status of the Proposal Supported by Deputy Dean	VarChar	255
			AcaSession	Proposal manage by PERTEKMA Batch	VarChar	255
			calPro	Calculate column Program	VarChar	255
			calAct	Calculate column Activity	VarChar	255
			calInc	Calculate column Income	VarChar	255
			calOut	Calculate column Outcome	VarChar	255
			calEqu	Calculate column Equipment	VarChar	255
			calProg	Calculate column Program	VarChar	255
			cal_ap	Calculate column Jobscope	VarChar	255

Table 3.26 – Data Dictionary for table user

Data Store ID	Data Store Name	Data Store Description	Data Store Element			
			Name	Description	Type of Data	Default Value
D15	user	Stored user login details	iduser (Primary)	Id User	Integer	11
			username	Position in “Jawatankuasa Pelaksana” as username	VarChar	255
			password	Password to login	VarChar	255
			status	Status of login	VarChar	255
			ID_proposal	Id Proposal	VarChar	255

### 3.8 Interface Design

Mock-up is a design that applies prototyping concept in web applications. Mock-up refers to a running, navigable, partial or full-sized model of a web application, used for requirements elicitation, validation and finalization (Zhang, Chang, & Chung, 2003). Below is the mock-up design for PERTEKMA Activity Monitoring:

- Login Page
- Home Page
- Add Activity Proposal Page
- Edit/Delete Activity Proposal Page
- Add Activity Page
- Edit/Delete Activity Page
- Add Sub Activity Page
- Edit/Delete Sub Activity Page
- Update Activity Monitoring Page
- Add Evaluation Page

- Edit/Delete Evaluation Page
- Generate Report Page
- Statistical Data View Page
- Add/Edit/Delete User Page

### 3.8.1 Login Page

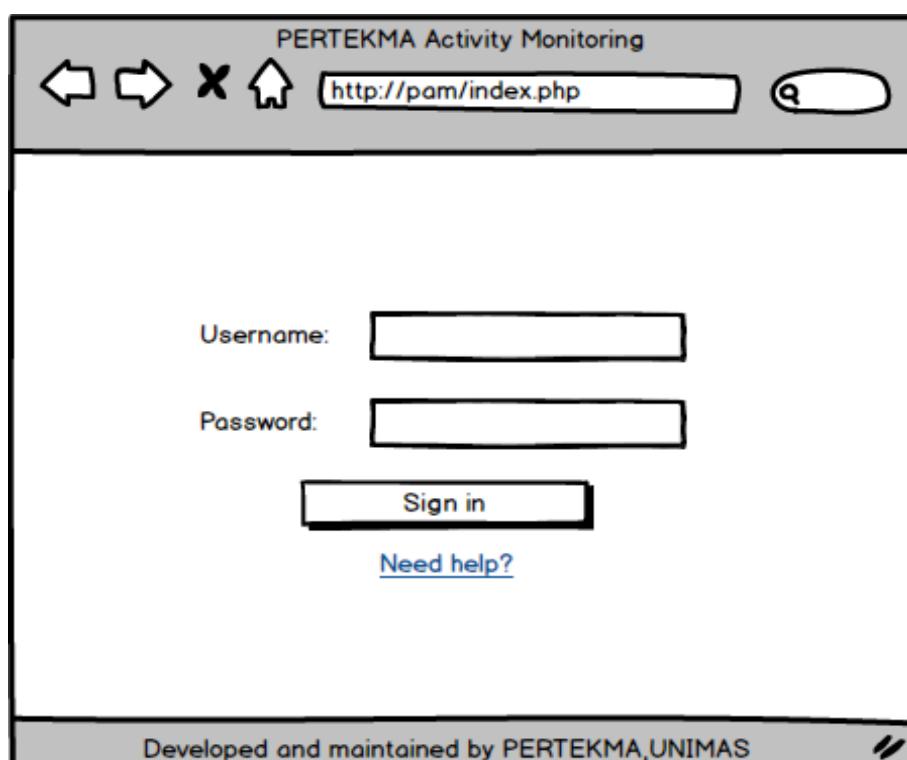


Figure 3.11 – Login Page Mock-up

Figure 3.11 above shows the login mock-up for Superadmin, Admin and User of PERTEKMA Activity Monitoring. In order to access the system, username and password are required before signing in into the system.

### 3.8.2 Home Page

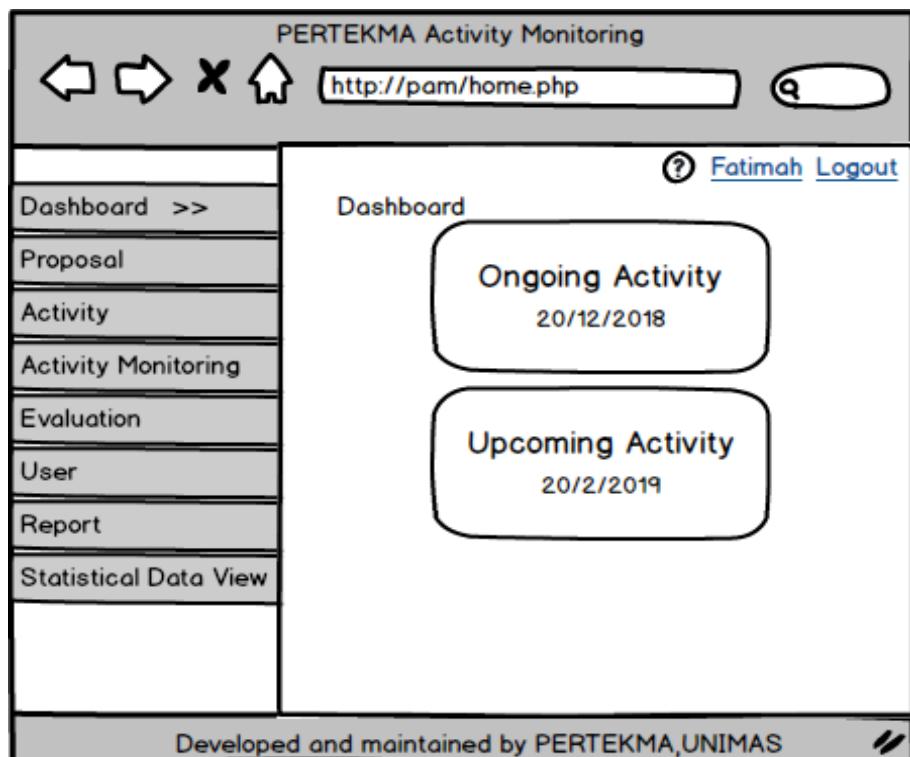


Figure 3.12 – Home Page Mock-up

Figure 3.12 above shows the Home Page mock-up for Superadmin of PERTEKMA Activity Monitoring. The dashboard basically shows the current activity or upcoming activity will be held by PERTEKMA as a reminder to the Advisors who will access into the system as well.

### 3.8.3 Add Activity Proposal Page

The image shows a web-based application interface for 'PERTEKMA Activity Monitoring'. The title bar at the top reads 'PERTEKMA Activity Monitoring' and the URL 'http://pam/addproposal.php' is displayed. The top right corner shows a user profile with 'Fatimah' and a 'Logout' link. The left side features a vertical navigation menu with the following items: Dashboard, Proposal >>, Activity, Activity Monitoring, Evaluation, User, Report, and Statistical Data View. The main content area is titled 'Proposal' and contains the following fields: 'Event Name:' with an input field, 'Location:' with an input field, 'Date of Application:' with an input field, 'Synopsis:' with an input field, 'Main Activities:' with an input field, 'Budgets Outlines:' with an input field, and 'Sponsorship/Partners:' with an input field. At the bottom left is a 'back' button, and at the bottom right is a 'Save' button. The footer of the page states 'Developed and maintained by PERTEKMA, UNIMAS' and includes a logo.

Figure 3.13 – Add Activity Proposal Page Mock-up

Based on Figure 3.13 above shows the form for activity proposal. This form is a fundamental part before assigning any activities and needs an approval from the Advisor.

### 3.8.4 Edit/Delete Activity Proposal Page

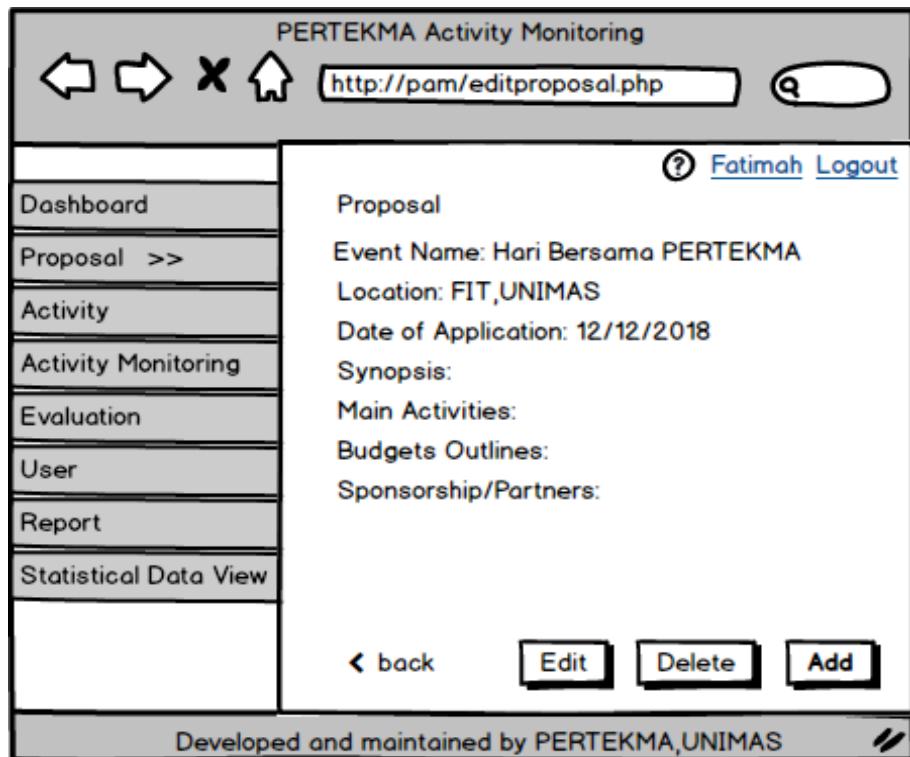


Figure 3.14 – Add Activity Proposal Page Mock-up

Based on Figure 3.14 above shows the record of the activity proposal. This page provides an edit button to do any changes in the activity proposal or even add a new proposal by clicking the add button. Delete button use to delete the current record of activity proposal. Back button uses to go back to the previous page.

### 3.8.5 Add Activity Page

The image shows a web-based application interface for 'PERTEKMA Activity Monitoring'. The title bar at the top reads 'PERTEKMA Activity Monitoring' and the URL is 'http://pam/addactivity.php'. The top right corner shows a user profile 'Fatimah' and a 'Logout' link. The left sidebar contains a vertical menu with the following items: Dashboard, Proposal, Activity >>, Activity Monitoring (which is the active page, indicated by a blue background), Evaluation, User, Report, and Statistical Data View. The main content area is titled 'Activity Record' and contains the following fields: 'Event Name' (input field), 'Location' (input field), 'Start and End Date' (input field), 'Time' (input field), 'Synopsis' (input field), 'Activities' (input field), and 'Task Allocation' (input field). At the bottom left is a 'back' button with a left arrow icon, and at the bottom right is a 'Save' button with a checkmark icon. The footer at the bottom of the page reads 'Developed and maintained by PERTEKMA, UNIMAS'.

Figure 3.15 – Add Activity Page Mock-up

Based on Figure 3.15 above shows the form for add activity. The user needs to fill in the form for activity record as provided and submitting it by clicking the save button.

### 3.8.6 Edit/Delete Activity Page

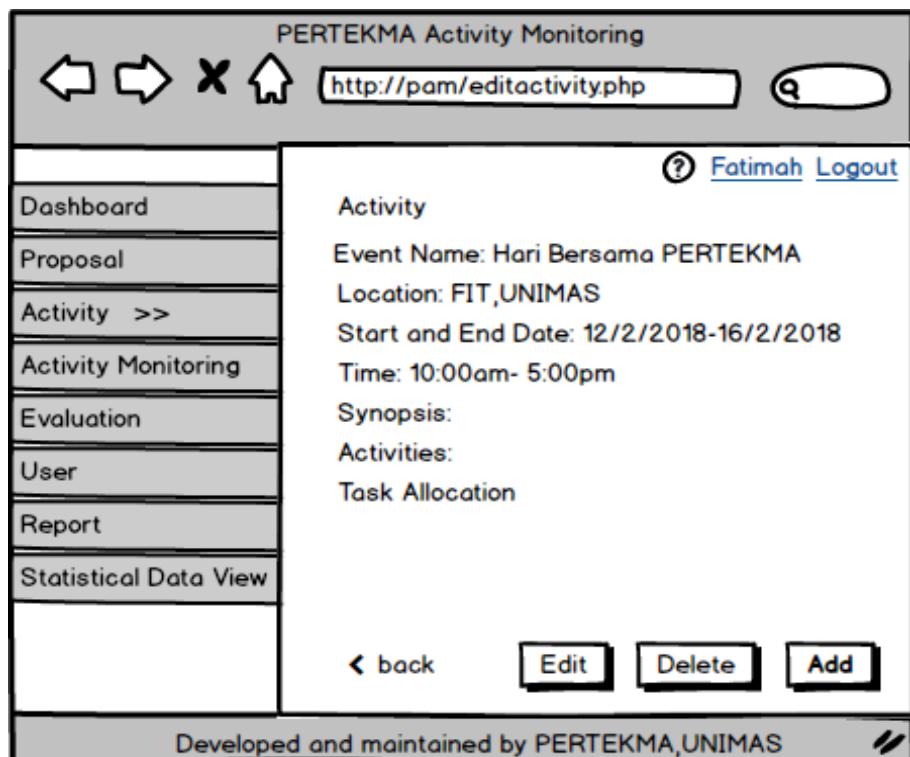


Figure 3.16 – Edit/Delete Activity Page Mock-up

Figure 3.16 above shows the record of activity. This page provides an edit button to do any changes in the activity or even add a new activity record by clicking the add button. Delete button use to delete the current record. Back button uses to go back to the previous page.

### 3.8.7 Activity Monitoring

PERTEKMA Activity Monitoring  
<http://pam/updateactivity.php>

Dashboard  
Proposal  
Activity  
Activity Monitoring >>  
Evaluation  
User  
Report  
Statistical Data View

Update Activity  
Event Name: Hari Bersama PERTEKMA  
Location: FIT,UNIMAS  
Start and End Date: 12/2/2018-16/2/2018  
Time: 10:00am- 5:00pm

Day	Activity	Time	Status
Day 1	Open for Boot	10:00am to 4:00pm	<input checked="" type="checkbox"/>
Day 2	Competition	10:00am to 4:00pm	<input type="checkbox"/>

◀ back   [Edit](#)   [Delete](#)   [Update](#)

Developed and maintained by PERTEKMA,UNIMAS

Figure 3.17 – Activity Monitoring Page Mock-up

Figure 3.17 above shows Activity monitoring page where user are able to update their current activity status. Check button indicate that the activity on that day is successfully done.

### 3.8.8 Add Evaluation

The mock-up shows a web page titled 'PERTEKMA Activity Monitoring' with the URL 'http://pam/evaluation.php'. The page has a sidebar on the left with links: Dashboard, Proposal, Activity, Activity Monitoring, Evaluation >>, User, Report, and Statistical Data View. The main content area displays event details: Event Name: Hari Bersama PERTEKMA, Location: FIT, UNIMAS, Start and End Date: 12/2/2018-16/2/2018, and Time: 10:00am- 5:00pm. Below these details is a 'Report:' section with a large empty box. At the bottom are 'back' and 'Save' buttons, and a footer stating 'Developed and maintained by PERTEKMA,UNIMAS'.

Figure 3.18 – Add Activity Evaluation Page Mock-up

Based on Figure 3.18 above, figures show the form for activity evaluation. Activity evaluation basically is known as an evaluation for the degree of success to achieve the objective of the activity. The user is required to fill in the form for activity evaluation as provided and submitting it by clicking the save button.

### 3.8.9 Edit/Delete Evaluation

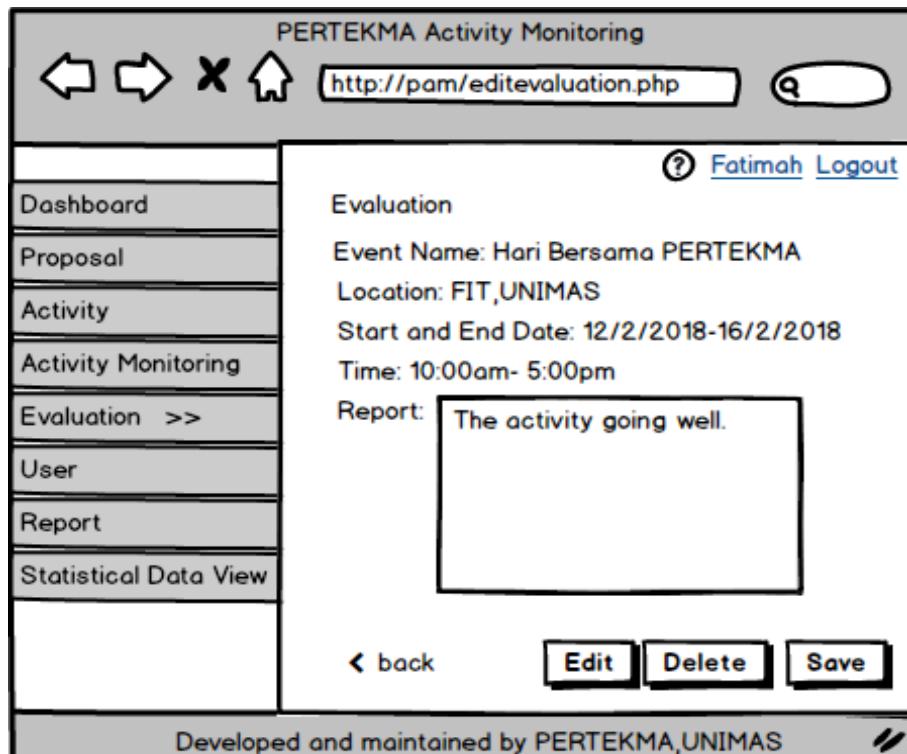


Figure 3.19 – Edit/Delete Activity Evaluation Page Mock-up

Based on Figure 3.19 above, the user can edit and save for the new changes in activity evaluation pages if any or even delete the activity evaluation.

### 3.8.10 Edit/Delete Evaluation

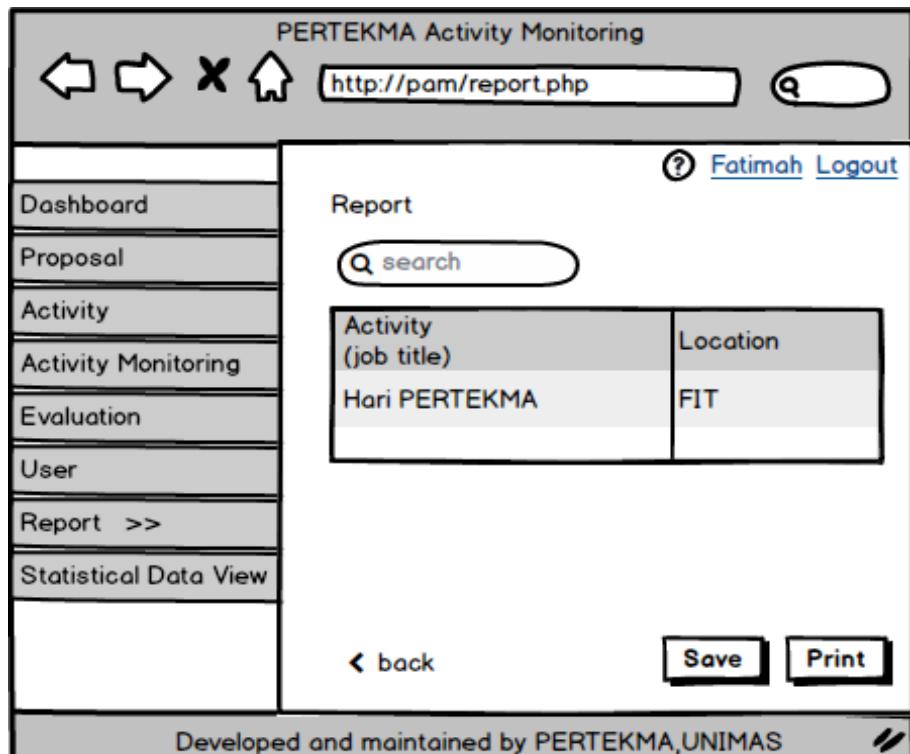


Figure 3.20 – Report Generate Page Mock-up

Based on Figure 3.20, superadmin can generate the report by searching a particular data by keying a keyword. The system then will show all the information that related to the query. The alternative to keeping the records is either in softcopy or hardcopy by clicking the Print button.

### 3.8.11 Statistical Data View

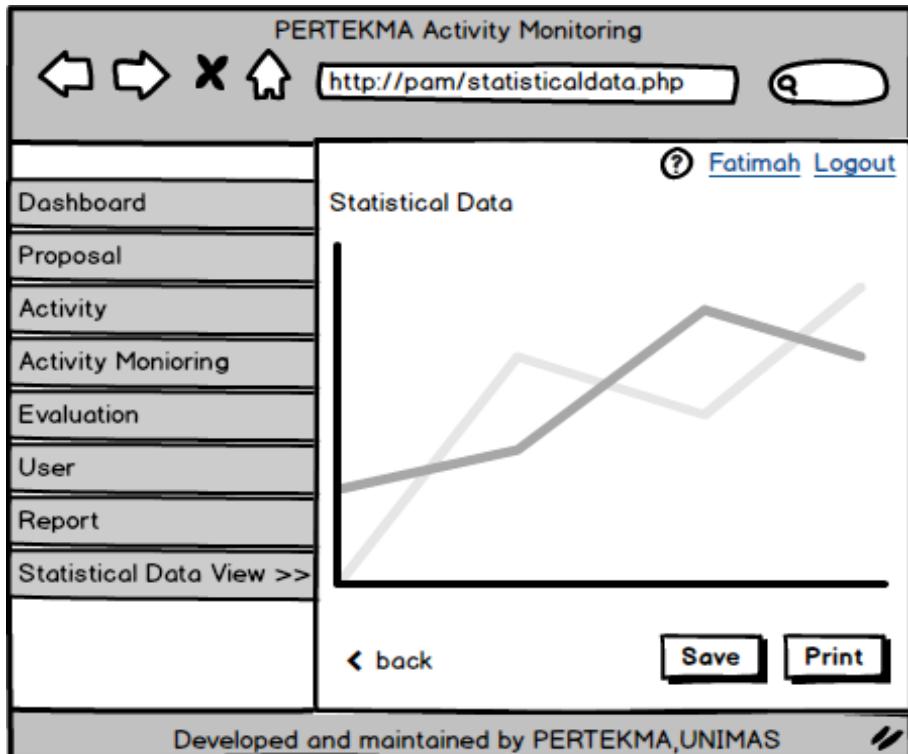


Figure 3.21 – Statistical Data View Page Mock-up

Figure 3.21 shows the statistical data view page for superadmin, this page visualizes the data in the form of data visualization.

## 3.9 Summary

In summary, this chapter focused on the methodology used to develop the proposed system. The methodology used is Rapid Application Development (RAD). This chapter covered two phases out of four phases in RAD which is requirement planning phase and user design phase. In the requirement planning phase, the technique survey used has been identified to collect information about the user requirements. In the system design, UML Diagram is used to illustrate the interaction and flow of the system in detailed. There are four UML Diagrams covered in this chapter which is consist of a Use Case Diagram, Activity Diagram, Class Diagram and Data Dictionary.

# CHAPTER 4

## SYSTEM IMPLEMENTATION

### 4.1 Introduction

This chapter focuses on the development of PERTEKMA Activity Monitoring which includes the explanation of software requirements in developing the prototype and database preparation of the proposed system. Database preparation is about to store the data, information and record of PERTEKMA's activity. The prototype implementation stage is about to implement PERTEKMA Activity Monitoring for PERTEKMA Committee members.

### 4.2 Software Requirement

The list of software requirement used during the development process stated as below:

- i) Adobe Dreamweaver CC 2017: A web design and development application that uses both Live View surface and standard features of code editor. Dreamweaver is a versatile web design and development tool that enables visualization of web content while coding.
- ii) XAMPP Control Panel v3.2.2: An application that used for Apache distribution to create a local web server for testing and deployment purposes. Everything needed to set up a web server which includes a server application (Apache), database (MariaDB) and scripting language (PHP).
- iii) Google Chrome: A web browser used to run the system locally.

## 4.3 Development of PERTEKMA Activity Monitoring

This section describes in detail for every feature in the PERTEKMA Activity Monitoring. Primary features include the system's functionalities and these features provide greater reliability, usability and efficiency. PERTEKMA Activity Monitoring can be divided into three different role of user login which consist of superadmin, admin and user. A single login page of the system used to access their roles and each of it differ in terms of the features.

### 4.3.1 Single Login Page-Superadmin, Admin and User

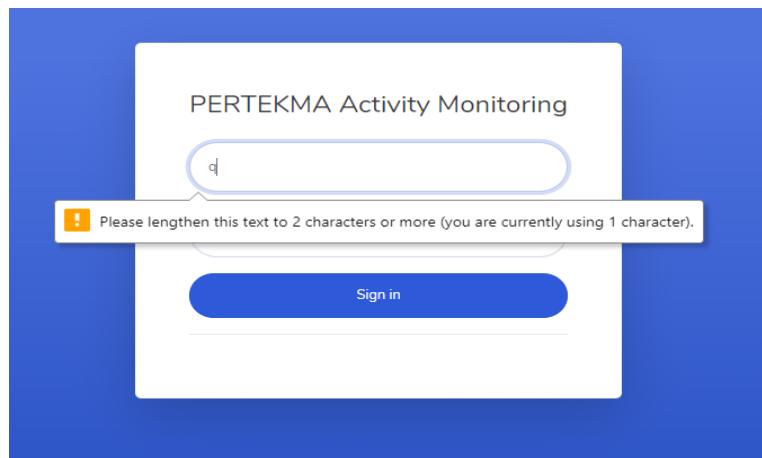


Figure 4.1 – Single Login Page for different roles

Based on Figure 4.1 shows that the interface for login page into the system for different user roles. In this single login page, the committee members can access into the system based on their roles. The validation form for this login page will not allow the users to enter username less than two characters, restriction for login when entering the wrong password or username and clicked the Sign in button without fill in the related fields.

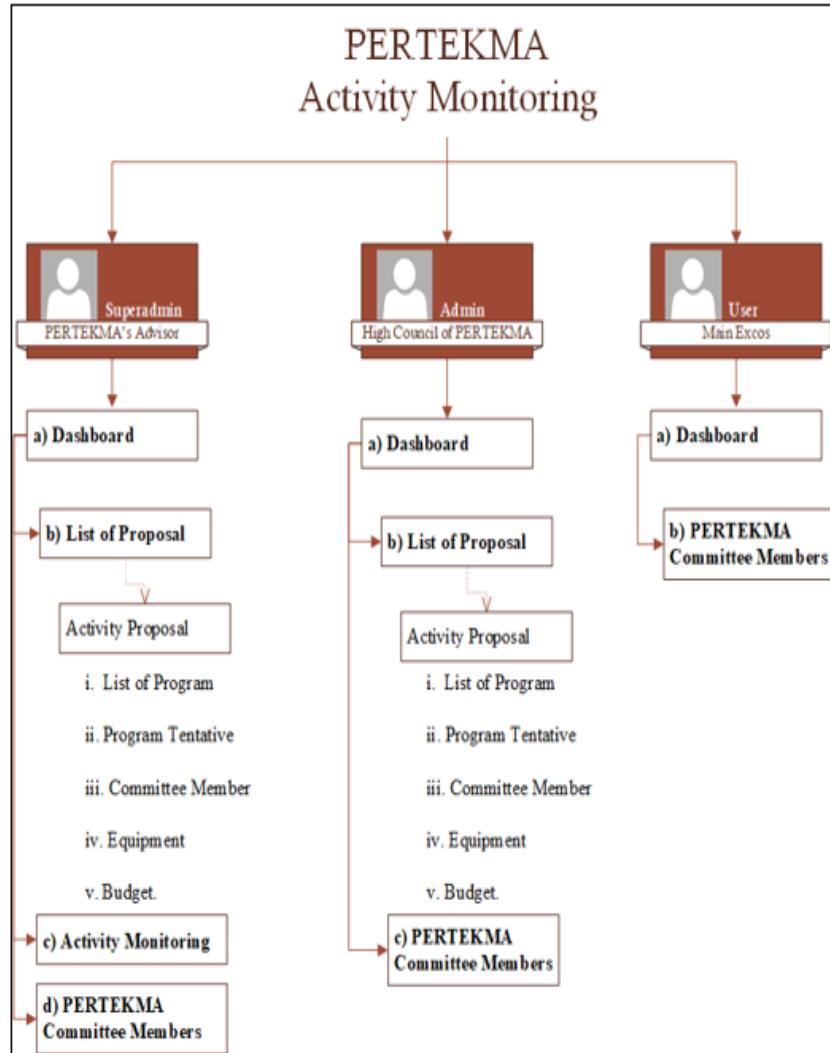


Figure 4.2 – Access Module in the Prototype based on Roles

Based on Figure 4.2, the capabilities to access each module in the system restricted based on roles of login. Each of the access module in the superadmin, admin and user will be explained in detail.

#### 4.3.2 Access Module for Superadmin

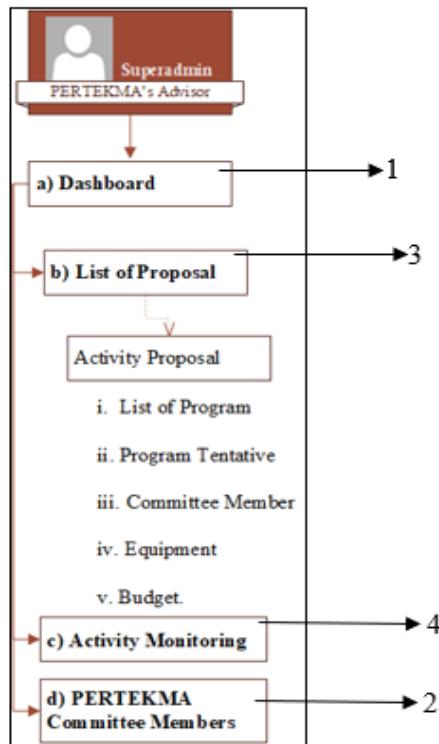


Figure 4.3 – Access Module for Superadmin

Based on Figure 4.3 above, the numbering shown a sequence for superadmin to follow up once he/she login into the system. The sequences consist of Dashboard (1), followed by PERTEKMA Committee Members (2), List of Proposal (3) then Activity Monitoring (4). Superadmin have to follow the sequence correctly in order to understand the flow of the system as well. This is due to the data in each module are related and connected to each other.

### a) Dashboard

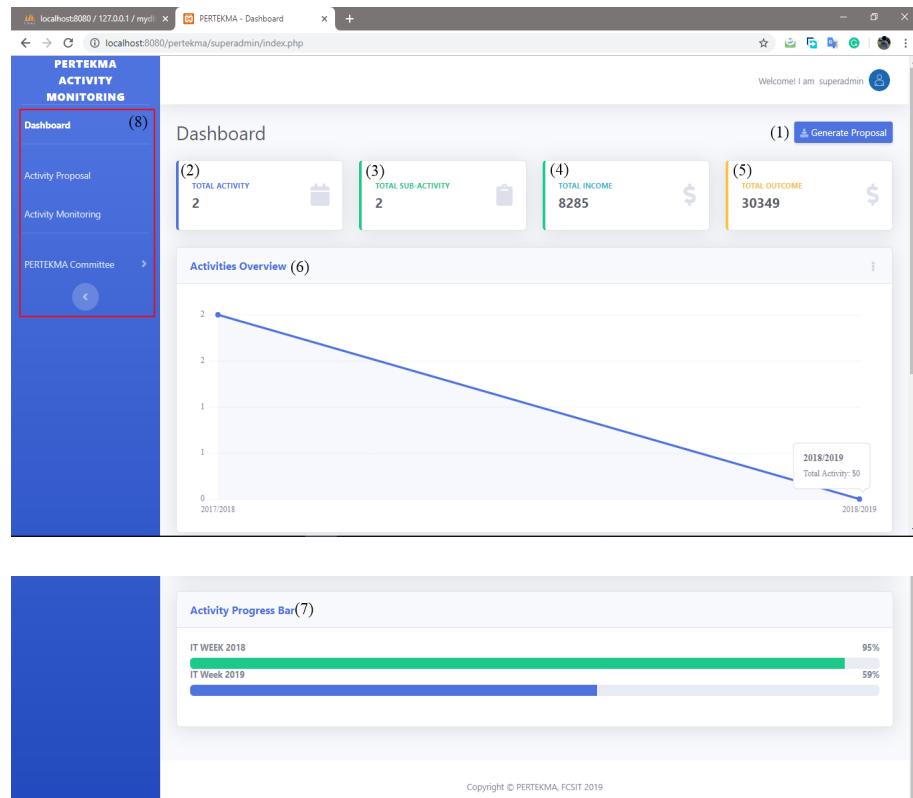


Figure 4.4 – Superadmin Dashboard

Figure 4.4 shows the dashboard for the Superadmin once login into the system. In the Dashboard, it will count and summarize all the related information to the Superadmin. It include:

- a) button for generate proposal (print proposal)-(1)
- b) the total number of activities that has been done yearly-(2)
- c) total number of sub-activities throughout monthly-(3)
- d) total income (“Anggaran Pendapatan”) for all Activity Proposal-(4)
- e) total outcome (“Anggaran Perbelanjaan”) for all Activity Proposal-(5)
- f) Statistical Data View of Activities Overview to show number of Activity Proposal that being handled by PERTEKMA Batch-(6)
- g) Activity Progress Bar shows percentage of updates in the Activity Proposal form-(7)

h) navigation items that consist of Dashboard, Activity Proposal, Activity Monitoring and PERTEKMA Committee-(8)

b) **List of Proposal**

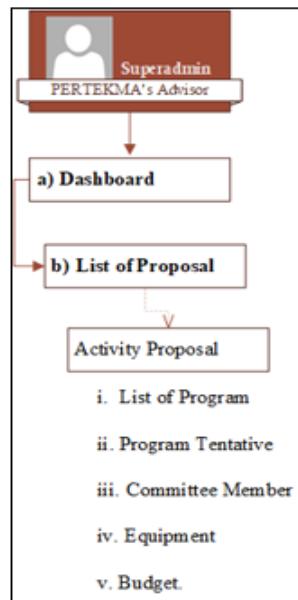


Figure 4.5 – Access Module in the List of Proposal

This section will discuss the access module in the List of Proposal and its sub-module is the Activity Proposal. The dependency of the sub-module in the Activity Proposal is define based on the proposal Id. The flow of this access module are illustrated based on Figure 4.5 above.

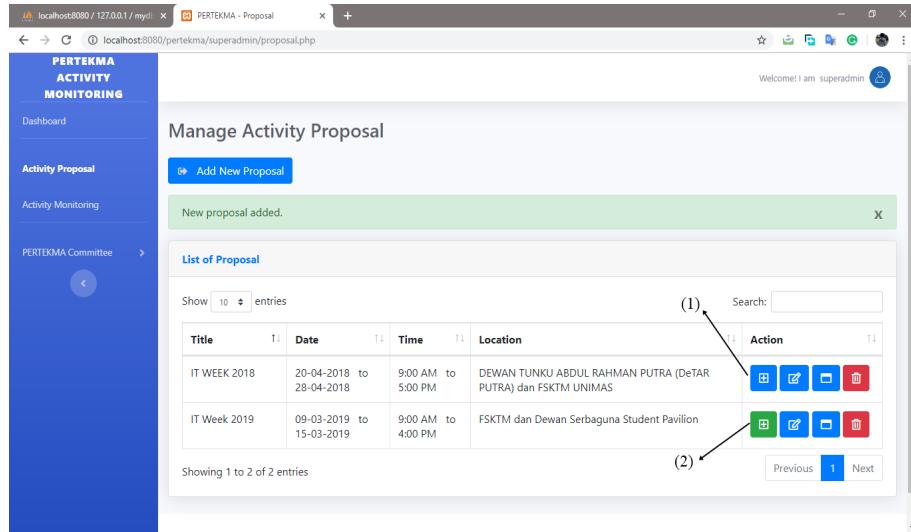
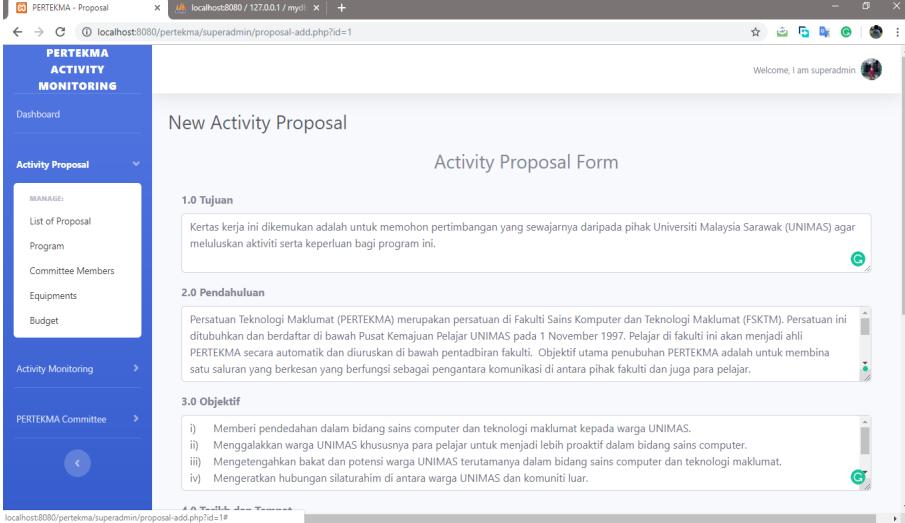


Figure 4.6 – Manage Activity Proposal

Figure 4.6 shows that the list of the Activity Proposal, blue button (1) indicates that the admin not update any details yet in the Activity Proposal while the green button (2) define as the admin is already update the details of the Activity Proposal. In this section, the Activity Proposal is basically being manage by the Admin but Superadmin also have the authorities to update proposal's details, edit the details of proposal, view the full proposal or even delete the entire proposal with the action button provided in the action field listed in the data table. Before proceeds to the Activity Proposal, Admin should update the information of the PERTEKMA committee members every time the new batch is assign in order to able the drop list of members name. This section will discuss in detail in the section of PERTEKMA Committee Member in the Activity Proposal.

Below are the explanation for each module in the Activity Proposal.

### i) Update proposal details (Activity Proposal Form)

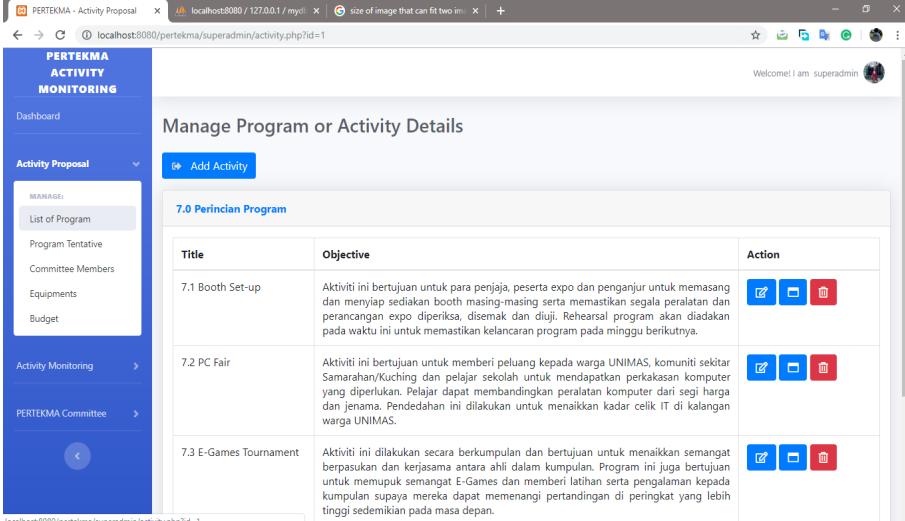


The screenshot shows the 'New Activity Proposal' form. The left sidebar has 'Activity Proposal' selected. The main content area has three sections: '1.0 Tujuan' (Goals), '2.0 Pendahuluan' (Background), and '3.0 Objektif' (Objectives). The 'Tujuan' section contains a text box with a note about the proposal being submitted to the University of Malaysia Sarawak (UNIMAS). The 'Pendahuluan' section contains a text box with a note about PERTEKMA being a student association of the Faculty of Computer and Technology (FSKTM). The 'Objektif' section contains a list of four items, each with a checkbox.

Figure 4.7 – Update Activity Proposal Form

Figure 4.7 shows the Activity Proposal Form. Details in this section has already filled by the Admin to be monitor by the Superadmin. In this section, Superadmin are able to update any information in this form.

### ii) Manage Program or Activity Details (List of Program)



The screenshot shows the 'Manage Program or Activity Details' page. The left sidebar has 'Activity Proposal' selected. The main content area has a table titled '7.0 Perincian Program' (Program Details) with three rows. Each row contains a 'Title' (7.1 Booth Set-up, 7.2 PC Fair, 7.3 E-Games Tournament), an 'Objective' (description of the program), and an 'Action' column with edit and delete buttons.

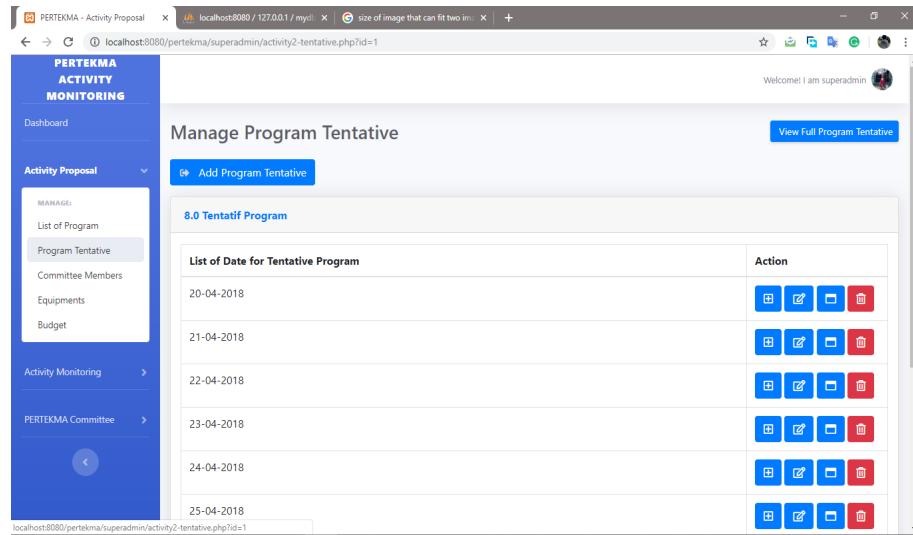
Title	Objective	Action
7.1 Booth Set-up	Aktiviti ini bertujuan untuk para penjaja, peserta expo dan pengunjung untuk memasang dan menyediakan booth masing-masing serta memastikan segala peralatan dan perancangan expo diperiksa, disemak dan diuji. Rehearsal program akan diadakan pada waktunya untuk memastikan kelancaran program pada minggu berikutnya.	 
7.2 PC Fair	Aktiviti ini bertujuan untuk memberi peluang kepada warga UNIMAS, komuniti sekitar Samarahan/Kuching dan pelajar sekolah untuk mendapatkan perkakasan komputer yang diperlukan. Pelajar dapat membandingkan peralatan komputer dari segi harga dan jenama. Pendedahan ini dilakukan untuk menaikkan kadar cekik IT di kalangan warga UNIMAS.	 
7.3 E-Games Tournament	Aktiviti ini dilakukan secara berkumpulan dan bertujuan untuk menaikkan semangat berpasukan dan kerjasama antara ahli dalam kumpulan. Program ini juga bertujuan untuk memupuk semangat E-Games dan memberi latihan serta pengalaman kepada kumpulan supaya mereka dapat memenangi pertandingan di peringkat yang lebih tinggi sedemikian pada masa depan.	 

Figure 4.8 – Manage Program or Activity Details in the Program Section

Based on Figure 4.8, Superadmin are able to manage the activity and program

by add the new activity, edit details of the activity listed, view it and delete the activity/program in the data table.

### iii) Manage Program Tentative (Program Tentative)

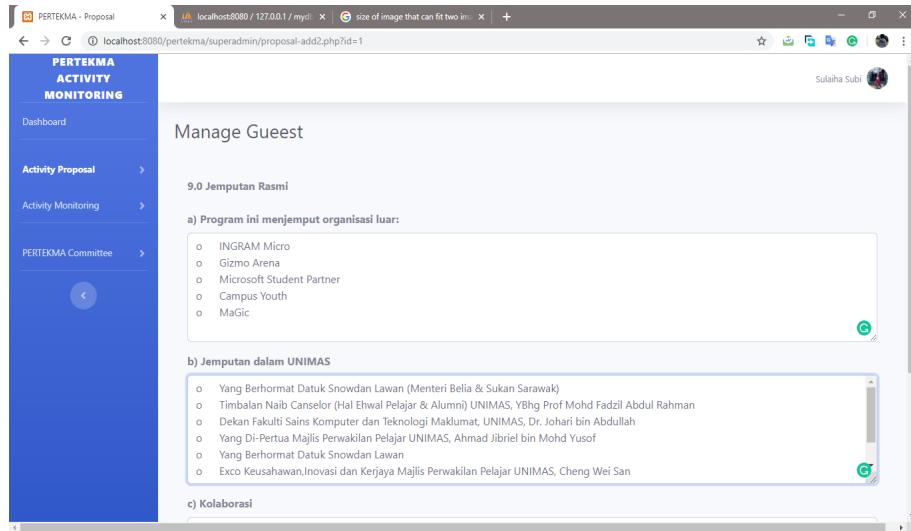


List of Date for Tentative Program	Action
20-04-2018	
21-04-2018	
22-04-2018	
23-04-2018	
24-04-2018	
25-04-2018	

Figure 4.9 – Manage Program Tentative

Figure 4.9 shows that the list of date for Program Tentative. In this page, Superadmin are able to View Full Program Tentative which is the page will show the details of the tentative or even add new date of Program Tentative by clicking the Add Program Tentative. In the data list table above, Superadmin also able to add details, edit it, view program tentative and delete it for specific date of the program tentative.

#### iv) Manage Guest



Manage Guest

9.0 Jemputan Rasmi

a) Program ini menjemput organisasi luar:

- INGRAM Micro
- Gizmo Arena
- Microsoft Student Partner
- Campus Youth
- MaGic

b) Jemputan dalam UNIMAS

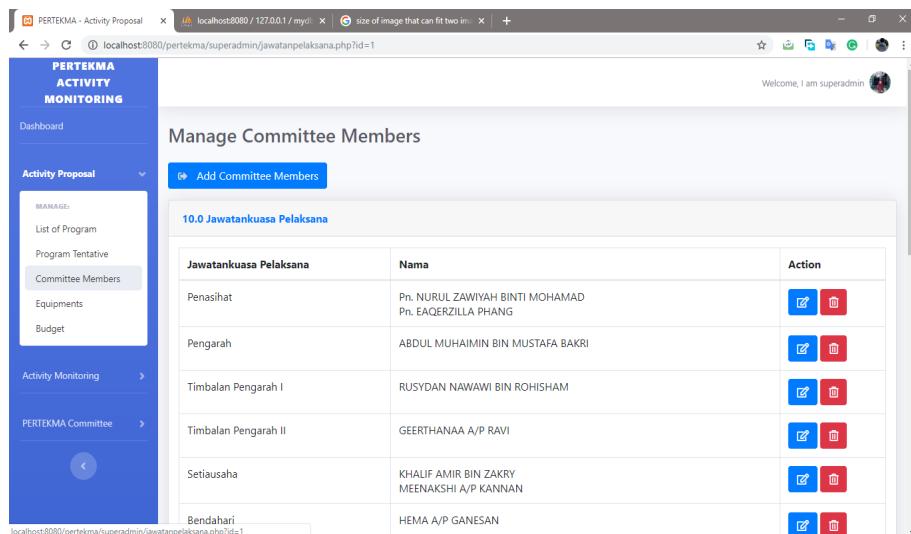
- Yang Berhormat Datuk Snowdan Lawan (Menteri Belia & Sukan Sarawak)
- Timbalan Naib Canselor (Hal Ehwal Pelajar & Alumni) UNIMAS, YBhg Prof Mohd Fadzil Abdul Rahman
- Dekan Fakulti Sains Komputer dan Teknologi Maklumat, UNIMAS, Dr. Johari bin Abdullah
- Yang Di-Pertua Majlis Perwakilan Pelajar UNIMAS, Ahmad Jibril bin Mohd Yusof
- Yang Berhormat Datuk Snowdan Lawan
- Exco Keusahawanan, Inovasi dan Kerjaya Majlis Perwakilan Pelajar UNIMAS, Cheng Wei San

c) Kolaborasi

Figure 4.10 – Manage Guest

Based on Figure 4.10 above shows the update page for managing the guest in the activity proposal. In this section, it basically show the list of “Jemputan Rasmi” who are inviting in the Activity Proposal.

#### v) Manage Committee Members



Welcome, I am superadmin

Manage Committee Members

10.0 Jawatankuasa Pelaksana

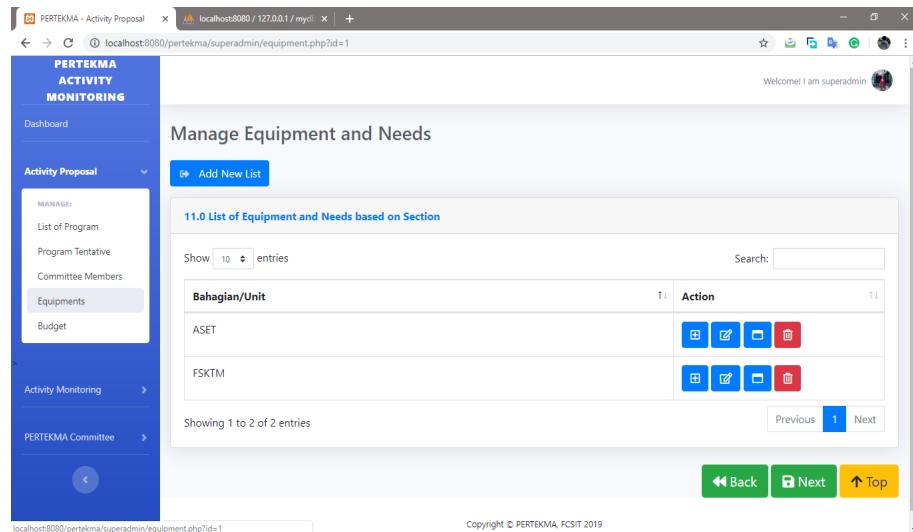
Jawatankuasa Pelaksana	Nama	Action
Penasihat	Pn. NURUL ZAWIYAH BINTI MOHAMAD Pn. EAQERZILLA PHANG	 
Pengarah	ABDUL MUHAMIN BIN MUSTABA BAKRI	 
Timbalan Pengarah I	RUSYDAN NAWAWI BIN ROHISHAM	 
Timbalan Pengarah II	GEERTHANAA A/P RAVI	 
Setiausaha	KHALIF AMIR BIN ZAKRY MEENAKSHI A/P KANNAN	 
Bendahari	HEMA A/P GANESAN	 

Figure 4.11 – Manage Committee Members

Based on Figure 4.11 above shows the update page for managing the guest in the activity proposal. In this section, it basically show the list of “Jemputan Rasmi”

who are inviting in the Activity Proposal.

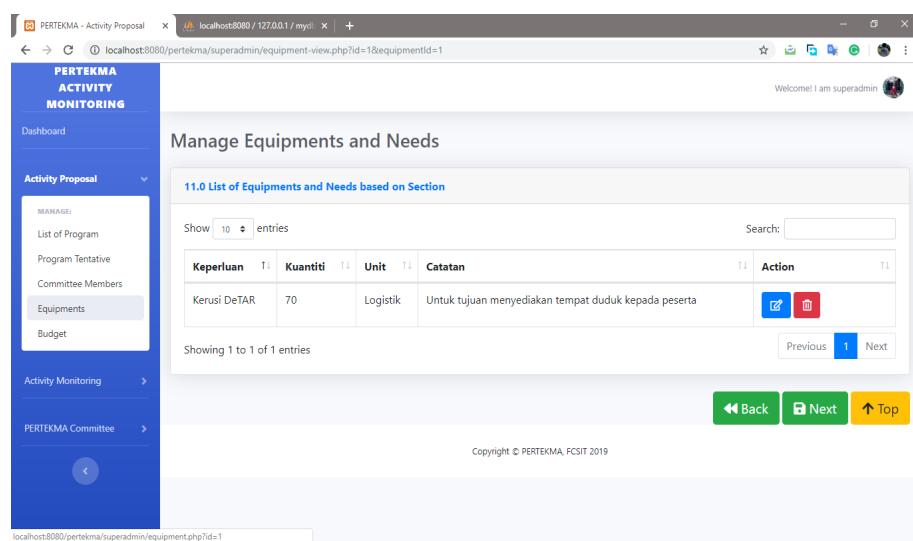
#### vi) Manage Equipment and Needs (Equipments)



The screenshot shows a web application interface for managing equipment and needs. The left sidebar has a 'PERTEKMA ACTIVITY MONITORING' header and a 'Activity Proposal' section with 'MANAGE' sub-options: List of Program, Program Tentative, Committee Members, Equipments (which is selected and highlighted in grey), and Budget. The main content area is titled 'Manage Equipment and Needs' with a '11.0 List of Equipment and Needs based on Section' heading. It shows a table with two entries: 'ASET' and 'FSKTM', each with edit and delete icons. Below the table, it says 'Showing 1 to 2 of 2 entries'. At the bottom are 'Back', 'Next', and 'Top' buttons.

Figure 4.12 – The list of the equipment and needs

Based on Figure 4.12, the list of the equipment and needs or Senarai Keperluan/Peralatan are already being added by the admin. Superadmin are able to add a new list, edit the details or even delete it.



The screenshot shows a detailed view of an equipment entry. The left sidebar is the same as Figure 4.12. The main content area is titled 'Manage Equipments and Needs' with a '11.0 List of Equipments and Needs based on Section' heading. It shows a table with one entry: 'Kerusi DeTAR' with a quantity of '70', unit 'Logistik', and note 'Untuk tujuan menyediakan tempat duduk kepada peserta'. Below the table, it says 'Showing 1 to 1 of 1 entries'. At the bottom are 'Back', 'Next', and 'Top' buttons.

Figure 4.13 – View details for list of the equipment and needs

Based on Figure 4.13 shows that the list of the equipment and its details. In this page the Superadmin are able to edit its details and delete it.

## vii) Manage Budget

The screenshot shows a web application interface for managing budgets. The left sidebar has a 'PERTEKMA ACTIVITY MONITORING' header and a 'Activity Proposal' section with a 'Budget' option selected. The main content area is titled 'Manage Budget' and shows a table for '12.0 Anggaran Pendapatan & Perbelanjaan'. The table has columns for 'Title' and 'Action'. It lists two items: 'Anggaran Pendapatan' and 'Anggaran Perbelanjaan', each with edit, view, and delete buttons. Below the table, it says 'Showing 1 to 2 of 2 entries'. At the bottom are 'Back', 'Next', and 'Top' buttons, and a copyright notice: 'Copyright © PERTEKMA, FCSIT 2019'.

Figure 4.14 – Manage Budget

Based on Figure 4.14, View Full Budget button on the top right corner is to run the full report for “Anggaran Pendapatan” and “Anggaran Perbelanjaan”. In the data table, the edit, view and delete button are provided in the Action column to manage its details.

The screenshot shows a detailed view of the 'Anggaran Pendapatan' section. The left sidebar is the same as Figure 4.14. The main content area is titled 'Manage Budget' and shows a table for '12.0 Anggaran Pendapatan'. The table has columns for 'Perkara', 'Harga Seunit(RM)', 'Kuantiti', and 'Jumlah'. It lists three items: 'Dana dari PERTEKMA' (1000.00, 1, 1000), 'Penaja' (6000.00, 1, 6000), and 'Sewa booth PC Fair' (300.00, 4, 1200). A 'Total' row shows a sum of 8200. Below the table, it says 'Showing 1 to 3 of 3 entries'. At the bottom are 'Back', 'Next', and 'Top' buttons, and a copyright notice: 'Copyright © PERTEKMA, FCSIT 2019'.

Figure 4.15 – View for Anggaran Pendapatan Page

Figure 4.15 shows the details of “Anggaran Pendapatan” once Superadmin click the view button. In the view page “Anggaran Perbelanjaan”, Superadmin will repeat the same thing to view it.

### viii) End Section of the Activity Proposal

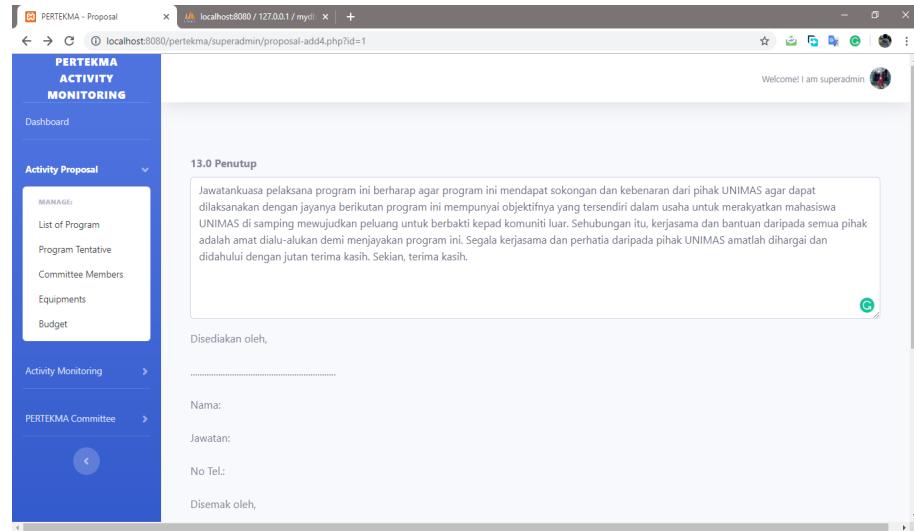


Figure 4.16 – End Section of the Activity Proposal Form

Figure 4.16 shows the end section of the activity proposal form that must be filled by the Admin as well. The next stage for the complete proposal is to proceed based on PERTEKMA's advisor.

### ix) Manage Job Scope for "Jawatankuasa Pelaksana"

Figure 4.17 – Manage Job Scope for List of "Jawatankuasa Pelaksana"

Figure 4.64 shows the list of "Jawatankuasa Pelaksana" and to manage the job scope of the "Jawatankuasa Pelaksana", Superadmin must clicked the add button to

add the details of their job scope and clicked View Button to view in details of the job scope for each of them.

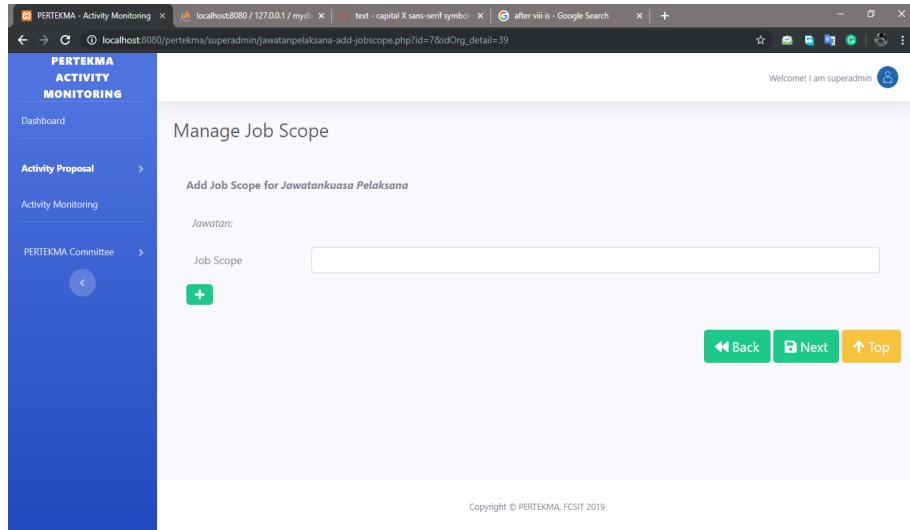


Figure 4.18 – Add Job Scope for List of "Jawatankuasa Pelaksana"

Figure 4.65 shows the dynamic form to add the details of the Job Scope of the "Jawatankuasa Pelaksana". Superadmin can add the details of their job scope as many as he/she want.

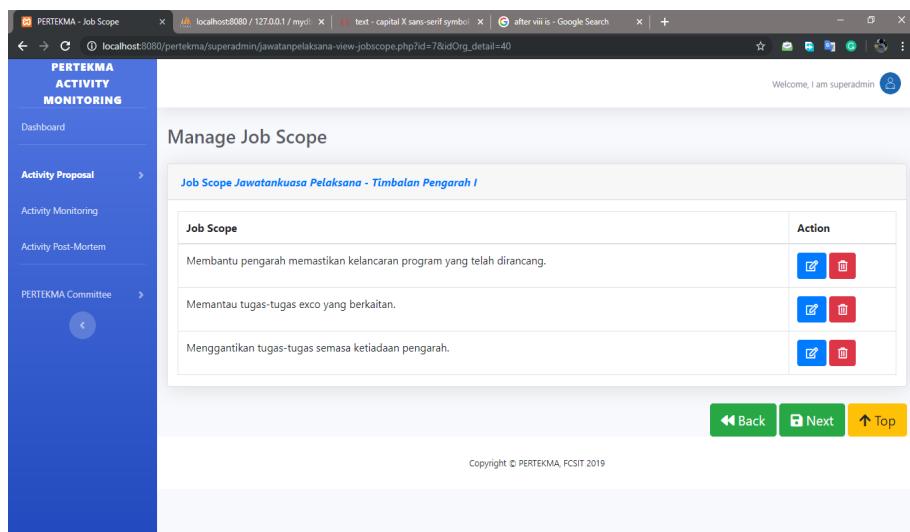


Figure 4.19 – View Job Scope for List of "Jawatankuasa Pelaksana"

Figure 4.66 above shows the details of the Job Scope of the "Jawatankuasa Pelaksana". Once Superadmin clicked view specific Job Scope of "Jawatankuasa Pelaksana", the page will shown the list of their job scope as added previously.

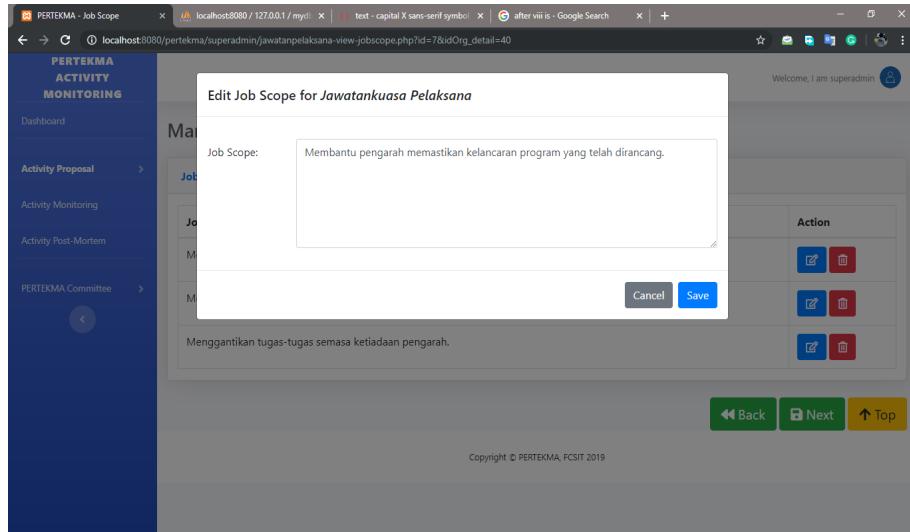


Figure 4.20 – Edit Job Scope Details

Figure 4.67 above shows the edit Module to edit the details of the Job Scope of the "Jawatankuasa Pelaksana". Once Superadmin clicked edit button in the specific Job Scope of the "Jawatankuasa Pelaksana", the edit module displayed will show the details of the job scope as added previously. Save once the changing has made and Cancel to dismissed the Edit Module.

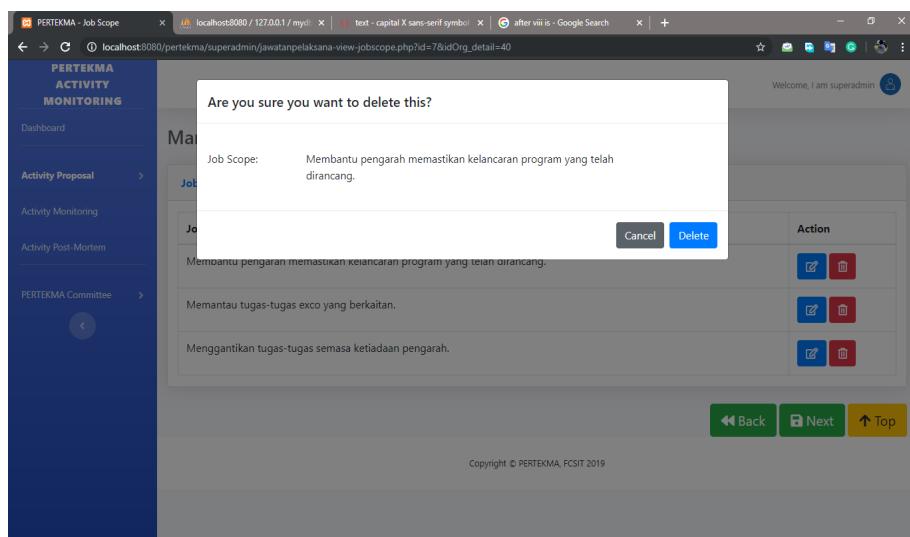
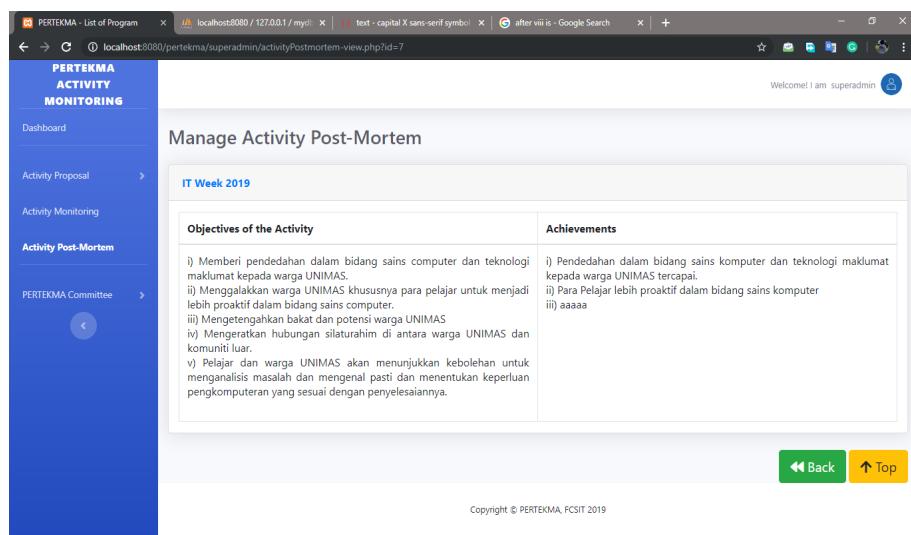


Figure 4.21 – Delete Job Scope Details

Figure 4.68 above shows the Delete Module to Delete the details of the Job Scope of the "Jawatankuasa Pelaksana". Once Superadmin clicked delete button in

the specific Job Scope of the "Jawatankuasa Pelaksana", the Delete module displayed as shown in Figure 4.68. Delete once Superadmin confirmed to delete it and Cancel to dismissed the Delete Module.

### c) Activity Post-Mortem



Objectives of the Activity	Achievements
i) Memberi pendedahan dalam bidang sains komputer dan teknologi maklumat kepada warga UNIMAS. ii) Menggalakkan warga UNIMAS khususnya para pelajar untuk menjadi lebih proaktif dalam bidang sains komputer. iii) Mengetengahkan bakat dan potensi warga UNIMAS iv) Mengeratkan hubungan silaturahim di antara warga UNIMAS dan komuniti luar. v) Pelajar dan warga UNIMAS akan menunjukkan kebolehan untuk menganalisis masalah dan mengenal pasti dan menentukan keperluan pengkomputeran yang sesuai dengan penyelesaiannya.	i) Pendedahan dalam bidang sains komputer dan teknologi maklumat kepada warga UNIMAS tercapai. ii) Para Pelajar lebih proaktif dalam bidang sains komputer iii) aaaaa

Figure 4.22 – Update the Activity Post-Mortem

Figure 4.22 above shows the form for Activity Post-Mortem. In this section, Superadmin just simply monitor the Activity Post-Mortem updated by Admin and it is basically shows the achievements for the completion of the activity.

#### d) Activity Monitoring

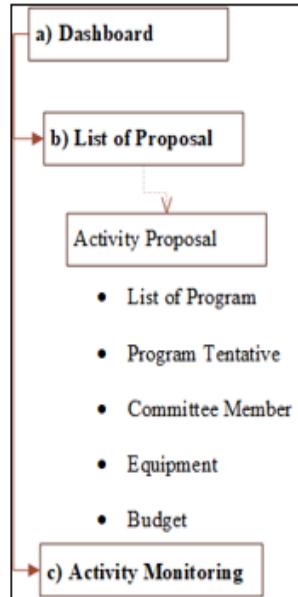


Figure 4.23 – Third Access Module of the system is Activity Monitoring

Based on Figure 4.23, the next module for Superadmin is Activity Monitoring where Superadmin is able to monitor the Exco's Activity and involvement as their jobscopes stated in the Activity Proposal. The features are explained in details as below:

##### i) Monitor Exco Based on List of Activity

The screenshot shows a web browser window for 'PERTEKMA - Proposal' on 'localhost:8080'. The URL is 'localhost:8080/pertekma/superadmin/activityMonitoring.php'. The page title is 'Manage Activity Log Note'. On the left, a sidebar menu includes 'Dashboard', 'Activity Proposal', 'Activity Monitoring' (which is currently selected), and 'PERTEKMA Committee'. The main content area displays a table titled 'List of Activity/Program' with the following data:

Title	Date	Time	Location	Action
IT WEEK 2018	20-04-2018 to 28-04-2018	9:00 AM to 5:00 PM	DEWAN TUNKU ABDUL RAHMAN PUTRA (DTR) FSKTM UNIMAS	<a href="#">View Exco's Log Notes</a>

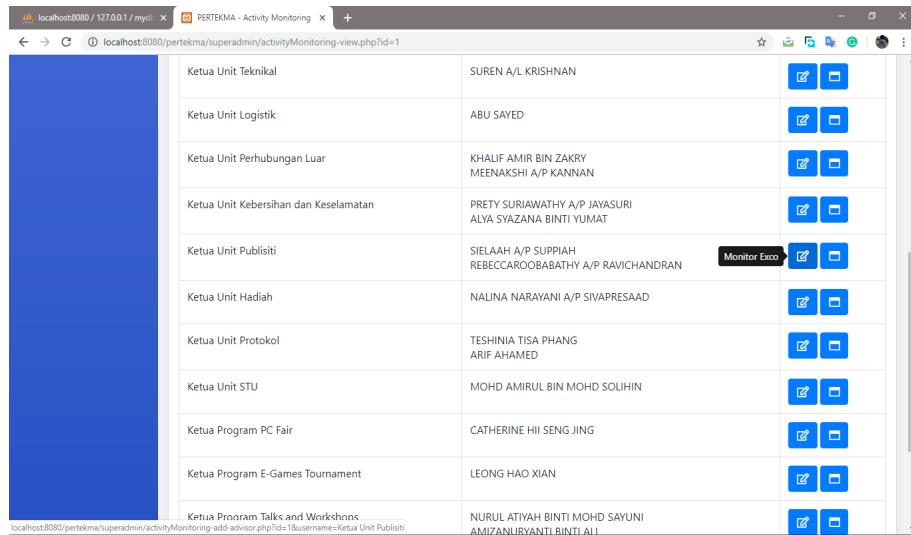
Below the table, a message says 'Showing 1 to 1 of 1 entries'. At the bottom of the page, the copyright notice is 'Copyright © PERTEKMA, FCSIT 2019'.

Figure 4.24 – List of Activity Successfully Done

Based on Figure 4.24 above shows the list of activity or program that has been

done. In this page, Superadmin are able to monitor the excos by viewing the list of Activity Log Note for each of the excos who are involved in the program/activity.

## ii) Monitor Exco Based on List of Activity



Ketua Unit	Nama
Ketua Unit Logistik	ABU SAYED
Ketua Unit Perhubungan Luar	KHALIF AMIR BIN ZAKRY MEENAKSHI A/P KANNAN
Ketua Unit Kebersihan dan Keselamatan	PRETY SURIAWATHY A/P JAYASURI ALYA SYAZANA BINTI YUMAT
Ketua Unit Publisiti	SIELAAH A/P SUPPIAH REBECCAROOBABATHY A/P RAVICHANDRAN
Ketua Unit Hadiah	NALINA NARAYANI A/P SIVAPRESAAD
Ketua Unit Protokol	TESHINIA TISA PHANG ARIF AHAMED
Ketua Unit STU	MOHD AMIRUL BIN MOHD SOLIHIN
Ketua Program PC Fair	CATHERINE HII SENG JING
Ketua Program E-Games Tournament	LEONG HAO XIAN
Ketua Program Talks and Workshops	NURUL ATIYAH BINTI MOHD SAYUNI AMIZANURYANTI BINTI ALI

Figure 4.25 – Manage Activity Log Note of the Exclos

Based on Figure 4.25, once Superadmin click the specific activity listed in the previous page as stated in Figure 4.18, the list of “jawatan kuasa pelaksana” appeared. At the moment this page showing all the name list for “jawatan kuasa pelaksana” however only the main excos is being monitor for their updates. Once Superadmin click the “Monitor Exco Button” as shown in Figure 4.19. This button will bring to another page of the specific Main Exco.

## iii) Monitor Exco Based on List of Activity

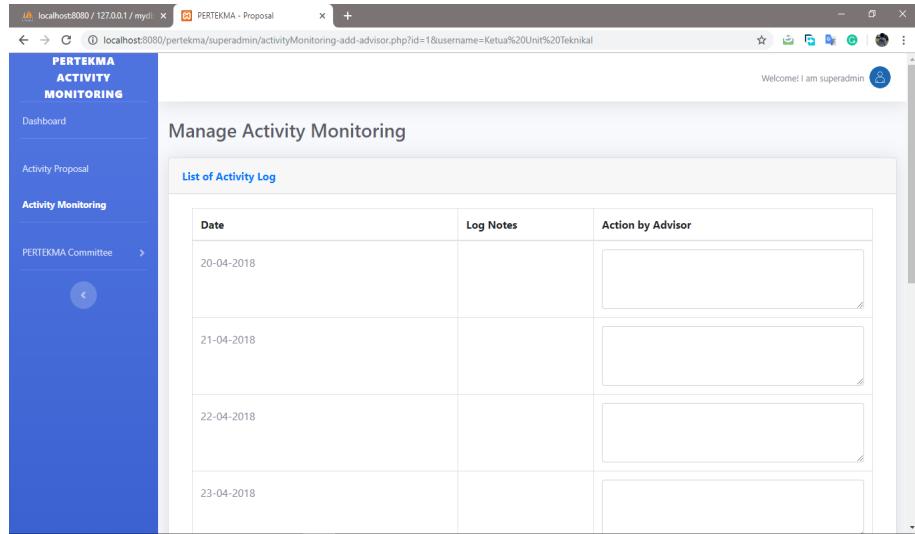


Figure 4.26 – View and Update Activity Log Note of the Excos

Figure 4.26 shows the Activity Log Note of the Exco, in this pages Superadmin is able to view the Exco's Log Note and then give review or comment if any to the Exco for any improvement in the future activities.

e) PERTEKMA Committee

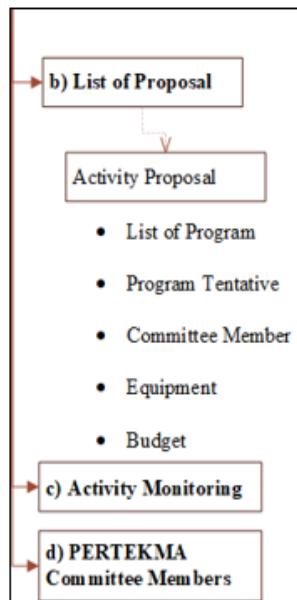
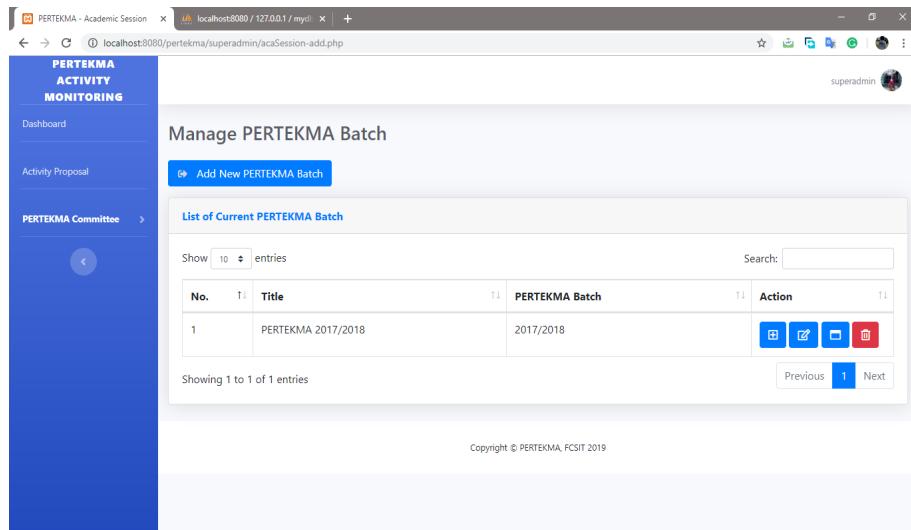


Figure 4.27 – The Last Access Module of the Superadmin is PERTEKMA Committee Members

As stated in the Figure 4.27 previously, PERTEKMA Committee Members is the most crucial section for Admin to update the data in order to proceed to the Activity Proposal and Activity Monitoring. The reason why is to ensure the Admin experiencing of less typing repeatedly of the same person in the Committee Member's sub-module of the Activity Proposal as shown in Figure 4.21. Clear vision for these features will explain in the section 4.3.3 Access Module for Admin.

Below is the brief explanation for Page PERTEKMA Committee:

### i) Manage PERTEKMA Batch Page

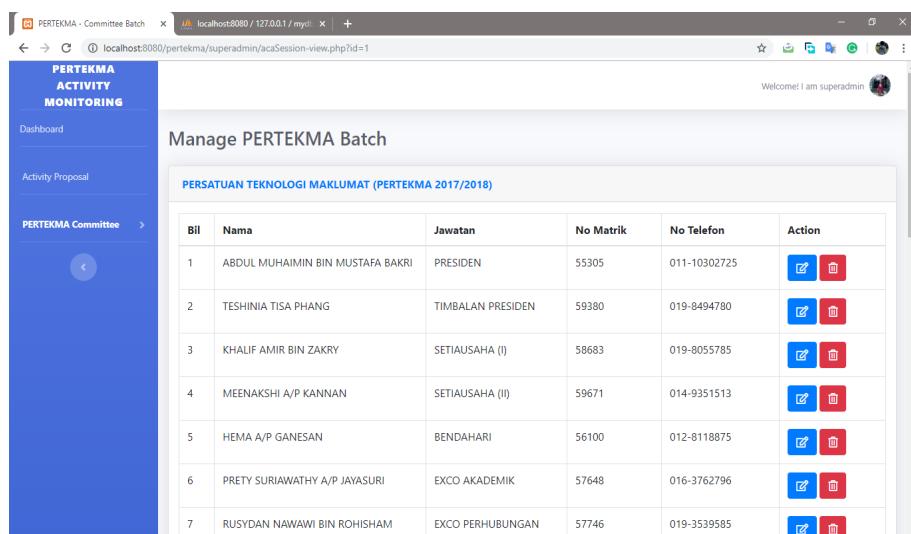


The screenshot shows a web application interface for managing PERTEKMA batches. The left sidebar has a blue header 'PERTEKMA ACTIVITY MONITORING' with 'Dashboard', 'Activity Proposal', and 'PERTEKMA Committee' options. The main content area is titled 'Manage PERTEKMA Batch' and shows a table titled 'List of Current PERTEKMA Batch'. The table has columns for 'No.', 'Title', 'PERTEKMA Batch', and 'Action'. It contains one entry: '1 PERTEKMA 2017/2018 2017/2018'. Below the table, it says 'Showing 1 to 1 of 1 entries'. At the bottom, there are 'Previous' and 'Next' buttons, and a copyright notice 'Copyright © PERTEKMA, FCSIT 2019'.

Figure 4.28 – Manage PERTEKMA Batch

Superadmin are able to add new PERTEKMA Batch, edit details of the current batch, view details or even delete it as shown in Figure 4.28. The list of current PERTEKMA Batch shown in the data table.

### ii) Details of Manage PERTEKMA Batch Page



The screenshot shows a web application interface for viewing details of a PERTEKMA batch. The left sidebar has a blue header 'PERTEKMA ACTIVITY MONITORING' with 'Dashboard', 'Activity Proposal', and 'PERTEKMA Committee' options. The main content area is titled 'Manage PERTEKMA Batch' and shows a table titled 'PERSATUAN TEKNOLOGI MAKLUMAT (PERTEKMA 2017/2018)'. The table has columns for 'Bil', 'Nama', 'Jawatan', 'No Matrik', 'No Telefon', and 'Action'. It contains seven entries, each with a name, position, ID, phone number, and edit/delete icons. The names listed are: ABDUL MUHAIMIN BIN MUSTAFA BAKRI, TESHINIA TISA PHANG, KHALIF AMIR BIN ZAKRY, MEENAKSHI A/P KANNAN, HEMA A/P GANESAN, PRETY SURIAWATHY A/P JAYASURI, and RUSYDAN NAWAWI BIN ROHISHAM.

Figure 4.29 – View Details of PERTEKMA Batch

Based on Figure 4.29, it shows the name list of PERTEKMA Batch 2017/2018.

In this page Superadmin are able to keep track the details of the committee members record. Superadmin also can edit their details and delete it from the record.

#### 4.3.3 Access Module for Admin

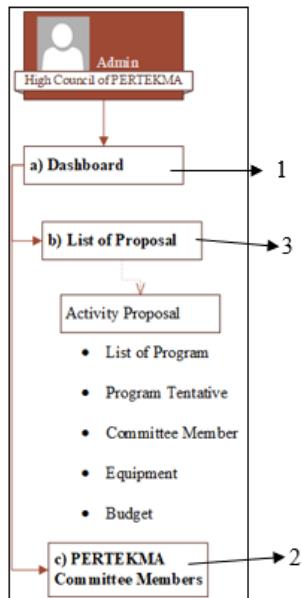


Figure 4.30 – Access Module for Admin

Based on Figure 4.30 above, the numbering shown a sequence for Admin to follow up once he/she login into the system. The sequences consist of Dashboard (1), followed by PERTEKMA Committee Members (2) and List of Proposal (3). Admin have to follow the sequence correctly in order to understand the flow of the system as well. This is due to the data in each module are related and connected to each other.

### a) Dashboard-Admin

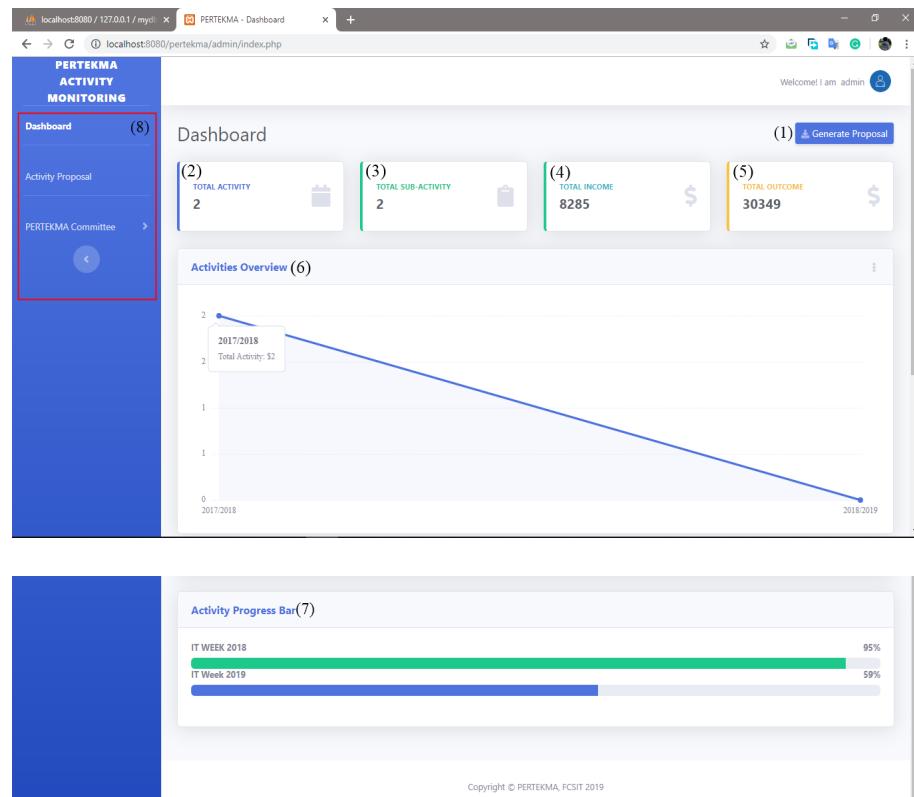


Figure 4.31 – Superadmin Dashboard

Figure 4.31 shows the dashboard for the Admin once he/she login into the system.

In the Dashboard, it will count and summarize all the related information to the Admin.

It include:

- a) button for generate proposal (print proposal)-(1)
- b) the total number of activities that has been done yearly-(2)
- c) total number of sub-activities throughout monthly-(3)
- d) total income (“Anggaran Pendapatan”) for all Activity Proposal-(4)
- e) total outcome (“Anggaran Perbelanjaan”) for all Activity Proposal-(5)
- f) Statistical Data View of Activities Overview to show number of Activity Proposal that being handled by PERTEKMA Batch-(6)
- g) Activity Progress Bar shows percentage of updates in the Activity Proposal form-(7)

h) navigation items that consist of Dashboard, Activity Proposal, Activity Monitoring and PERTEKMA Committee-(8)

b) **List of Proposal**

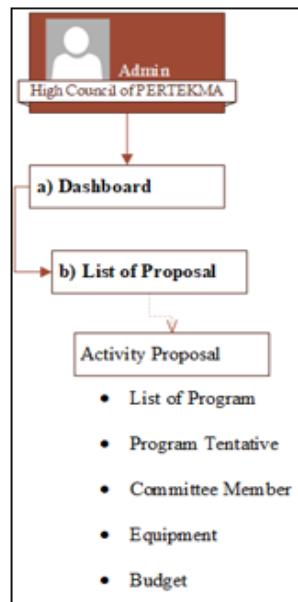
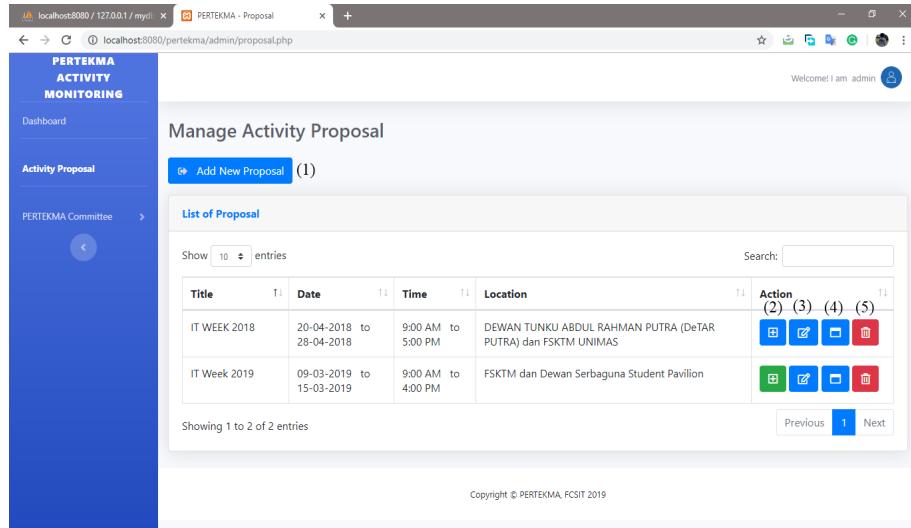


Figure 4.32 – Access Module in the List of Proposal

This section will discuss in detail the access module for List of Proposal and its sub-module which is the Activity Proposal. The dependency of the sub-module in the Activity Proposal is defined based on the proposal Id. The flow of this access module are illustrated based on Figure 4.32 above.



Manage Activity Proposal

Add New Proposal (1)

List of Proposal

Show 10 entries Search:

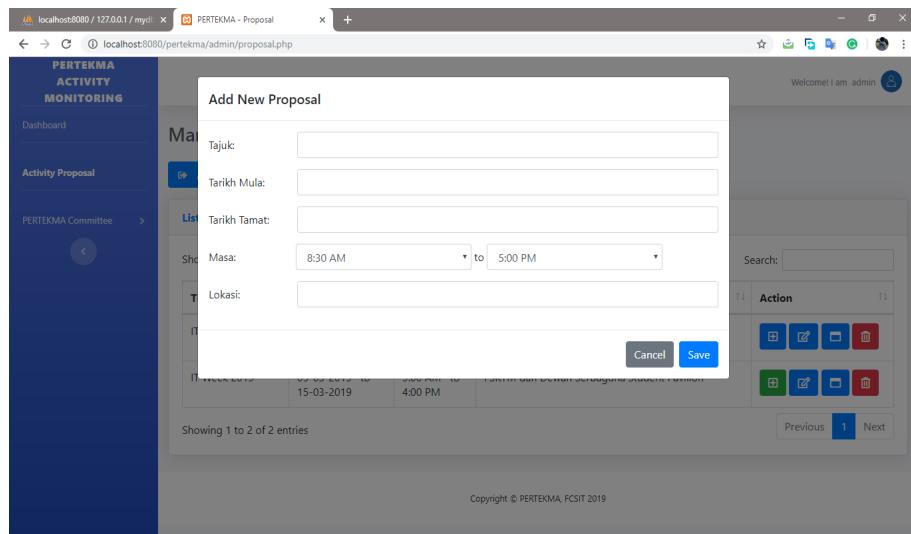
Title	Date	Time	Location	Action
IT WEEK 2018	20-04-2018 to 28-04-2018	9:00 AM to 5:00 PM	DEWAN TUNKU ABDUL RAHMAN PUTRA (DeTAR PUTRA) dan FSKTM UNIMAS	(2) (3) (4) (5)
IT Week 2019	09-03-2019 to 15-03-2019	9:00 AM to 4:00 PM	FSKTM dan Dewan Serbaguna Student Pavilion	(3) (4) (5)

Showing 1 to 2 of 2 entries

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Figure 4.33 – List of Activity Proposal

Figure 4.33 shows the list of added activity proposal. In this page, Admin are able to add the new proposal (1), add details for activity proposal (2), edit the list proposal (3), print the proposal (4) and delete the proposal (5). The blue (+) button indicates the details of the activity proposal already being update while the green (+) button indicates that the proposal does not being update yet.



Add New Proposal

Tajuk:

Tarikh Mula:

Tarikh Tamat:

Show Masa:  to

Lokasi:

Cancel Save

Showing 1 to 2 of 2 entries

Copyright © PERTEKMA, FCSIT 2019

Figure 4.34 – Add New Proposal

Based on Figure 4.34, Admin are required to fill in each of the field in the Add New Proposal Moda. Each field of the form are compulsory for Admin to fill in. After

the new proposal added, Admin can proceed to the next stage of the Activity Proposal.

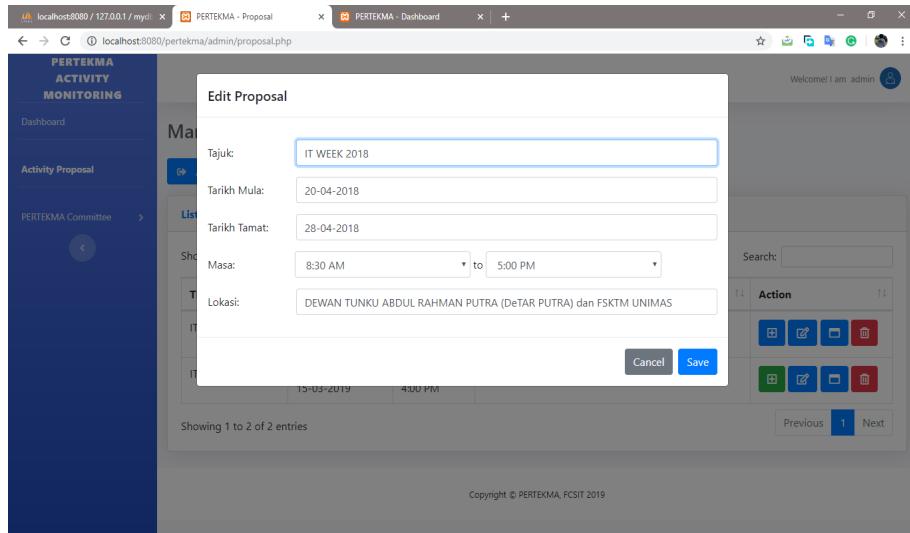


Figure 4.35 – Edit Activity Proposal

Figure 4.35 shows the edit module of activity proposal. In this module, Admin are able to edit the details of the proposal as shown in the Figure 4.35 above.

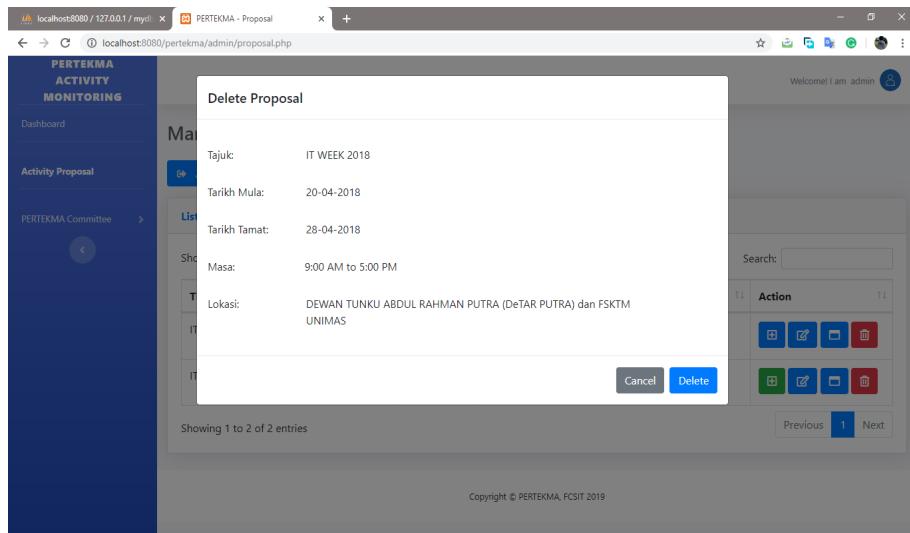


Figure 4.36 – Delete Activity Proposal

In the Delete Proposal module, the delete confirmation module will appear and shows the detail of the proposal before deleting it as shown in the Figure 4.36.

In the Activity Proposal page, the drop-down list consist of List of Program, Program Tentative, Committee Members, Equipment and Budget. The details for each of this sub-module are described as below:

### i) Update proposal details (Activity Proposal Form)

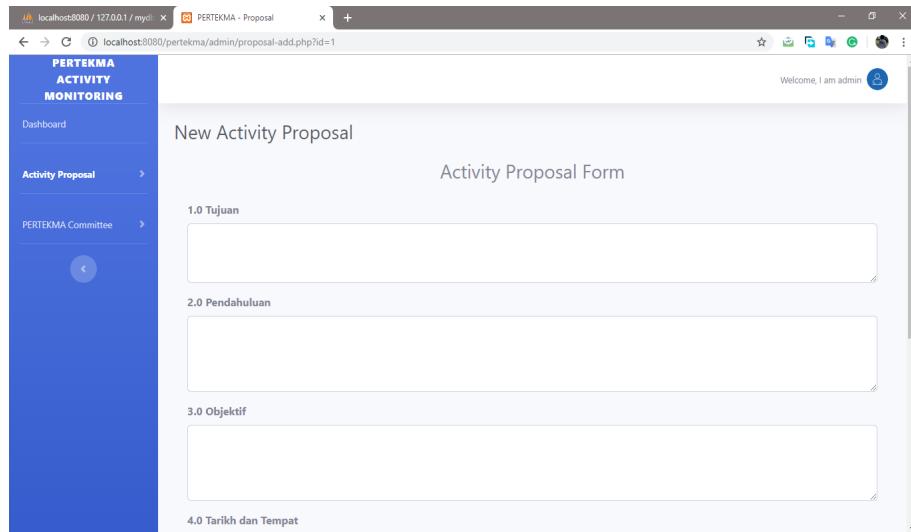


Figure 4.37 – Activity Proposal Form

Figure 4.37 shows the activity proposal form. In this form admin are required to fill this form with the related contents and information needed. Once all field is successfully submitted, the page will bring Admin to the List of Program Page.

### ii) Manage Program or Activity Details (List of Program)

This section provide the list of Program or Activity Details in the Proposal. Admin can simply manage this section by add, edit, view or even delete the Program details.

Figure 4.38 – Add Program or Activity Details

Based on Figure 4.38, Admin are required to fill in the program details and assign the excos who are responsible for the activity.

Figure 4.39 – Edit Program or Activity Details

In Figure 4.39, admin are able to edit each detail in each of the field as their need. Admin just simply edit the detail and save it or click cancel to close the edit Module.

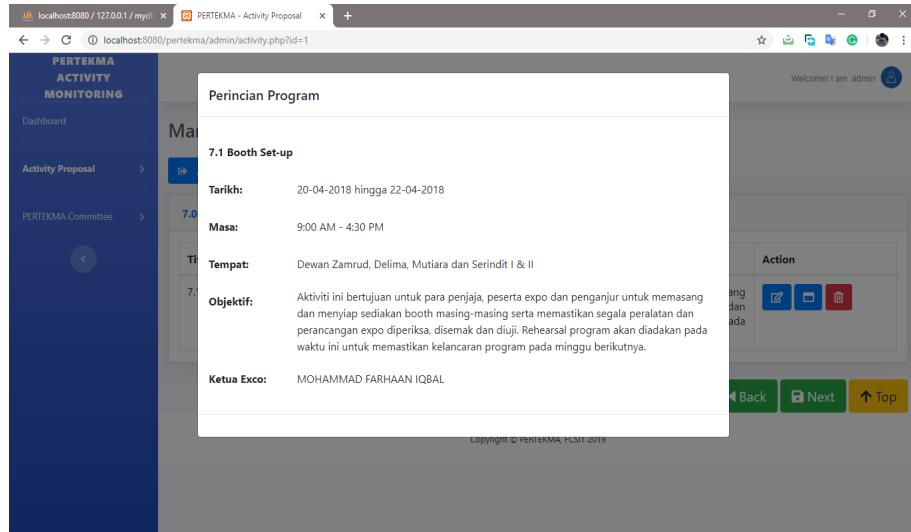


Figure 4.40 – View Program or Activity Details

Based on Figure 4.40, admin can simply read the detail in the View Program module and just simply click any space in the screen to dismiss the Module.

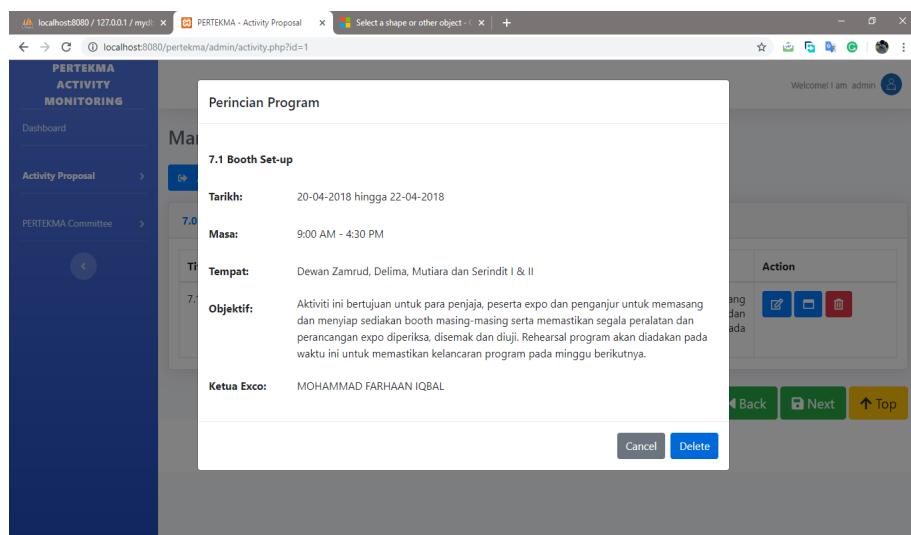
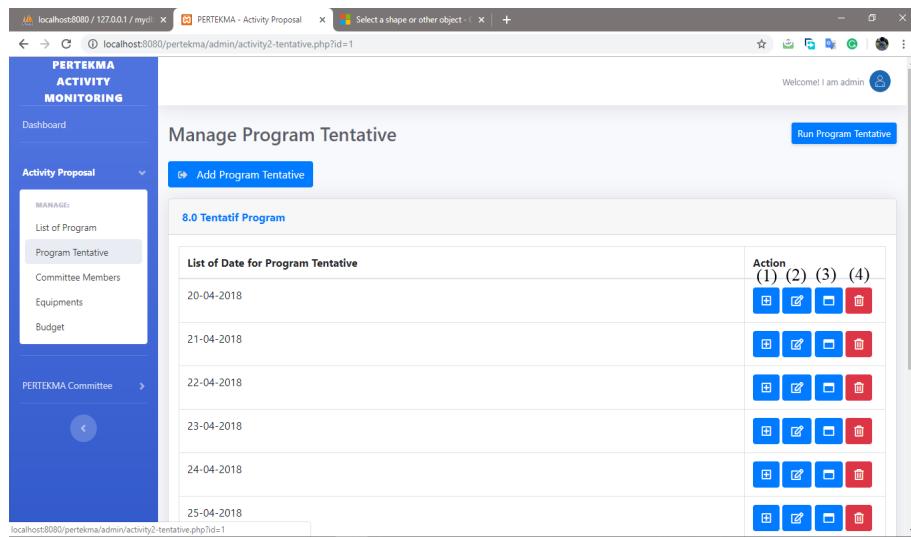


Figure 4.41 – Delete Program or Activity Details

Admin can simply click the delete button in the module to delete the Program/Activity from the list as shown in the Figure 4.41 above.

### iii) Manage Program Tentative

In Manage Program Tentative Page, admin can manage the dates of the Program by simply add new date, edit or change the date of the program tentative, view details for each of the date or even delete it. All this action button are provided in the column Action in the table.



The screenshot shows a web application interface for managing program tentative dates. The left sidebar has a 'PERTEKMA ACTIVITY MONITORING' logo and a 'Activity Proposal' section with 'List of Program', 'Program Tentative' (which is selected and highlighted in blue), 'Committee Members', 'Equipments', and 'Budget'. The main content area is titled 'Manage Program Tentative' with a 'Run Program Tentative' button. Below is a table titled '8.0 Tentatif Program' with a header 'List of Date for Program Tentative'. The table lists dates from 20-04-2018 to 25-04-2018. To the right of each date is an 'Action' column with four buttons: a blue square (1), a blue square with a diagonal line (2), a blue square with a person icon (3), and a red square with a trash bin icon (4).

	Action	(1)	(2)	(3)	(4)
20-04-2018					
21-04-2018					
22-04-2018					
23-04-2018					
24-04-2018					
25-04-2018					

Figure 4.42 – List of Date for Program Tentative

Basically, Figure 4.42 shows the list of date for program tentative. This list based on how long the activity are going to be held as stated in the Activity Proposal. In order to manage the details of the Program Tentative, Admin can simply use the button provided in the Action column. (1) indicates for add details of Program Tentative, (2) is change the date in the list, (3) is view Program Tentative and (4) delete the date from the list.

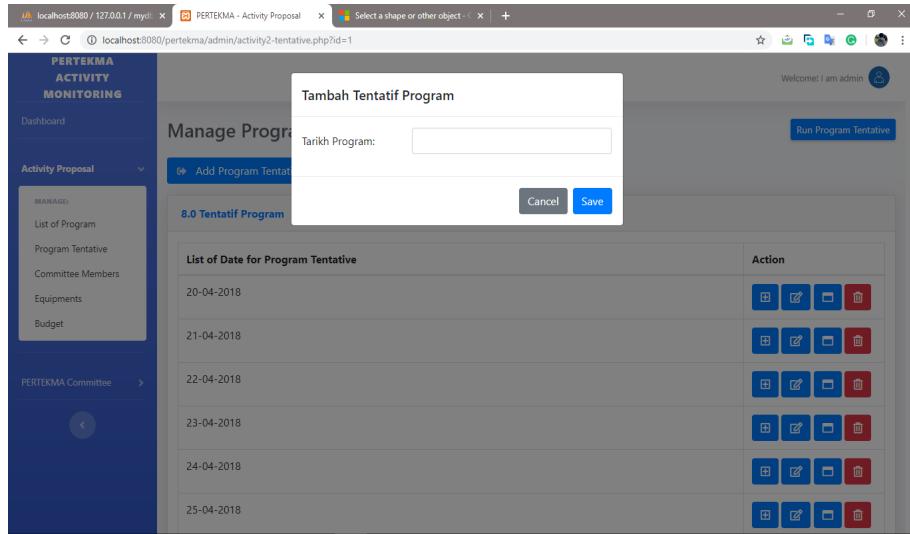


Figure 4.43 – Add New Date Program Tentative

Figure 4.43 shows the Module to add a new date, Admin should add the dates for Program before proceeds to the Program Tentative. This list of dates will appear in the table as shown in Figure 4.42 above.

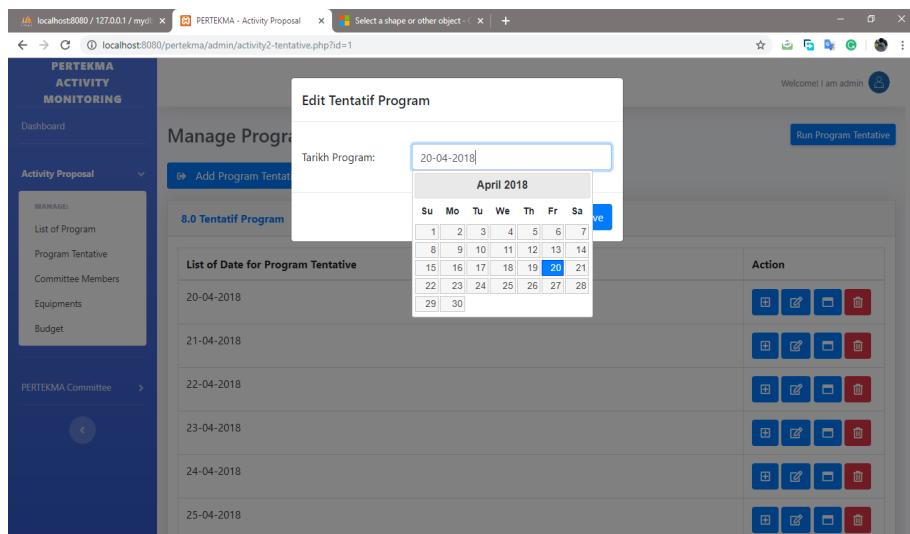


Figure 4.44 – Edit Date Program Tentative

Figure 4.44 shows the Module to edit the existing date in the list which is button (2) as shown in Figure 4.42, Admin can simply choose the new date in the date picker provided in edit Module above.

Figure 4.45 – Add Details for Program Tentative

Figure 4.45 shows the dynamic form to add details for program tentative when Admin click the add details button (1) as stated in Figure fig:chap436. Admin can simply click the plus (+) button to add more details.

Masa	Acara	Lokasi	Action
9:00 AM to 4:30 PM	<ul style="list-style-type: none"> <li>• PC FAIR BOOTH SETUP</li> <li>• HALL SETUP</li> <li>• REHEARSAL</li> </ul>	DeTAR	<span>(1)</span> <span>(2)</span>

Figure 4.46 – View Details of Program Tentative

Figure 4.46 show the details of the program tentative after Admin successfully add the details of the program tentative shown in the Figure 4.40, this list basically show the time, activity are going to held and location of the events. In this list, admin can simply edit the details (1) or delete (2) it as they want. The process of deleting

and add the details is similar to the previous Module.

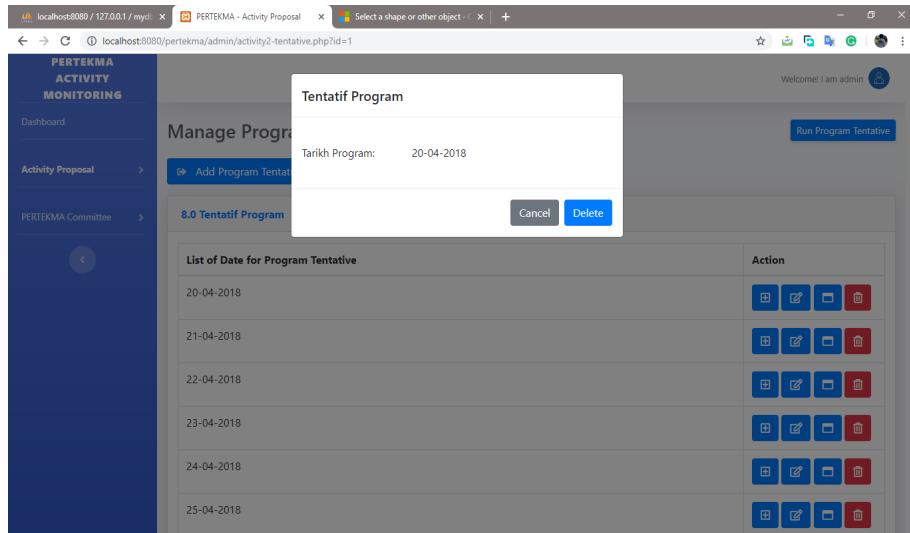


Figure 4.47 – Delete module for Program Tentative

This Module basically delete the entire details of Program Tentative once the Admin click the delete button as shown in Figure 4.47.

#### iv) Manage Guest

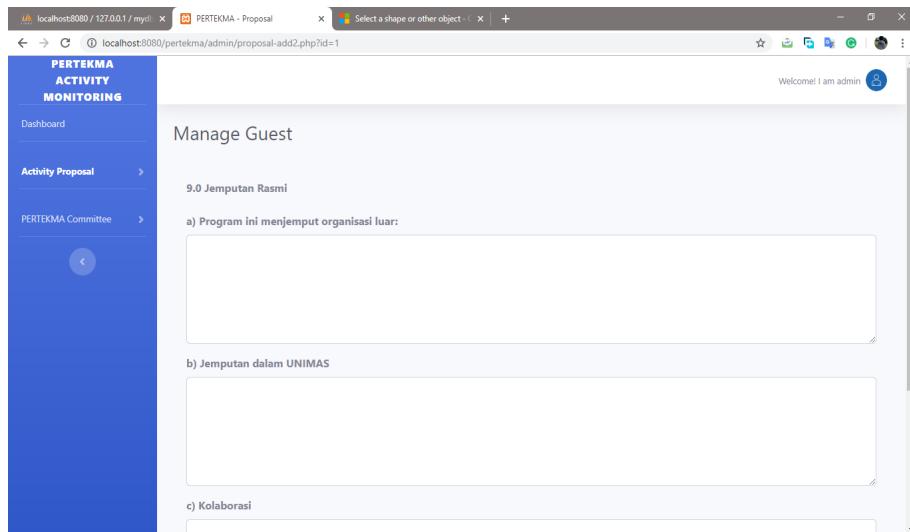
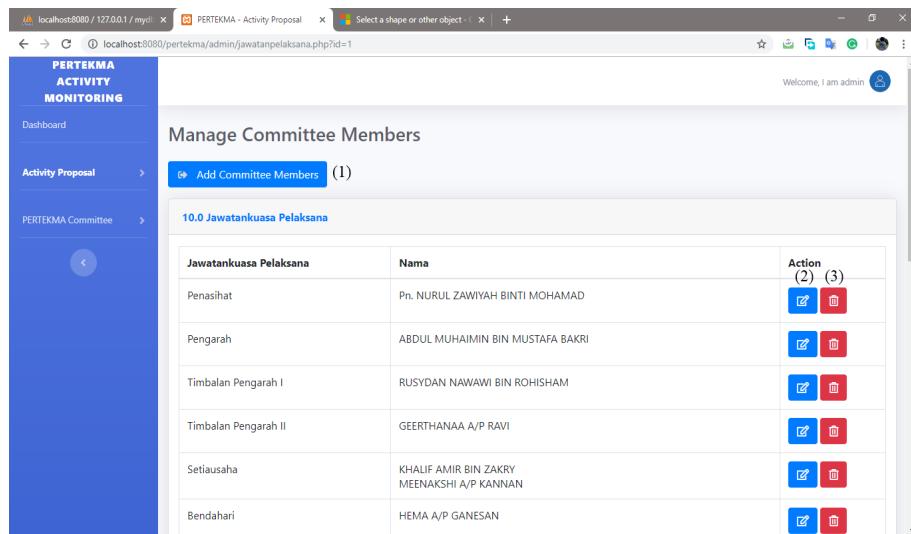


Figure 4.48 – Add List of Guest

In this section, the form provided for the guest or “Jemputan Rasmi” who attend or involved in the activity. Based on Figure 4.48, the guest is divided into three section or division. The Admin is able to add the guests as needed in the field provided.

#### v) Manage Committee Members

In the Manage Committee Members Page, this page basically manage the details of the committee members who are involved in the activity or the program. This committee members will define their responsibility and their job scope along the activity or program. In this page Admin has an authority to assign the username and password for “Ahli Jawatankuasa” to access the system as well.



Jawatankuasa Pelaksana	Nama	Action (2) (3)
Penasihat	Pn. NURUL ZAWIYAH BINTI MOHAMAD	 
Pengarah	ABDUL MUHAIMIN BIN MUSTAFA BAKRI	 
Timbalan Pengarah I	RUSYDAN NAWAWI BIN ROHISHAM	 
Timbalan Pengarah II	GEERTHANAA A/P RAVI	 
Setiausaha	KHALIF AMIR BIN ZAKRY MEENAKSHI A/P KANNAN	 
Bendahari	HEMA A/P GANESAN	 

Figure 4.49 – List of Committee Members of the Activity or Program

In this list, the details such as name and their position “Jawatankuasa Pelaksana” shown in the table provided in Figure 4.49. Each row of data table have the edit (2) and delete (3) button to manage each of it. Admin can simply manage the list with this button. (1) is to add a new committee member.

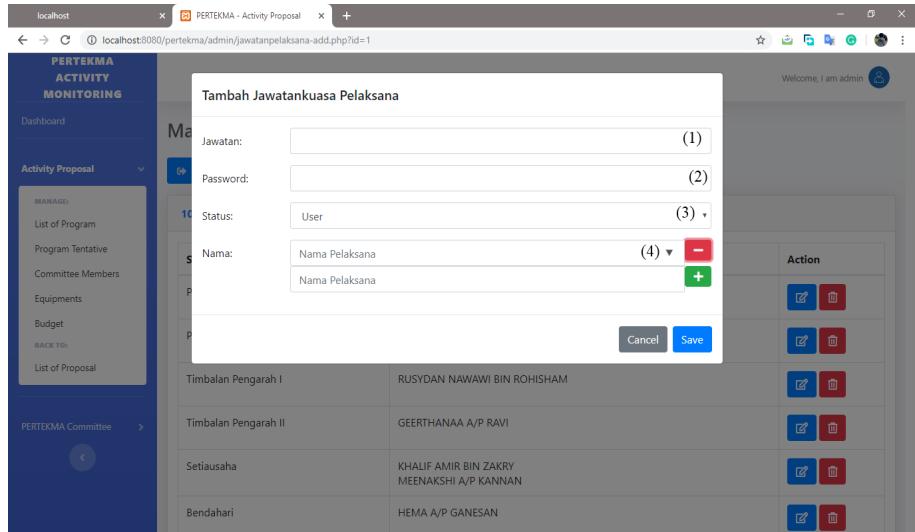


Figure 4.50 – Add New Committee Members

Once Admin click Add Committee Members button (1) as stated in Figure 4.49, a Modul for ‘Tambah Jawatankuasa Pelaksana’ will pop out on the screen as shown in Figure 4.50 above. In this Modul, Admin will add their “Jawatan” as in (1), Password to access into the system as in (2), Status of the “Jawatankuasa Pelaksana” as in (3) and Name of the person who’s in charge the Activity (4). The login Status are consisting of **User, Admin and Superadmin**. This status will define their roles in the system. In field number (4), Admin can add the person in the “Jawatankuasa Pelaksana” by looking the name in the dropdown list provided. If the person who’s not listed in the drop-down list, Admin can simply add the person by typed a new name in the field as in (4). This new name will be added into the database and will appear in the drop-down list for future Activity Proposal if the same person appear again in the “Jawatankuasa Pelaksana”. The purposed of this drop-down list for the name is to decrease the 2.1.1 Access Module for Admin’s experience of key-in the same person repetitively over and over again. In order to able this drop-down feature, Admin is compulsory to add the name list for the PERTEKMA Committee Members in the

**Section 4.3.3 Access Module for Admin** number (2) as stated previously. “-” button indicates to drop the name while “+” button to add more names from the drop-down list.

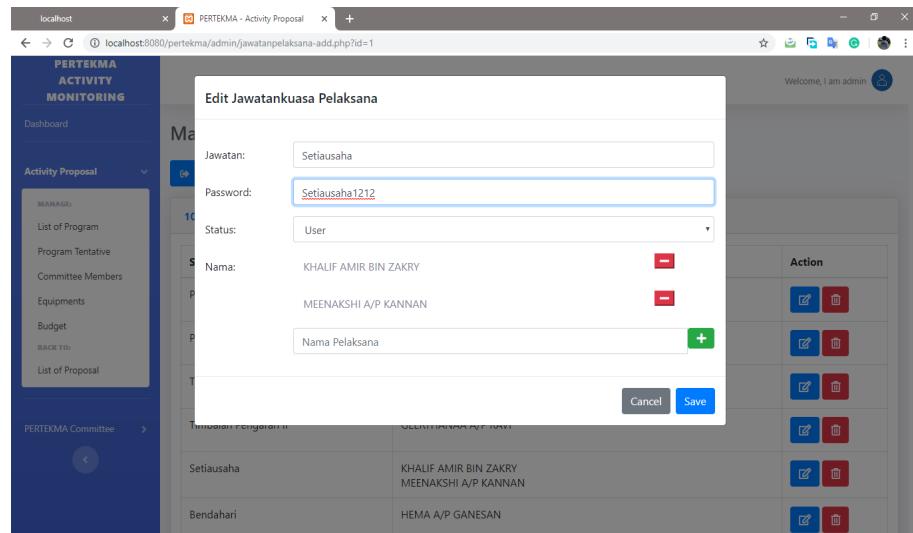


Figure 4.51 – Edit Committee Members

Based on Figure 4.51, Admin can simply edit the details of the Committee Members once Admin clicked the edit button as in (2) in Figure 4.49. The “-” button indicates to drop the name from the list and “+” button is to add more name into the list.

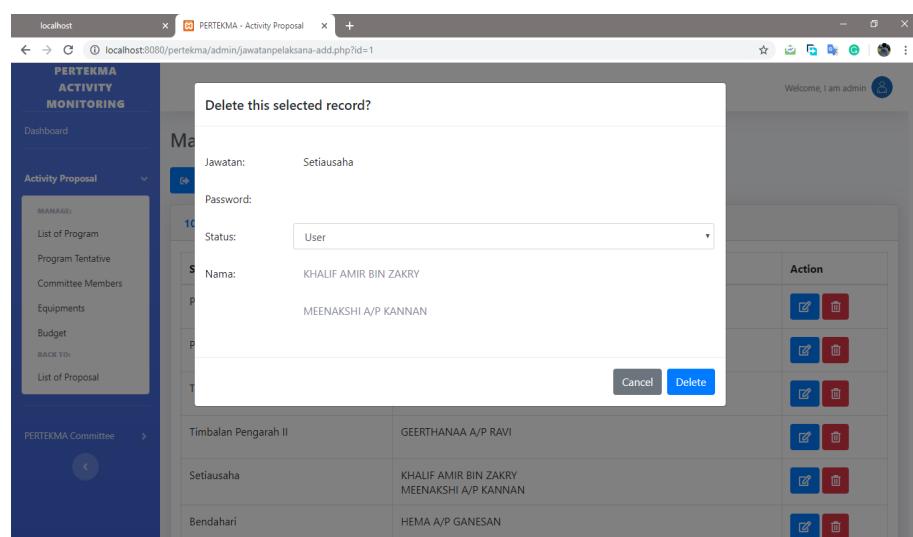
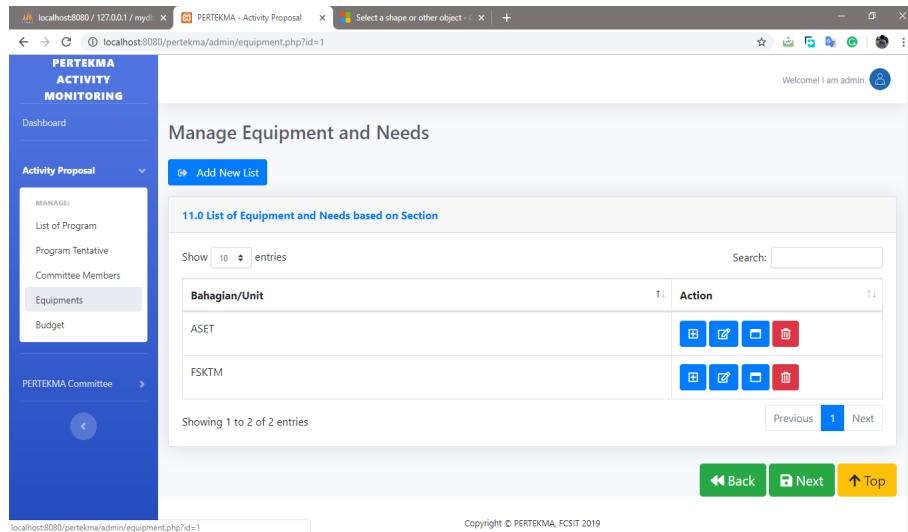


Figure 4.52 – Delete Committee Members

This delete Module will delete the entire record as it is shown in the Figure

4.52.

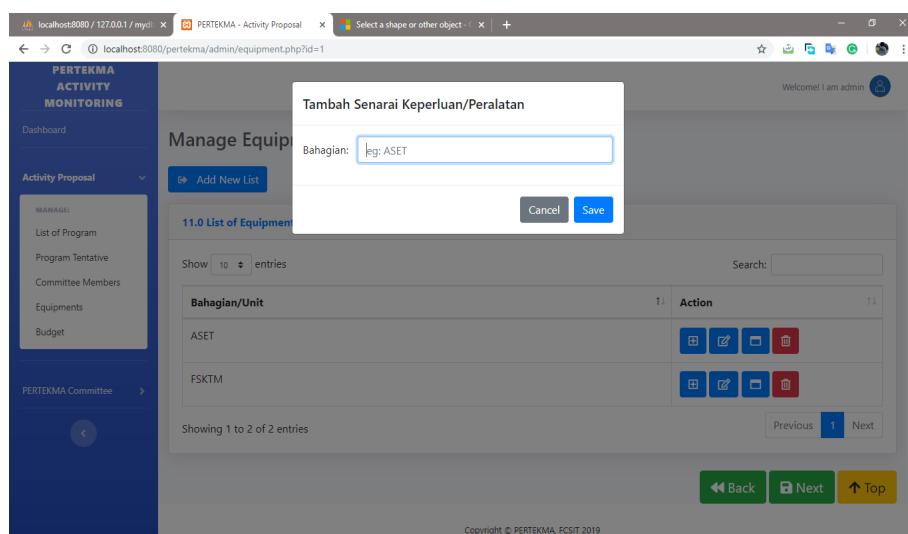
#### vi) Manage Equipment and Needs



The screenshot shows a web-based application interface for managing equipment and needs. The left sidebar has a 'PERTEKMA ACTIVITY MONITORING' logo and a 'Dashboard' link. Under 'Activity Proposal', there are links for 'List of Program', 'Program Tentative', 'Committee Members', 'Equipments' (which is highlighted in blue), and 'Budget'. The main content area is titled 'Manage Equipment and Needs' and contains a sub-section '11.0 List of Equipment and Needs based on Section'. It shows a table with two entries: 'ASET' and 'FSKTM', each with four action buttons (Edit, View, Delete, and another blue button). Below the table, it says 'Showing 1 to 2 of 2 entries'. At the bottom are navigation buttons for 'Back', 'Next', and 'Top'.

Figure 4.53 – List of Equipment and Need based on the “Unit”

Based Figure 4.53, the data table shows the list of the “Unit” or “Bahagian” added by the Admin. In each of the list consist of add, edit, view and delete button to manage it details provided in Action column.



The screenshot shows a modal dialog box titled 'Tambah Senarai Keperluan/Peralatan'. Inside, there is a text input field labeled 'Bahagian:' with the value 'leg: ASET'. At the bottom of the dialog are 'Cancel' and 'Save' buttons. The background shows the 'Manage Equipment and Needs' page with the same table structure as Figure 4.53.

Figure 4.54 – Add Unit Title

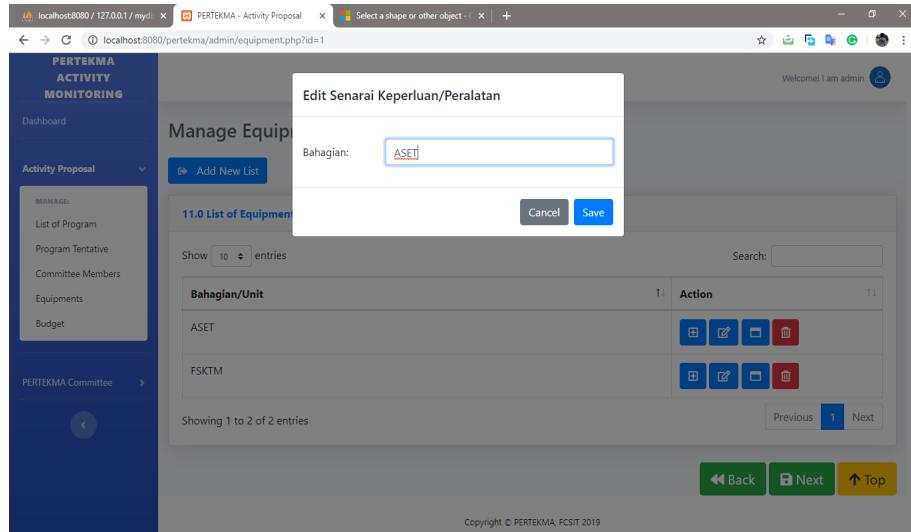


Figure 4.55 – Edit Unit Title

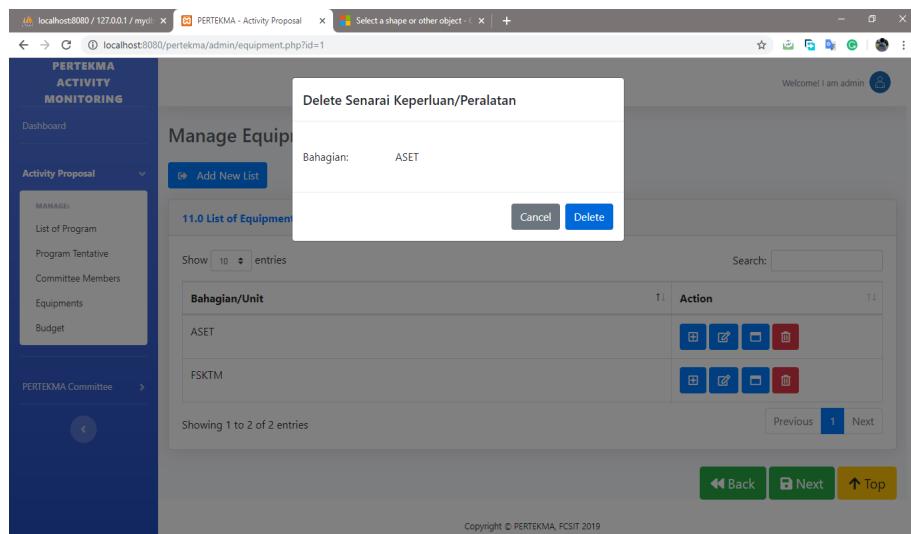


Figure 4.56 – Delete Unit from the List

Figure 4.54 shows Module to add new unit. Figure 4.55 shows Module to edit

Unit Title and Figure 4.56 shows the Module to Delete Unit from the List.

Manage Equipments and Requirements

11.0 Senarai Keperluan/Peralatan

Keperluan:

Kuantiti:

Unit:

Catatan:

**+**

**Back** **Next** **Top**

Figure 4.57 – Form to Add Details of Equipment and Requirement Based on the Unit

Figure 4.57 shows dynamic form to add details based on the Unit requirements. This form consist of “Keperluan”, “Kuantiti”, “Unit” and “Catatan”. “+” indicates to add more field. In the Unit field, the drop-down button consist of “Logistik”, “Teknikal”, “Keselamatan” and “Pengangkutan” to be choose.

Manage Equipments and Needs

11.0 List of Equipments and Needs based on Section

Keperluan	Kuantiti	Unit	Catatan	Action
Kerusi DeTAR	70	Logistik	Untuk tujuan menyediakan tempat duduk kepada peserta	
Meja Besar	10	Logistik	Untuk kegunaan E-Games dan PC Fair	
Portable Stage	1	Logistik	Untuk menyediakan pentas semasa IT run	

Showing 1 to 3 of 3 entries

**Back** **Top**

Figure 4.58 – View Page of the Unit Details

Based on Figure 4.58, the data table shows the list of Equipment and Requirements once the Admin finished added the details. Admin is able to edit and delete each of it with the action button provided in the Action Column. The process of edit

and delete of the details are the same as the previous Module.

### vii) Manage Budget

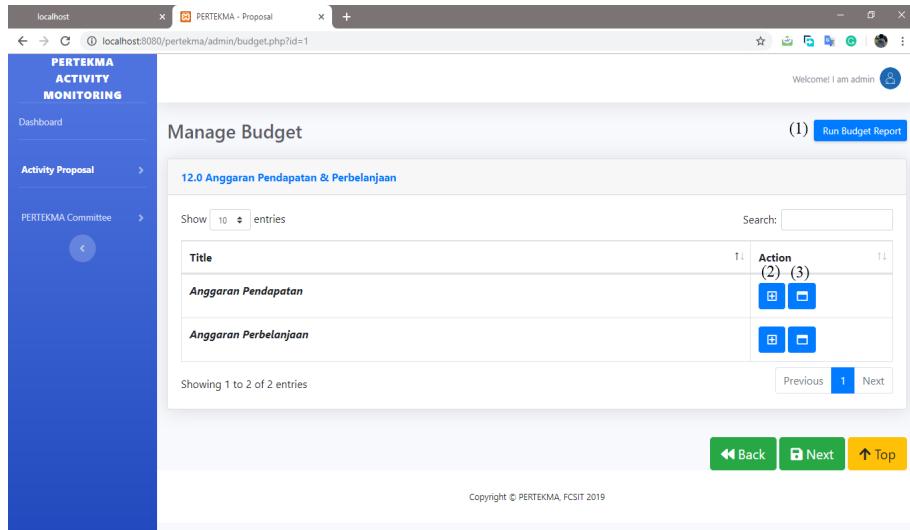


Figure 4.59 – Page to Manage Budget

Based Figure 4.59, Run Budget Report Button as in (1) is to run the full report for “Anggaran Pendapatan” and “Anggaran Perbelanjaan” records, (2) to add details and (3) to view the records. Refer to **Figure 4.14: Manage Budget** in the Superadmin section for details.

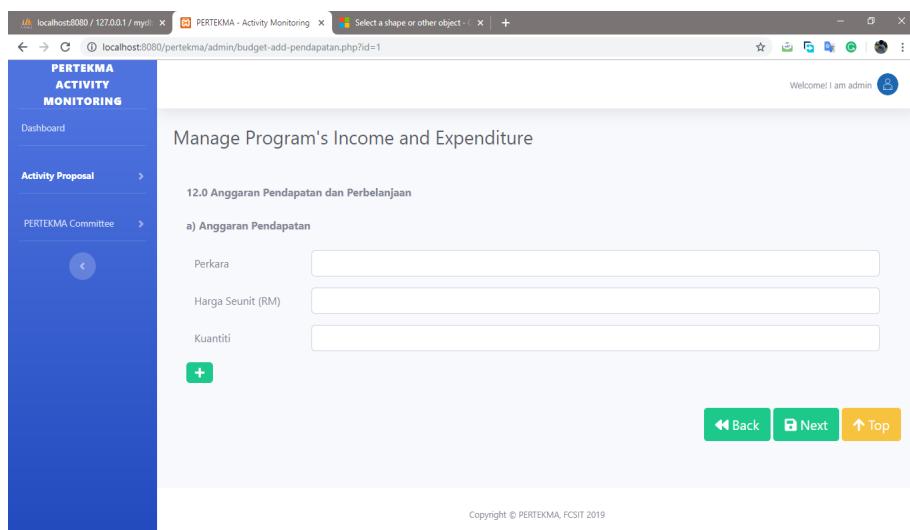


Figure 4.60 – Add Details form for Budget “Anggaran Pendapatan”

Figure 4.60 shows the dynamic form to add the details for Program Income and Expenditure. "+" button indicates the add more fields to add more details.

Perkara	Harga Seunit(RM)	Kuantiti	Jumlah
Dana dari PERTEKMA	1000.00	12	1000
Sewa booth PC Fair	300.00	4	1200
Penaja	6000.00	1	6000
<b>Total</b>			<b>8200</b>

Perkara	Harga Seunit (RM)	Kuantiti	Jumlah
Cenderahati	100.00	102	1000
Printing (Tag nama, banner, poster)	500.00	1	500

Figure 4.61 – Run Budget Report

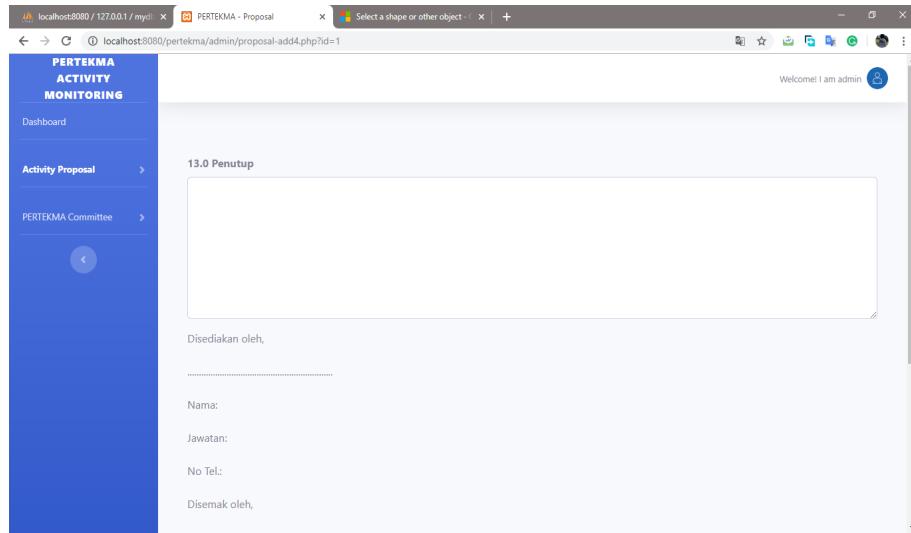
Figure 4.61 shows the report for the “*Anggaran Pendapatan*” and “*Anggaran Perbelanjaan*” once Admin clicked Run Budget Report Button (1) as stated in Figure 4.59.

Perkara	Harga Seunit(RM)	Kuantiti	Jumlah	Action
Dana dari PERTEKMA	1000.00	12	1000	
Sewa booth PC Fair	300.00	4	1200	
Penaja	6000.00	1	6000	
<b>Total</b>			<b>8200</b>	

Figure 4.62 – View Budget in “*Anggaran Pendapatan*”

Figure 4.62 shows the report for the “*Anggaran Pendapatan*” once Admin clicked View Button (3) as stated in Figure 4.62. In the data table, Edit and Delete Button are provided in the Action Column to manage the list specifically.

### viii) End Section of the Activity Proposal



Disediakan oleh,

Nama:

Jawatan:

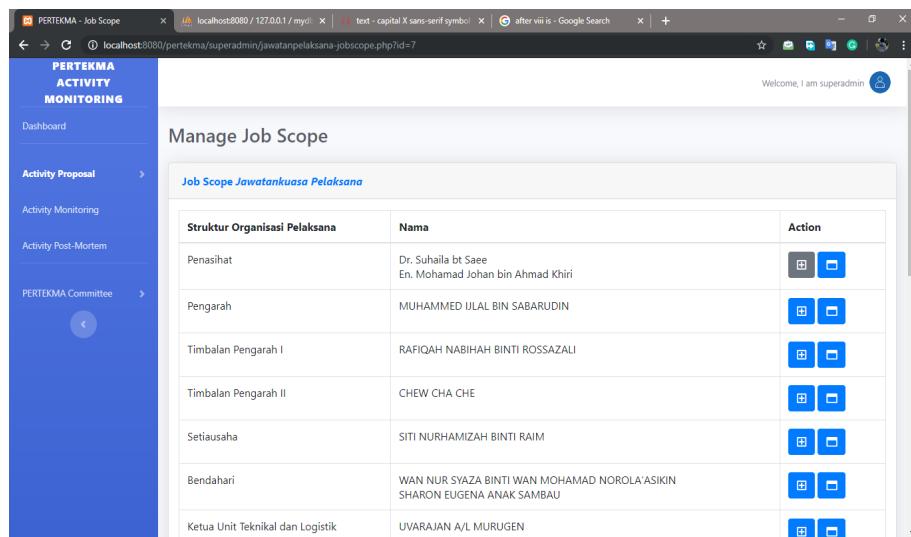
No Tel.:

Disemak oleh,

Figure 4.63 – End Section of the Activity Proposal Form

Figure 4.63 shows the last section of the Activity Proposal form that need to be filled by the Admin. Once finished, Admin will clicked "Update" button to save all the records and will return to the List of Proposal Page.

### ix) Manage Job Scope for "Jawatankuasa Pelaksana"



Struktur Organisasi Pelaksana	Nama	Action
Penasihat	Dr. Suhaila bt Saeed En. Mohamad Johan bin Ahmad Khiri	
Pengarah	MUHAMMED IJLAL BIN SABARUDIN	
Timbalan Pengarah I	RAFIQAH NABIHAH BINTI ROSSAZALI	
Timbalan Pengarah II	CHEW CHA CHE	
Setiausaha	SITI NURHAMIZAH BINTI RAIM	
Bendahari	WAN NUR SYAZA BINTI WAN MOHAMAD NOROLA'ASIKIN SHARON EUGENA ANAK SAMBAU	
Ketua Unit Teknikal dan Logistik	UVARAJAN A/L MURUGEN	

Figure 4.64 – Manage Job Scope for List of "Jawatankuasa Pelaksana"

Figure 4.64 shows the list of "Jawatankuasa Pelaksana" and to manage the job scope of the "Jawatankuasa Pelaksana", Admin must clicked the add button to add the

details of their job scope and clicked View Button to view in details of the job scope for each of them.

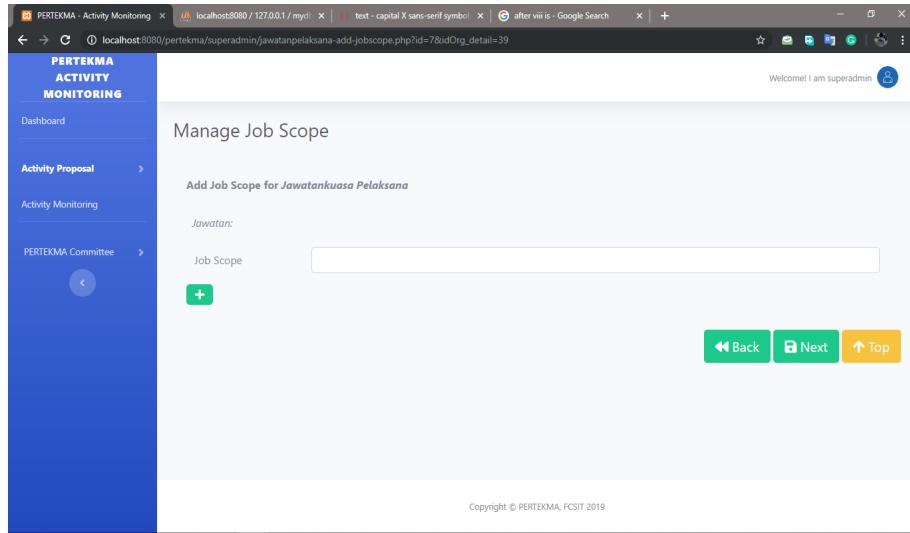


Figure 4.65 – Add Job Scope for List of "Jawatankuasa Pelaksana"

Figure 4.65 shows the dynamic form to add the details of the Job Scope of the "Jawatankuasa Pelaksana". Admin can add the details of their job scope as many as he/she want.

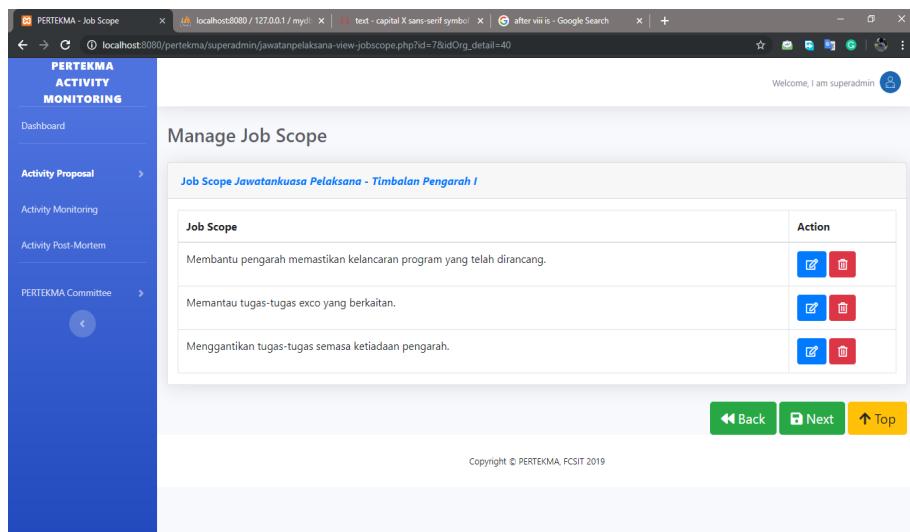


Figure 4.66 – View Job Scope for List of "Jawatankuasa Pelaksana"

Figure 4.66 above shows the details of the Job Scope of the "Jawatankuasa Pelaksana". Once Admin clicked view specific Job Scope of "Jawatankuasa Pelaksana", the page will show the list of their job scope as added previously.

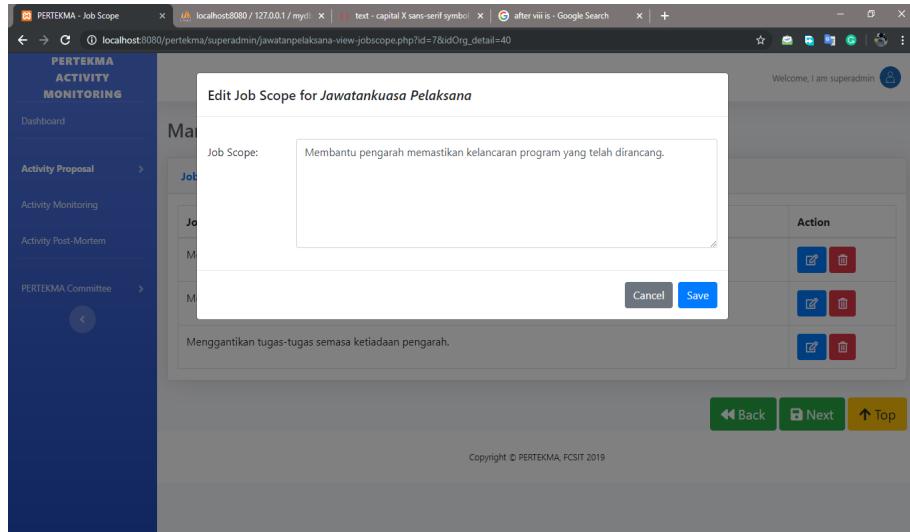


Figure 4.67 – Edit Job Scope Details

Figure 4.67 above shows the edit Module to edit the details of the Job Scope of the "Jawatankuasa Pelaksana". Once Admin clicked edit button in the specific Job Scope of the "Jawatankuasa Pelaksana", the edit module displayed will show the details of the job scope as added previously. Save once the changing has made and Cancel to dismissed the Edit Module.

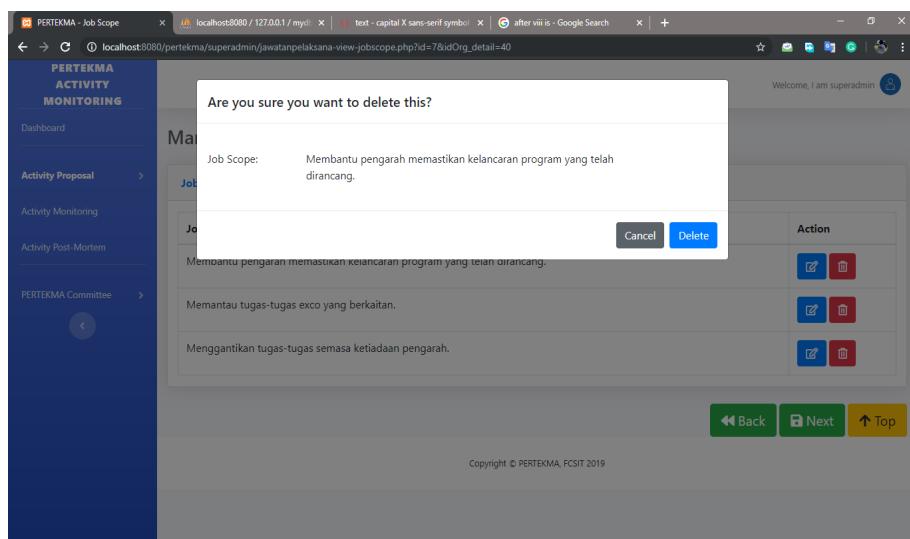


Figure 4.68 – Delete Job Scope Details

Figure 4.68 above shows the Delete Module to Delete the details of the Job Scope of the "Jawatankuasa Pelaksana". Once Admin clicked delete button in the

specific Job Scope of the "Jawatankuasa Pelaksana", the Delete module displayed as shown in Figure 4.68. Delete once Admin confirmed to delete it and Cancel to dismissed the Delete Module.

### c) Activity Post-Mortem

Figure 4.69 – Update the Activity Post-Mortem

Figure 4.69 above shows the form for Activity Post-Mortem. In this section, Admin is required to filled the achievements of the activity completions based on the objectives stated in the Activity Proposal previously. Then, clicked Update button to update the form. The Activity Post-Mortem is basically the end or the completion of the activity.

### d) PERTEKMA Committee Members

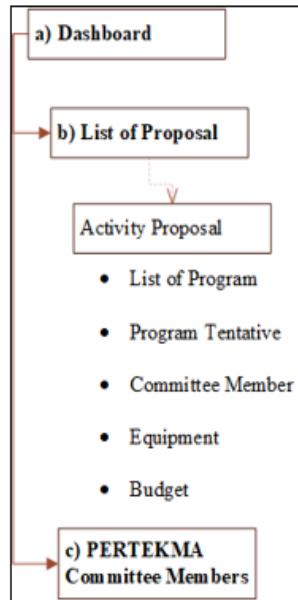


Figure 4.70 – The Last Access Module for Admin is PERTEKMA Committee Members

localhost PERTEKMA - Activity Monitoring

Welcome! I am admin

Manage PERTEKMA Committee

Nama

Jawatan

Matric No.

No. Telefon

**+**

Back Next Top

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Figure 4.71 – Dynamic Form to Add PERTEKMA Committee Members

Admin can add more details as wanted by clicked the "+" to add more fields. This Dynamic Form will help Admin in managing numbered of person in a time, fast and time consume.

Name	Position	Matric No.	Tel. No.	Action
HEMA A/P GANESAN	BENDAHARI	56100	012-8118875	
PRETY SURIAWATHY A/P JAYASURI	EXCO AKADEMIK	57648	016-3762796	
RUSYDAN NAWAWI BIN ROHISHAM	EXCO PERHUBUNGAN AWAM, PUBLISI & INFORMASI (I)	57746	019-3539585	
MUHD AMIRUL RIMAHUQI BIN SOHIBIN	EXCO PERHUBUNGAN AWAM, PUBLISI & INFORMASI (I)	56636	017-6093103	

Figure 4.72 – Edit Module for the List of the PERTEKMA Committee Members

Figure 4.72 shows the Edit Module of the selected members. Admin can simply edit their details in this Modul and clicked anywhere on the screen to dismiss the Module.

#### 4.3.4 Access Module for User

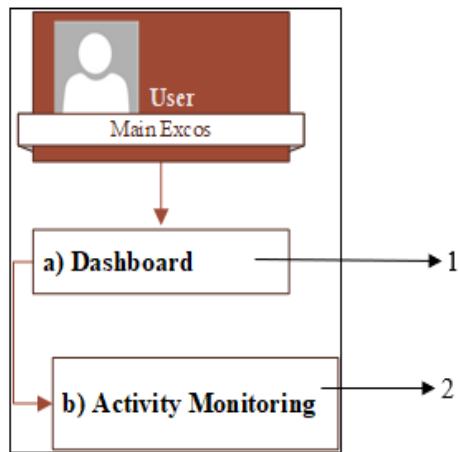


Figure 4.73 – Access Module for Admin

Based on Figure 4.73 above, the numbering shown a sequence for User to follow up once he/she login into the system. The sequences consist of Dashboard (1), followed by Activity Monitoring (2). User have to follow the sequence correctly in order to understand the flow of the system as well. This is due to the data in each module are related and connected

to each other.

In this section, user basically login with their position “*Jawatankuasa Pelaksana*” instead of login with individual username. This login information and roles access are already explained in the section.

#### 4.3.5 Access Module for Admin (i. Manage Committee Members).

##### i) Dashboard-User

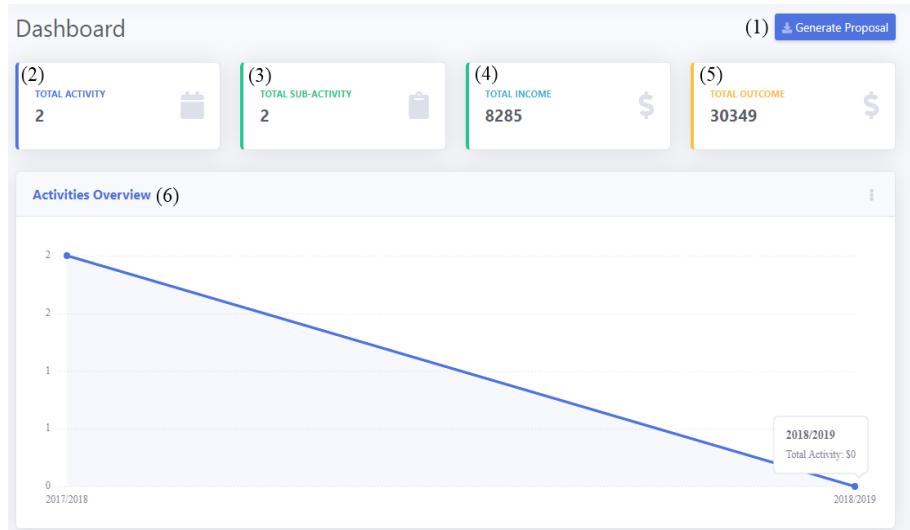


Figure 4.74 – Dashboard for User

Figure 4.62 shows the dashboard for the User once login into the system. In the Dashboard, it will count and summarize all the related information to the User. It includes:

- a) the total number of activities that has been done yearly-(2)
- b) total number of sub-activities throughout monthly-(3)
- c) total income ("Anggaran Pendapatan") for all Activity Proposal-(4)
- d) total outcome ("Anggaran Perbelanjaan") for all Activity Proposal-(5)
- e) Statistical Data View of Activities Overview to show number of Activity Proposal that being handled by PERTEKMA Batch-(6)

## ii) Activity Monitoring

Figure 4.75 – List of Activity Involved by the Exco

Figure 4.75 shows the list of exco's activity involvement. In the Action Column, exco is able to update his/her Activity Log Note.

Figure 4.76 – List of Activity Log Notes

Based on Figure 4.76, User will direct go to this page once he/she clicked the "edit" button as shown in Figure 4.75. The Dates in the table is basically automated calculate based on the dates of the Activity. In the Action Column, "✓" symbol indicates that the log notes on that day is already updated while "X" symbol means the user does not

update his/her log notes yet. Action by Advisor basically will be shown if the Advisor has updated any comments or reviews in their log notes. User can simply click "update" button in the bottom of the page.

Update Activity Log Notes	
Date	Activity/Programs
09-03-2019	Setup the Booth
10-03-2019	Opening Ceremony
11-03-2019	
12-03-2019	

Figure 4.77 – Updates of Activity Log Notes

Figure 4.77 shows the Update Activity Log Notes Form for the excos to updates their activities along the event based on their Job Scope allocation. Basically, the excos need to update along the activities taken placed until the event or activities has been finished. This updates will be monitored by the Advisor along this activities or tasks.

PERTEKMA - Job Scope							
localhost:8080 / 127.0.0.1 / myd...   +							
PERTEKMA ACTIVITY MONITORING							
Dashboard							
Activity Monitoring							
Manage Job Scope							
Job Scope Jawatankuasa Pelaksana - Ketua Program Talks and Workshops							
<table border="1"> <thead> <tr> <th>Job Scope</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>Berhubung dengan pensyarah ataupun pelajar (master/ phD/ FYP) untuk memberikan ceramah/bengkel</td> <td><span style="background-color: green; border: 1px solid black; padding: 2px;">Completed</span></td> </tr> <tr> <td>Berhubung dengan penceramah luar untuk memberikan ceramah/bengkel</td> <td><span style="background-color: green; border: 1px solid black; padding: 2px;">Completed</span></td> </tr> </tbody> </table>		Job Scope	Action	Berhubung dengan pensyarah ataupun pelajar (master/ phD/ FYP) untuk memberikan ceramah/bengkel	<span style="background-color: green; border: 1px solid black; padding: 2px;">Completed</span>	Berhubung dengan penceramah luar untuk memberikan ceramah/bengkel	<span style="background-color: green; border: 1px solid black; padding: 2px;">Completed</span>
Job Scope	Action						
Berhubung dengan pensyarah ataupun pelajar (master/ phD/ FYP) untuk memberikan ceramah/bengkel	<span style="background-color: green; border: 1px solid black; padding: 2px;">Completed</span>						
Berhubung dengan penceramah luar untuk memberikan ceramah/bengkel	<span style="background-color: green; border: 1px solid black; padding: 2px;">Completed</span>						
<span style="background-color: green; border: 1px solid black; padding: 2px; margin-right: 10px;">Back</span> <span style="background-color: yellow; border: 1px solid black; padding: 2px;">Top</span>							
Copyright © PERTEKMA, FCSIT 2019							

Figure 4.78 – Updates Job Scope by "Jawatankuasa Pelaksana"

Figure 4.78 shows Job Scope by "Jawatankuasa Pelaksana for the excos to updates their completion of their Job Scope allocated based on the Activity Proposal previously. Basically, the excos need to update their Job Scope allocation by clicking the Action button provided as shown in Figure 4.78 above. This updates will be monitored by the Advisor along the activities or tasks.

#### 4.3.6 Access Module for Deputy Dean and Dean

##### i) Dashboard-Deputy Dean

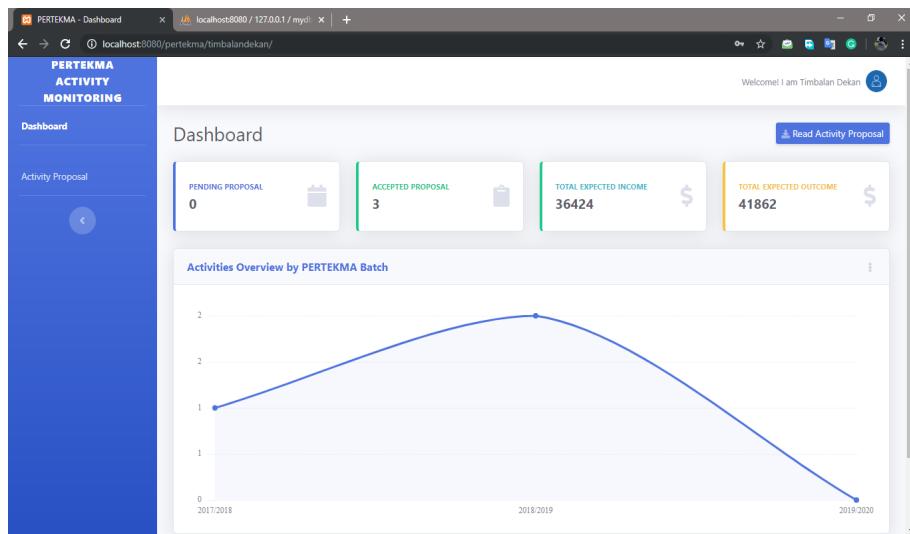


Figure 4.79 – Dashboard for Deputy Dean

Figure 4.79 shows the dashboard for the Deputy Dean once login into the system. In the Dashboard, it will count and summarize all the related information. It includes:

- Pending proposal need to be review by the Deputy Dean-(1)
- Total number of accepted proposal-(2)
- Total expected income ("Anggaran Pendapatan") for all Activity Proposal-(3)
- total expected outcome ("Anggaran Perbelanjaan") for all Activity Proposal-(4)
- Statistical Data View of Activities Overview to show number of Activity Proposal that being handled by PERTEKMA Batch-(5)

f) Read Activity Proposal Button to redirect to the page list of Activity Proposal-(5)

**ii) Read Activity Proposal**

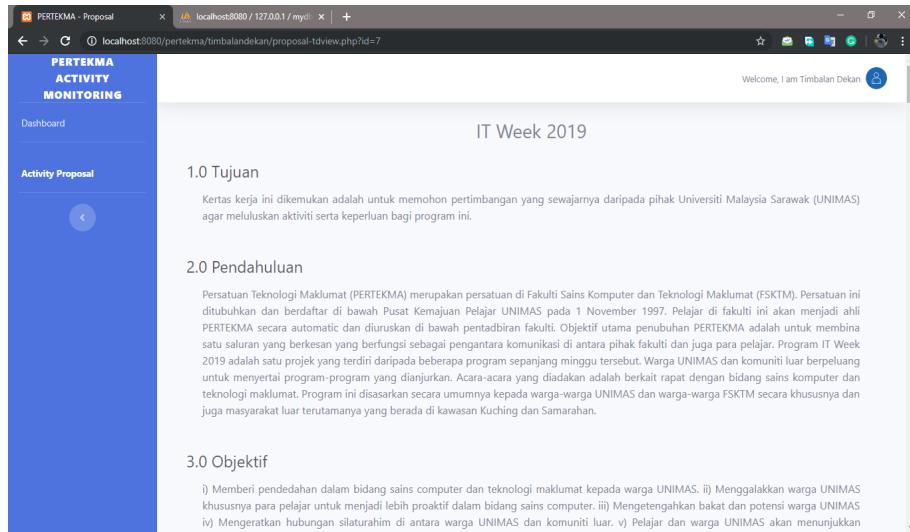


Figure 4.80 – Read the Activity Proposal

Figure 4.80 shows the complete proposal need to be review and comments by the Deputy Dean. In this section, Deputy Dean is able to give any comments or feedback to the Proposal by the end of this page. By clicking the Update button, the comments will saved into the records and by pass to the Superadmin.

The login page for the Dean is similar to the Deputy Dean. Deputy Dean has an authority to accept or decline the proposal and this approval are supported by the Dean.

### iii) Accept or Decline Activity Proposal

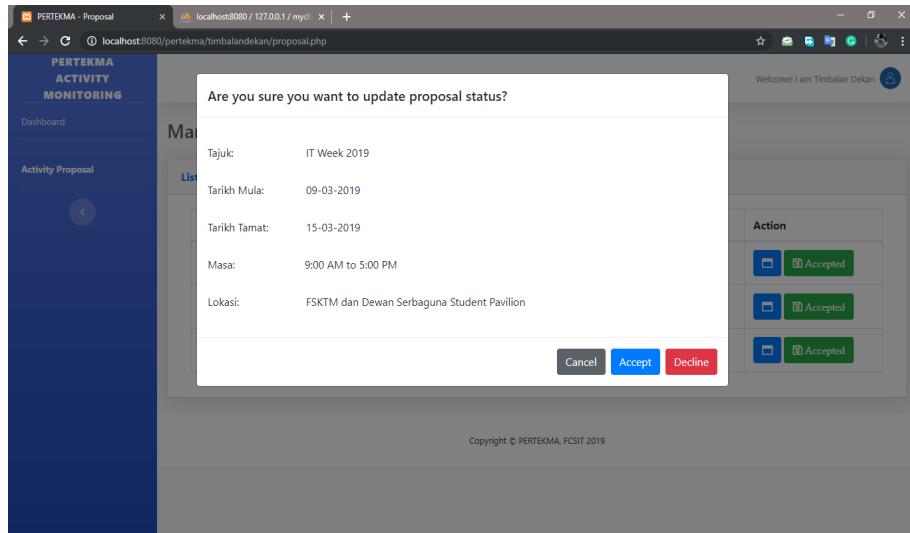


Figure 4.81 – Accept or Decline Activity Proposal

Figure 4.81 shows the update module to accept or decline the Proposal. In this module, it will shows the main details of the proposal. Once the deputy dean clicked the Accept button, the status of the proposal will change to Accepted and otherwise.

### iv) Status of the Activity Proposal

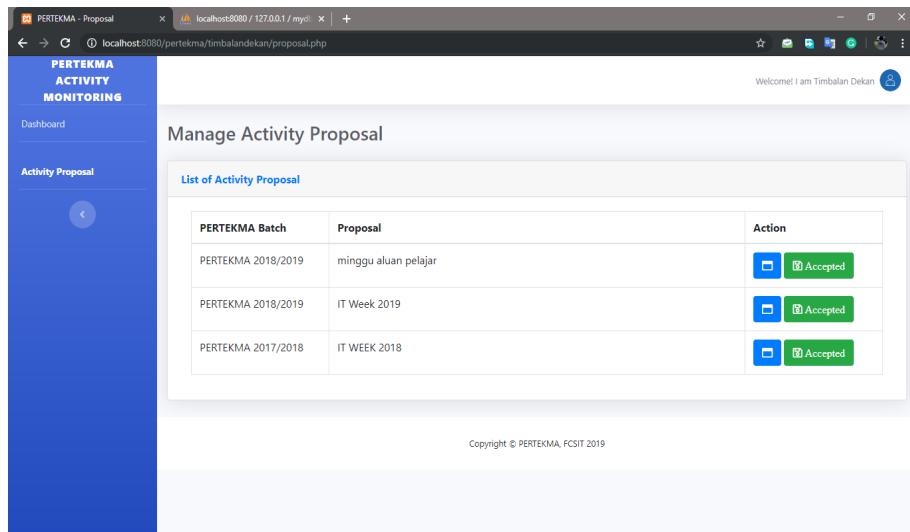


Figure 4.82 – Accept or Decline Status of the Activity Proposal

Figure 4.82 above shows the List of Activity Proposal manage by the PERTEKMA Batch and it's current status. The status of the proposal Pending, Accept and Decline.

Pending proposal indicate as the proposal has not been approved yet. Accept means that the proposal is successfully approved and Decline means the proposal has been rejected.

#### **4.4 Conclusion**

This chapter described the implementation of the PERTEKMA Activity Monitoring. The configuration to set up the development environment and brief description of each function and structure of the system has also been explained. The roles of each user within the system plays an important part in the possible success of the system. Moreover, every user role has their own functionality and features that enables them to perform their task accordingly.

# CHAPTER 5

## TESTING AND EVALUATION

### 5.1 Introduction

Test and Evaluation (T&E) is the process by which a system or components are compared against the requirements and specification through the testing.

### 5.2 Integration Testing

PERTEKMA Activity Monitoring will include the module as listed below:

- i) List of modules for Superadmin (PERTEKMA's Advisor):
  - a) Login/Logout of the system
  - b) Add/edit/delete/view Admin and User
  - c) Add/edit/delete/view Activity Proposal
    - Add/edit/delete/view List of Program
    - Add/edit/delete/view Program Tentative
    - Add/edit/delete/view Committee Members
    - Add/edit/delete/view Equipment and Needs
    - Add/edit/delete/view Budget
  - d) Generate Activity Proposal
  - e) Add/edit/delete/view Activity Monitoring
  - f) Add/edit/delete/view PERTEKMA Committee Members
- ii) List of modules for Admin (High Council of PERTEKMA):

- a) Login/Logout of the system
  - b) Add/edit/delete/view Activity Proposal
    - Add/edit/delete/view List of Program
    - Add/edit/delete/view Program Tentative
    - Add/edit/delete/view Committee Members
    - Add/edit/delete/view Equipment
    - Add/edit/delete/view Budget
  - c) Generate Activity Proposal
  - d) Add/edit/delete/view Activity Monitoring
  - e) Add/edit/delete/view PERTEKMA Committee Members
- iii) List of modules for User (Main Excos):

- a) Login/Logout of the system
- b) Add/edit/delete/view Activity Monitoring

### **5.3 System Testing**

System Testing is the testing of a complete and fully integrated software product to check whether how the components interact with one another and with the system as whole. In this section, the system testing can be categorized into two which are consists of functionality testing and non-functionality testing. In functionality testing it consists of the unit testing that come out with the test case for each while non-functionality testing are involved the usability and reliability testing.

### 5.3.1 Functionality Testing

Unit Testing is to test the functionality of the system. Below are the test case for each of the module in the system and their Unit Testing Test Case:

Table 5.1 – Test Case 1- Login into PERTEKMA Activity Monitoring

Test Case	Validate login credentials in PERTEKMA Activity Monitoring					
Pre-Condition	The Superadmin, Admin and User are the Committee Members of PERTEKMA					
Input	Expected Result	Actual Result	Pass / Fail	Severity of Defect	Summary of Defect	Comments
Valid Username and Password	Successfully login into the system	Login into the system	Pass	NULL	NULL	NULL
Valid Username and Wrong Password	Cannot login into the system with error message shown	Cannot login into the system with no error message shown	Pass	NULL	NULL	NULL
Wrong Username and Password	Cannot login into the system with error message shown	Cannot login into the system with no error message shown	Pass	NULL	NULL	NULL

Table 5.2 – Test Case 2-Logout from PERTEKMA Activity Monitoring

Test Case	To test the logout function in PERTEKMA Activity Monitoring					
Pre-Condition	The credentials are the Committee Members of PERTEKMA, Dean, Deputy Dean which are accessible in PERTEKMA Activity Monitoring					
Input	Expected Result	Actual Result	Pass / Fail	Severity of Defect	Summary of Defect	Comments
The credentials in the site of the system and click the Logout button in the setting	Logout Message display and should return to the Login screen	Logout Message display and should return to the Login screen	Pass	NULL	NULL	NULL
The credentials in the site of the system, click the Logout button in the setting and click Cancel Button	Logout Message display and Logout module is dismissed	Logout Message display and Logout module is dismissed	Pass	NULL	NULL	NULL

Table 5.3 – Test Case 3-View Admin and User

<b>Test Case</b>	To test the Superadmin view superadmin, admin and user of the system					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Click the Committee Members in the drop-down List of the Activity Proposal	Superadmin in the Manage Committee Members Page and the list of "jawatankuasa pelaksana" displayed on the screen with edit and delete button	Superadmin in the Manage Committee Members Page and the list of "jawatankuasa pelaksana" displayed on the screen with edit and delete button	Pass	NULL	NULL	NULL

Table 5.4 – Test Case 4-Edit admin and user

<b>Test Case</b>	To test the Superadmin edit superadmin, admin and user of the system					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Click the Edit icon in the list of the "Jawatankuasa Pelaksana" to edit specific records in the list	Edit module displayed the records with cancel and save button provided. Once save button clicked, it is successfully updating the list	Edit module displayed the records with cancel and save button provided. Once save button clicked, it is successfully updating the list	Pass	NULL	NULL	NULL
Click the Cancel button to dismissed the edit Module	The name list displayed in the "Jawatankuasa Pelaksana" is still in the list and "Edit Jawatankuasa Pelaksana" Module dismissed	The name list displayed in the "Jawatankuasa Pelaksana" is still in the list and "Edit Jawatankuasa Pelaksana" Module dismissed	Pass	NULL	NULL	NULL

Table 5.5 – Test Case 5-Delete Admin and User

<b>Test Case</b>	To test the Superadmin edit superadmin, admin and user of the system					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Click the Delete icon in the list of names of the "Jawatankuasa Pelaksana" to delete specific records from the list	Delete module displayed the records with cancel and save button provided. Once save button clicked, it is successfully updating the list and the records is no longer in the list	Delete module displayed the records with cancel and save button provided. Once save button clicked, it is successfully updating the list and the records is no longer in the list	Pass	NULL	NULL	NULL

Table 5.6 – Test Case 6-Add Admin and User

<b>Test Case</b>	To test the Superadmin add admin and user					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Click Add Committee Button in the Manage Committee Members Page	Add Module for the "Tambah Jawatankuasa Pelaksana" displayed.	Add Module for the "Tambah Jawatankuasa Pelaksana" displayed.	Pass	NULL	NULL	NULL
Add position in the "Jawatan" field provided	Should allow character input	Should allow character input	Pass	NULL	NULL	NULL
Add Password for the Login Credentials	Should allow character and integers input	Should allow character and integers input	Pass	NULL	NULL	NULL
Assign Status based on drop-down listed	Drop-down listed shows option for User, Admin and Superadmin	Drop-down listed shows option for User, Admin and Superadmin	Pass	NULL	NULL	NULL
Add name from the drop-down list provided, name displayed in the drop-down list	Drop-down listed shows the list of names based on PERTEKMA Batch Committee Members	Drop-down listed shows the list of names based on PERTEKMA Batch Committee Members	Pass	NULL	NULL	NULL
Add name from the drop-down list provided, name not in the drop-down list	Add name in the field provided, then the system should allow to add the new name into the list for future user	Add name in the field provided, then the system should allow to add the new name into the list for future user	Pass	NULL	NULL	NULL

Table 5.7 – Test Case 7-View List of Activity Proposal

<b>Test Case</b>	To test the Superadmin view the List of Activity Proposal					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Click the List of Proposal in the drop-list of Activity Proposal	Superadmin in the Manage Activity Proposal Page and the list of Proposal displayed on the screen with add details, edit, print and delete button for each record	Superadmin in the Manage Activity Proposal Page and the list of Proposal displayed on the screen with add details, edit, print and delete button for each record	Pass	NULL	NULL	NULL

Table 5.8 – Test Case 8-Edit List of Activity Proposal

<b>Test Case</b>	To test the Superadmin edit the List of Activity Proposal					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Click the Edit button on the specific record to edit details of Activity Proposal in the list	Superadmin in the Manage Activity Proposal. Edit Module displayed in the records with cancel and save button provided. Once save button clicked, it is successfully updating the details of Activity Proposal	Superadmin in the Manage Activity Proposal. Edit Module displayed in the records with cancel and save button provided. Once save button clicked, it is successfully updating the details of Activity Proposal	Pass	NULL	NULL	NULL
Click the Cancel button to dismissed the edit Module	The records for Proposal are still in the list and "Edit Proposal" Module dismissed	The records for Proposal are still in the list and "Edit Proposal" Module dismissed	Pass	NULL	NULL	NULL

Table 5.9 – Test Case 9-Delete Proposal from the List of Proposal

<b>Test Case</b>	To test the Superadmin delete proposal from the List Activity Proposal					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Click the Delete icon on the specific record to delete the details of Activity Proposal from the list records	Delete module displayed the records with cancel and save button provided. Once save button clicked, it is successfully deleting the proposal from the records, the details of Activity Proposal are no longer available and Message Box for deleted record displayed	Delete module displayed the records with cancel and save button provided. Once save button clicked, it is successfully deleting the proposal from the records, the details of Activity Proposal are no longer available and Message Box for deleted record displayed	Pass	NULL	NULL	NULL

Table 5.10 – Test Case 10-Add Activity Proposal

<b>Test Case</b>	To test the Superadmin add the Activity Proposal					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Superadmin in the Manage Activity Proposal Page, clicked Add New Proposal button and filled in all the field in the Module with different Title of Proposal	Once saved button clicked, Message box displayed for saved Proposal	Once saved button clicked, Message box displayed for saved Proposal	Pass	NULL	NULL	NULL
Add New Proposal button, filled in all the form in the Module with the same Title of Proposal in the record previously	Once saved button clicked, Message box displayed the Same Title Proposal added. Data cannot be saved. No new proposal was added.	Once saved button clicked, Message box displayed the Same Title Proposal added. Data cannot be saved. No new proposal was added.	Pass	NULL	NULL	NULL

Table 5.11 – Test Case 11-View List of Program

<b>Test Case</b>	To test the Superadmin view the List of Program in the Proposal					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Click List of Program in the drop-down menu of Activity Proposal	Superadmin in the manage Program or Activity Details Page and the list of Perincian Program displayed on the screen with edit, view and delete button for each record	Superadmin in the manage Program or Activity Details Page and the list of Perincian Program displayed on the screen with edit, view and delete button for each record	Pass	NULL	NULL	NULL
Click the View Activity button in the specific record	Details for Perincian Program Module displayed on the screen, clicked anywhere to dismissed it	Details for Perincian Program Module displayed on the screen, clicked anywhere to dismissed it	Pass	NULL	NULL	NULL

Table 5.12 – Test Case 12-Edit List of Program

<b>Test Case</b>	To test the Superadmin edit the List of Program					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Click the Edit button on the specific record to edit details of Perincian Program in the list	Superadmin in the page Manage Program or Activity Details. Edit module displayed the records with cancel and save button provided. Once save button clicked, new record displayed. Message box displayed for Program has been updated.	Superadmin in the page Manage Program or Activity Details. Edit module displayed the records with cancel and save button provided. Once save button clicked, new record displayed. Message box displayed for Program has been updated.	Pass	NULL	NULL	NULL
Click the Cancel button to dismissed the edit Module	The initial records are still in the list and "Edit Perincian Module" dismissed	The initial records are still in the list and "Edit Perincian Module" dismissed	Pass	NULL	NULL	NULL

Table 5.13 – Test Case 13-Delete Program

<b>Test Case</b>	To test the Superadmin delete Program the List of Program					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Click the Delete icon on the specific record to delete the details of Perincian Program from the list records	Delete module displayed the records with cancel and save button provided. Once save button clicked, it is successfully deleting the Program from the records, the details of Perincian Program are no longer available and Message Box for deleted record displayed	Delete module displayed the records with cancel and save button provided. Once save button clicked, it is successfully deleting the Program from the records, the details of Perincian Program are no longer available and Message Box for deleted record displayed	Pass	NULL	NULL	NULL
Click the Cancel button to dismissed the delete Module	The initial records are still in the list and delete Module dismissed	The initial records are still in the list and delete Module dismissed	Pass	NULL	NULL	NULL

Table 5.14 – Test Case 14-Add Date Program Tentative

<b>Test Case</b>	To test the Superadmin add Date for Program Tentative and its details					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Superadmin in the Manage Program Tentative Page, clicked Add Program Tentative button to add new date	Once save button clicked, Message box displayed for saved Dates	Once save button clicked, Message box displayed for saved Dates	Pass	NULL	NULL	NULL

Table 5.15 – Test Case 15-View Details of Program Tentative

<b>Test Case</b>	To test the Superadmin view the Details of Program Tentative					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked View Program Tentative button on the specific date	Redirecting to the new page and show details of the Program Tentative. Action button for edit and delete in each Program Tentative	Redirecting to the new page and show details of the Program Tentative. Action button for edit and delete in each Program Tentative	Pass	NULL	NULL	NULL
Incorrect details for Program Tentative, edit Program Tentative Button clicked	Edit Module to edit the details of Program Tentative, once Save button clicked. Message box show the list that has been updated. Updated records displayed	Edit Module to edit the details of Program Tentative, once Save button clicked. Message box show the list that has been updated. Updated records displayed	Pass	NULL	NULL	NULL
Removed the details for Program Tentative from the record, Delete Program Tentative Button clicked	Delete Module to delete the details of Program Tentative, once Delete button clicked. Message box shows the list has been updated. The deleted records are no longer displayed.	Delete Module to delete the details of Program Tentative, once Delete button clicked. Message box shows the list has been updated. The deleted records are no longer displayed.	Pass	NULL	NULL	NULL

Table 5.16 – Test Case 16-Edit Date for Program Tentative

<b>Test Case</b>	To test the Superadmin edit Date of Program Tentative					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked the Edit Date button for the specific Date Listed in the table List of Date for Program Tentative to change the date	Edit Module for Date displayed, field only received the input data for date picker. Once Save button clicked, Message box appeared to show that the Date has changed	Edit Module for Date displayed, field only received the input data for date picker. Once Save button clicked, Message box appeared to show that the Date has changed	Pass	NULL	NULL	NULL
Clicked Cancel button or anywhere on the screen to dismiss the Edit Date Module	Edit Date Module dismissed and actual date maintained on the list	Edit Date Module dismissed and actual date maintained on the list	Pass	NULL	NULL	NULL

Table 5.17 – Test Case 17-Delete Date for Program Tentative

<b>Test Case</b>	To test the Superadmin delete Date of Program Tentative					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked the "Delete" button for the specific Date Listed in the table List of Date for Program Tentative to remove the date from record	Edit Module for Date displayed, field only received the input data for date picker. Once Save button clicked, Message box appeared to show that the Date has changed	Edit Module for Date displayed, field only received the input data for date picker. Once Save button clicked, Message box appeared to show that the Date has changed	Pass	NULL	NULL	NULL
Clicked Cancel button or anywhere on the screen to dismiss the Delete Date Module	Delete Date Module dismissed and actual date maintained on the list	Delete Date Module dismissed and actual date maintained on the list	Pass	NULL	NULL	NULL

Table 5.18 – Test Case 18-Add Detail for Program Tentative

<b>Test Case</b>	To test the Superadmin add details in the List of Date of Program Tentative					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
In the List of Date for Program Tentative, click Add Details for Program Tentative button in the specific Date	Redirecting to new page to add the details of Program Tentative in the dynamic form. Once Next button clicked, record saved and new List for Program Tentative shown	Redirecting to new page to add the details of Program Tentative in the dynamic form. Once Next button clicked, record saved and new List for Program Tentative shown	Pass	NULL	NULL	NULL

Table 5.19 – Test Case 19-View Committee Members

<b>Test Case</b>	To test the Superadmin view the committee members of the activity/event of the Activity Proposal					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Click Committee Members in the drop-list of Activity Proposal	Superadmin in the Manage Committee Member Page and the list of Jawatankuasa Pelaksana Program displayed on the screen with edit, and delete button for each record	Superadmin in the Manage Committee Member Page and the list of Jawatankuasa Pelaksana Program displayed on the screen with edit, and delete button for each record	Pass	NULL	NULL	NULL

Table 5.20 – Test Case 20-Edit Details of Committee Members

<b>Test Case</b>	To test the Superadmin edit details committee members of the activity/event of the Activity Proposal					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked edit details "Jawatankuasa Pelaksana" button in the specific list of the table "Jawatankuasa Pelaksana"	Edit Module for Edit Jawatankuasa Pelaksana displayed. Password input can consist of varchar, "Nama" can be drop by clicking the (-) button and can be added more by clicking (+) to add from drop down list or simply typed for new input.	Edit Module for Edit Jawatankuasa Pelaksana displayed. Password input can consist of varchar, "Nama" can be drop by clicking the (-) button and can be added more by clicking (+) to add from drop down list or simply typed for new input.	Pass	NULL	NULL	NULL
Clicked Save button in the Edit Jawatankuasa Pelaksana	The record displayed the latest update. Message box displayed to notify that the list successfully edited.	The record displayed the latest update. Message box displayed to notify that the list successfully edited.	Pass	NULL	NULL	NULL
Clicked Cancel button in the Edit Jawatankuasa Pelaksana	Dismissed the Edit Jawatankuasa Pelaksana Module to cancel the edit	Dismissed the Edit Jawatankuasa Pelaksana Module to cancel the edit	Pass	NULL	NULL	NULL

Table 5.21 – Test Case 21-Delete Details of Committee Members

Test Case	To test the Superadmin delete committee members of the activity/event					
Pre-Condition	The Superadmin must login into the system					
Input	Expected Result	Actual Result	Pass / Fail	Severity of Defect	Summary of Defect	Comments
Clicked Delete Committee Members button in the specific list of the table Jawatankuasa Pelaksana	The Delete Module (conformation box) displayed and shows the details of the records to be delete.	The Delete Module (conformation box) displayed and shows the details of the records to be delete.	Pass	NULL	NULL	NULL
Clicked Cancel button in the Delete Module	Dismissed the Delete Module to cancel the delete	Dismissed the Delete Module to cancel the delete	Pass	NULL	NULL	NULL

Table 5.22 – Test Case 22-Add Committee Members

<b>Test Case</b>	To test the Superadmin add committee members of the activity/event					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked Add Committee Members button in Manage Committee Members Page	“Tambah Jawatankuasa Pelaksana” Module displayed. “Jawatan” and Password fields accept the input for numbers and character. Status consist of drop- down menu and “Nama” can be choose by clicking the field or simply type new names for those who are not in the list. The (+)/ (-) buttons are to add/drop the names	“Tambah Jawatankuasa Pelaksana” Module displayed. “Jawatan” and Password fields accept the input for numbers and character. Status consist of drop- down menu and “Nama” can be choose by clicking the field or simply type new names for those who are not in the list. The (+)/ (-) buttons are to add/drop the names	Pass	NULL	NULL	NULL
Clicked Save button in the Tambah Jawatankuasa Pelaksana module	Massage box displayed shows the recorded has been added. New list displayed in the table Jawatankuasa Pelakasana.	Massage box displayed shows the recorded has been added. New list displayed in the table Jawatankuasa Pelakasana.	Pass	NULL	NULL	NULL
Clicked Cancel button in the Jawatankuasa Pelaksana Module	Module dismissed	Module dismissed	Pass	NULL	NULL	NULL

Table 5.23 – Test Case 23-View Job Scope

<b>Test Case</b>	To test the Superadmin view Job Scope in the Manage Job Scope Page					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked Job Scope in the drop-list of Activity Proposal	Superadmin in the Manage Job Scope Page and the list of Struktur Organisasi Pelaksana Program displayed on the screen with add, and view button for each record	“Tambah Jawatankuasa Pelaksana” Module displayed. “Jawatan” and Password fields accept the input for numbers and character. Status consist of drop- down menu and “Nama” can be choose by clicking the field or simply type new names for those who are not in the list. The (+)/(-) buttons are to add/drop the names	Pass	NULL	NULL	NULL

Table 5.24 – Test Case 24-View Job Scope Details

<b>Test Case</b>	To test the Superadmin view Job Scope Details in the list of “Struktur Organisasi Pelaksana”					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked View Job Scope details button in the specific list of the “Struktur Organisasi Pelaksana”	The list of Job Scope for the Jawatankuasa Pelaksana displayed in the form of table with edit and view button for each record	The list of Job Scope for the Jawatankuasa Pelaksana displayed in the form of table with edit and view button for each record	Pass	NULL	NULL	NULL

Table 5.25 – Test Case 25-Edit Job Scope Details

<b>Test Case</b>	To test the Superadmin edit Job Scope Details in the list of “Struktur Organisasi Pelaksana”					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked Edit details button in the specific list of the Job Scope in the table	Edit Job Scope for Jawatankuasa Pelaksana Module displayed. Job Scope text area allowed text or varchar input	Edit Job Scope for Jawatankuasa Pelaksana Module displayed. Job Scope text area allowed text or varchar input	Pass	NULL	NULL	NULL
Clicked Save button in the Edit Job Scope for Jawatankuasa Pelaksana Module	The record displayed the latest update. Message box displayed to notify that the list successfully edited.	The record displayed the latest update. Message box displayed to notify that the list successfully edited.	Pass	NULL	NULL	NULL
Clicked Cancel button in the Edit Job Scope for Jawatankuasa Pelaksana Module	Dismissed the Edit Job Scope for Jawatankuasa Pelaksana Module to cancel the edit	Dismissed the Edit Job Scope for Jawatankuasa Pelaksana Module to cancel the edit	Pass	NULL	NULL	NULL

Table 5.26 – Test Case 26-Delete Job Scope Details

<b>Test Case</b>	To test the Superadmin delete Job Scope Details in the list of “Struktur Organisasi Pelaksana”					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked Delete details button in the specific list of the Job Scope in the table	Delete Job Scope for Jawatankuasa Pelaksana Module (delete conformation box) displayed	Delete Job Scope for Jawatankuasa Pelaksana Module (delete conformation box) displayed	Pass	NULL	NULL	NULL
Clicked Delete button in the delete conformation box Job Scope for Jawatankuasa Pelaksana Module	The record displayed the latest update. Message box displayed to notify that the list successfully deleted.	The record displayed the latest update. Message box displayed to notify that the list successfully deleted.	Pass	NULL	NULL	NULL
Clicked Cancel button in the Delete Job Scope for Jawatankuasa Pelaksana Module	Dismissed the Delete Job Scope for Jawatankuasa Pelaksana Module to cancel the edit	Dismissed the Delete Job Scope for Jawatankuasa Pelaksana Module to cancel the edit	Pass	NULL	NULL	NULL

Table 5.27 – Test Case 27-View Equipment and Needs

<b>Test Case</b>	To test the Superadmin view list of equipment and needs					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked Equipment in the drop-list of Activity Proposal	Superadmin in the Manage Equipment and Needs Page and the list of Equipment and Needs based on section displayed on the screen with manageable add details, edit Bahagian/Unit, view details and delete Bahagian/Unit actions buttons for each record	Superadmin in the Manage Equipment and Needs Page and the list of Equipment and Needs based on section displayed on the screen with manageable add details, edit Bahagian/Unit, view details and delete Bahagian/Unit actions buttons for each record	Pass	NULL	NULL	NULL

Table 5.28 – Test Case 28-Edit Equipment and Needs

<b>Test Case</b>	To test the Superadmin edit “bahagian/unit” in manage equipment and needs page					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked the Edit Bahagian/Unit button for the specific List in the table to change the title of Bahagian/Unit	Edit Module “Senarai Keperluan/Peralatan” displayed, a text area for “Bahagian” allowed character or varchar input data. Once Save button clicked. Message box appeared to show that the List has been updated	Edit Module “Senarai Keperluan/Peralatan” displayed, a text area for “Bahagian” allowed character or varchar input data. Once Save button clicked. Message box appeared to show that the List has been updated	Pass	NULL	NULL	NULL
Clicked Cancel button or anywhere on the screen to dismissed the Edit Module	Edit Module dismissed and actual Title of “Bahagian” maintained on the list	Edit Module dismissed and actual Title of “Bahagian” maintained on the list	Pass	NULL	NULL	NULL

Table 5.29 – Test Case 29-Delete Equipment and Needs

<b>Test Case</b>	To test the Superadmin delete list of equipment and needs					
<b>Pre-Condition</b>	The Superadmin login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked “Bahagian/Unit” button for the specific List in the table to remove the list from the record	Delete Module (conformation box). Once Delete button clicked. Message box appeared to show that the list has been deleted	Delete Module (conformation box). Once Delete button clicked. Message box appeared to show that the list has been deleted	Pass	NULL	NULL	NULL
Clicked Cancel button or anywhere on the screen to dismissed the Delete Module	Delete Module dismissed and actual record maintained on the list	Delete Module dismissed and actual record maintained on the list	Pass	NULL	NULL	NULL

Table 5.30 – Test Case 30-Add List Equipment and Needs

<b>Test Case</b>	To test the Superadmin add list of equipment and needs					
<b>Pre-Condition</b>	The Superadmin login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
In the list of “Bahagian/Unit”, Clicked Add Details button on the specific List	User will be redirecting to the new page to add the details of Equipment and Needs in the dynamic form. Once Next button clicked. Record were saved and the details of the Bahagian/Unit shown in the form of table that consist of “Keperluan, Kuantiti, Unit, Catatan and Action Buttons”	User will be redirecting to the new page to add the details of Equipment and Needs in the dynamic form. Once Next button clicked. Record were saved and the details of the Bahagian/Unit shown in the form of table that consist of “Keperluan, Kuantiti, Unit, Catatan and Action Buttons”	Pass	NULL	NULL	NULL

Table 5.31 – Test Case 31-View Budget Income

<b>Test Case</b>	To test the Superadmin view Budget Income in Manage Budget Page					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked Budget in the drop-list of Activity Proposal	Superadmin in the Manage Budget Page and the list of “Anggaran Pendapatan and “Anggaran Perbelanjaan” displayed with add and view details button.	Superadmin in the Manage Budget Page and the list of “Anggaran Pendapatan and “Anggaran Perbelanjaan” displayed with add and view details button.	Pass	NULL	NULL	NULL
Clicked View Details button in “Anggaran Pendapatan” list	The records for “Anggaran Pendapatan” displayed with action buttons provided to edit and delete the specific records	The records for “Anggaran Pendapatan” displayed with action buttons provided to edit and delete the specific records	Pass	NULL	NULL	NULL

Table 5.32 – Test Case 32-Edit Budget Income

<b>Test Case</b>	To test the Superadmin edit details of Budget Income					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked the Edit Details button in the specific List in the table “Anggaran Pendapatan”	Edit Module displayed. Text area for ‘Perkara’ allowed character or varchar input data. “Harga Seunit” and “Kuantiti” text area allow integers input. Once Save button clicked. Message box appeared to show that the List has been updated	Edit Module displayed. Text area for “Perkara” allowed character or varchar input data. “Harga Seunit” and “Kuantiti” text area allow integers input. Once Save button clicked. Message box appeared to show that the List has been updated	Pass	NULL	NULL	NULL
Clicked Cancel button or anywhere on the screen to dismissed the Edit Module	Edit Module dismissed and actual records maintained on the list	Edit Module dismissed and actual records maintained on the list	Pass	NULL	NULL	NULL

Table 5.33 – Test Case 33-Delete Budget Income

Test Case	To test the Superadmin delete Budget Income					
Pre-Condition	The Superadmin must login into the system					
Input	Expected Result	Actual Result	Pass / Fail	Severity of Defect	Summary of Defect	Comments
Clicked the Delete Details button in the specific List in the table "Anggaran Pendapatan"	Delete Module (conformation box) displayed. Once Delete button clicked. Message box appeared to show that the list has been deleted	Delete Module (conformation box) displayed. Once Delete button clicked. Message box appeared to show that the list has been deleted	Pass	NULL	NULL	NULL
Clicked Cancel button or anywhere on the screen to dismissed the Delete Module	Delete Module dismissed and actual record maintained on the list	Delete Module dismissed and actual record maintained on the list	Pass	NULL	NULL	NULL

Table 5.34 – Test Case 34-Add Budget Income

<b>Test Case</b>	To test the Superadmin add Budget Income details					
<b>Pre-Condition</b>	The Superadmin login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked the Add Details button in the specific List in the table “Anggaran Pendapatan”	Superadmin will be redirecting to the new page to add the details of “Anggaran Pendapatan” in the dynamic form. Once Next button clicked. Record were saved in the form of table that consist of “Perkara, Harga Seunit (RM), Kuantiti, Jumlah and Action Buttons”	Superadmin will be redirecting to the new page to add the details of “Anggaran Pendapatan” in the dynamic form. Once Next button clicked. Record were saved in the form of table that consist of “Perkara, Harga Seunit (RM), Kuantiti, Jumlah and Action Buttons”	Pass	NULL	NULL	NULL

Table 5.35 – Test Case 35-View Budget Expenditure

<b>Test Case</b>	To test the Superadmin view Budget Expenditure					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked Budget in the drop-list of Activity Proposal	Superadmin in the Manage Budget Page and the list of “Anggaran Pendapatan and “Anggaran Perbelanjaan” displayed with add and view details button.	Superadmin in the Manage Budget Page and the list of “Anggaran Pendapatan and “Anggaran Perbelanjaan” displayed with add and view details button.	Pass	NULL	NULL	NULL
Clicked View Details button in “Anggaran Perbelanjaan” list	The records for “Anggaran Perbelanjaan” displayed with action buttons provided to edit and delete the specific records	The records for “Anggaran Perbelanjaan” displayed with action buttons provided to edit and delete the specific records	Pass	NULL	NULL	NULL

Table 5.36 – Test Case 36-Edit Budget Expenditure

<b>Test Case</b>	To test the Superadmin edit Budget Expenditure in Manage Budge Page					
<b>Pre-Condition</b>	The Superadmin login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked the Edit Details button in the specific List in the table “Anggaran Perbelanjaan”	Edit Module displayed. Text area for “Perkara” allowed character or varchar input data. “Harga Seunit” and “Kuantiti” text area allow integers input. Once Save button clicked. Message box appeared to show that the List has been updated	Edit Module displayed. Text area for “Perkara” allowed character or varchar input data. “Harga Seunit” and “Kuantiti” text area allow integers input. Once Save button clicked. Message box appeared to show that the List has been updated	Pass	NULL	NULL	NULL
Clicked Cancel button or anywhere on the screen to dismissed the Edit Module	Edit Module dismissed and actual records maintained on the list	Edit Module dismissed and actual records maintained on the list	Pass	NULL	NULL	NULL

Table 5.37 – Test Case 37-Delete Budget Expenditure

<b>Test Case</b>	To test the Superadmin delete Budget Expenditure					
<b>Pre-Condition</b>	The Superadmin login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked the Delete Details button in the specific List in the table “Anggaran Perbelanjaan	Delete Module (conformation box) displayed. Once Delete button clicked. Message box appeared to show that the list has been deleted	Delete Module (conformation box) displayed. Once Delete button clicked. Message box appeared to show that the list has been deleted	Pass	NULL	NULL	NULL
Clicked Cancel button or anywhere on the screen to dismissed the Delete Module	Delete Module dismissed and actual record maintained on the list	Delete Modul dismissed and actual record maintained on the list	Pass	NULL	NULL	NULL

Table 5.38 – Test Case 38-Add Budget Expenditure

Test Case	To test the Superadmin add Budget Expenditure details					
Pre-Condition	The Superadmin login into the system					
Input	Expected Result	Actual Result	Pass / Fail	Severity of Defect	Summary of Defect	Comments
Clicked the Add Details button in the specific List in the table “Anggaran Perbelanjaan”	Superadmin will be redirecting to the new page to add the details of “Anggaran Perbelanjaan” in the dynamic form. Once Next button clicked. Record were saved in the form of table that consist of “Perkara, Harga Seunit (RM), Kuantiti, Jumlah and Action Buttons”	Superadmin will be redirecting to the new page to add the details of “Anggaran Perbelanjaan” in the dynamic form. Once Next button clicked. Record were saved in the form of table that consist of “Perkara, Harga Seunit (RM), Kuantiti, Jumlah and Action Buttons”	Pass	NULL	NULL	NULL
Clicked the Add Details button in the specific List in the table “Anggaran Perbelanjaan”	Superadmin will be redirecting to the new page to add the details of “Anggaran Perbelanjaan” in the dynamic form. Once Next button clicked. Record were saved in the form of table that consist of “Perkara, Harga Seunit (RM), Kuantiti, Jumlah and Action Buttons”	Superadmin will be redirecting to the new page to add the details of “Anggaran Perbelanjaan” in the dynamic form. Once Next button clicked. Record were saved in the form of table that consist of “Perkara, Harga Seunit (RM), Kuantiti, Jumlah and Action Buttons”	Pass	NULL	NULL	NULL

Table 5.39 – Test Case 39-Print Activity Proposal

<b>Test Case</b>	To test the Superadmin Print Activity Proposal					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Click the List of Proposal in the drop-list of Activity Proposal	Superadmin in the Manage Activity Proposal Page and the list of Proposal displayed on the screen with add details, edit, print and delete button for each record	Superadmin in the Manage Activity Proposal Page and the list of Proposal displayed on the screen with add details, edit, print and delete button for each record	Pass	NULL	NULL	NULL
Click the Print Proposal Button in the List of Proposal	Superadmin will directed into the Print page for the Activity Proposal	Superadmin will directed into the Print page for the Activity Proposal	Pass	NULL	NULL	NULL

Table 5.40 – Test Case 40-Monitor Activity Job Scope and Activity Log

<b>Test Case</b>	To test the Superadmin monitor Activity Job Scope and Activity Log for each exco					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Click View Activity Job Scope in the Monitor Activity Job Scope	Superadmin in the Monitor Activity Job Scope Pages and the list of Job Scope for the excos displayed on the screen with status shown either has been completed or uncompleted based on the excos updates	Superadmin in the Monitor Activity Job Scope Pages and the list of Job Scope for the excos displayed on the screen with status shown either has been completed or uncompleted based on the excos updates	Pass	NULL	NULL	NULL
Click View Activity Log in the Monitor Activity Log	Superadmin in the Monitor Log Notes Pages of the exco. The list of log notes updated by the excos displayed on the screen	Superadmin in the Monitor Log Notes Pages of the exco. The list of log notes updated by the excos displayed on the screen				

Table 5.41 – Test Case 41-Activity Post-Mortem

<b>Test Case</b>	To test the Superadmin view the Activity Post-Mortem					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked Activity Post-Mortem in the side-bar menu	Superadmin in the Manage Activity Post-Mortem Page and the list of Activity/Program displayed with view Activity Post-Mortem details button.	Superadmin in the Manage Activity Post-Mortem Page and the list of Activity/Program displayed with view Activity Post- Mortem details button.	Pass	NULL	NULL	NULL
Clicked View Activity Post- Mortem button	The objectives and achievements of the Activity/Program displayed	The objectives and achievements of the Activity/Program displayed	Pass	NULL	NULL	NULL

Table 5.42 – Test Case 42-View PERTEKMA Committee Members

<b>Test Case</b>	To test the Superadmin view PERTEKMA Committee Members					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked PERTEKMA Committee and then clicked PERTEKMA Batch in the drop-down list	Superadmin in the Manage PERTEKMA Batch Page and the list of current PERTEKMA Batch displayed on the screen with add, edit, view details and delete button for each record	Superadmin in the Manage PERTEKMA Batch Page and the list of current PERTEKMA Batch displayed on the screen with add, edit, view details and delete button for each record	Pass	NULL	NULL	NULL

Table 5.43 – Test Case 43-Edit Details of PERTEKMA Committee Members‘

<b>Test Case</b>	To test the Superadmin edit details of PERTEKMA Batch					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked button View details of PERTEKMA Batch in the current PERTEKMA Batch list	Superadmin will redirected to name list of PERTEKMA Committee Members. The screen displayed the details of name, position, matric number, contact number and action buttons to delete and edit the specific record in the list	Superadmin will redirected to name list of PERTEKMA Committee Members. The screen displayed the details of name, position, matric number, contact number and action buttons to delete and edit the specific record in the list	Pass	NULL	NULL	NULL
Clicked edit button in the specific record from the list	Edit Module displayed to edit the details. Form field for “Name, Jawatan, No Matric and No.Tel” allowed any input for characters and integers	Edit Module displayed to edit the details. Form field for “Name, Jawatan, No Matric and No.Tel” allowed any input for characters and integers	Pass	NULL	NULL	NULL
Clicked Save button in the Edit Module	The record displayed the latest update. Message box displayed to notify that the list successfully edited.	The record displayed the latest update. Message box displayed to notify that the list successfully edited.	Pass	NULL	NULL	NULL
Clicked Cancel button in the Edit Module	Dismissed the Edit Module to cancel the edit	Dismissed the Edit Module to cancel the edit	Pass	NULL	NULL	NULL

Table 5.44 – Test Case 44-Delete Details of PERTEKMA Committee Members

Test Case	To test the Superadmin delete PERTEKMA committee members					
Pre-Condition	The Superadmin must login into the system					
Input	Expected Result	Actual Result	Pass / Fail	Severity of Defect	Summary of Defect	Comments
Clicked Delete Details button from the list in the table Jawatankuasa Pelaksana	The Delete Module (conformation box) displayed and shows the details of the records to be delete. Once deleted button clicked. The records will be deleted. The massage box shown that the record has been deleted and no longer available on the list	The Delete Module (conformation box) displayed and shows the details of the records to be delete. Once deleted button clicked. The records will be deleted. The massage box shown that the record has been deleted and no longer available on the list	Pass	NULL	NULL	NULL
Clicked Cancel button in the Delete Module	Dismissed the Delete Module to cancel the delete	Dismissed the Delete Module to cancel the delete	Pass	NULL	NULL	NULL

Table 5.45 – Test Case 45-Add PERTEKMA Committee Members

<b>Test Case</b>	To test the Superadmin add PERTEKMA committee members					
<b>Pre-Condition</b>	The Superadmin must login into the system					
<b>Input</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Pass / Fail</b>	<b>Severity of Defect</b>	<b>Summary of Defect</b>	<b>Comments</b>
Clicked Add Details button in the current list of PERTEKMA Batch	Superadmin will redirected to a new page where the dynamic form used to record the details. “Nama, Jawatan, Matric No., No. Telefon” input fields are accepting any characters and integers as input. (+) button clicked to add more details and (-) button to drop the details. Once Next button clicked. The details successfully recorded into the list	Superadmin will redirected to a new page where the dynamic form used to record the details. “Nama, Jawatan, Matric No., No. Telefon” input fields are accepting any characters and integers as input. (+) button clicked to add more details and (-) button to drop the details. Once Next button clicked. The details successfully recorded into the list	Pass	NULL	NULL	NULL

## 5.4 Non-Functional Testing

### 5.4.1 Usability and Reliability Testing

#### a) Usability Testing

Usability Testing is to describe the level of ease with which a system allow a user to get the goals and to test the understanding of the users about the prototype. The goal of this testing is to satisfy users and it mainly concentrates on the following parameters of the prototype:

- The prototype is easy to learn by PERTEKMA Committee Members where the prototype meet the objective and clearly understand each navigational structure and sectional pages of the prototype.
- No training required since the user has familiarity with all the button and image used.

#### b) Reliability

The prototype expected to work with failure-free operation under the constraint of time period and environment.

- The environment of the prototype are already specifically defined in Chapter 3.
- Regressive testing has been performed on previous section show the capability of the prototype to deal with invalid input. It safely said that the prototype deal well based on the test case.

#### c) Maintainability

The capability of the prototype to be maintained for future work.

- The prototype is built in web-based development (PHP, jQuery) which has wide resources.
- The lightweight of the prototype which did not required a lot of resources to perform

task. This allow user to use difference type of web-browser to access the prototype.

## 5.5 User Testing

User Testing refers to a technique used to evaluate PERTEKMA Activity Monitoring in terms of user experience and their understanding throughout the system. This testing explains about the capabilities of the system to be understood and users learnt when it is used under certain conditions. In conducting this testing, 11 respondents from PERTEKMA Committee Members and FCSIT students were chosen to experiencing the system in real time and they are required to answer the questionnaire attached in Appendix B. The questionnaire consists of 5 scales of rating which indicates as 5-Excellent, 3-Average and 1-Poor. The High Council of PERTEKMA are given permission to access as Admin and the excos or random FCSIT students are given accessed role as User. The analysis of the response from the respondents are summarized as below:

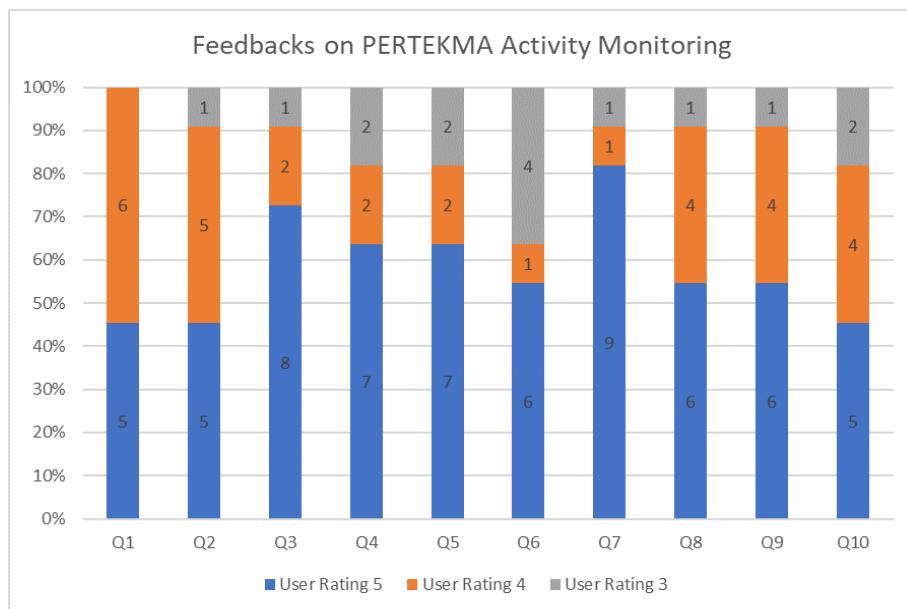


Figure 5.1 – Feedbacks on PERTEKMA Activity Monitoring

The Bar Graph in Figure 5.1 above shows the feedback received on PERTEKMA

Activity Monitoring. In Q1, six respondents out of 11 rated 5 out 5 and considered satisfied with the easiness when used the system while the rest only given rating 4. In Q2, the questionnaire asked respondents about the completion of task when using the system. One respondent given rating 1, five respondents given rating 4 and the rest given rating as 5. Based on this analysis, it shown that, the completion of task while using this system given by the respondents were excellent in overall. In Q3, 70% of respondents were agreed that the system was simple to used. Q4 asked for the respondents on how productive they are while using the system and 60% of the respondents were felt productive with the used of the system in managing their records. In Q5, more than half of the respondents found out and fully satisfied that the various function in the system were well integrated. Other than that, in Q6, six of the respondents were agreed that the interface of the system was pleasant to see while the others were rated for 4. In Q7, 85% of the respondents satisfied that PERTEKMA Committee Members would learn to use this system easily. Besides that, Q8 and Q9 have the same answered from the respondents where 55% were agreed that the system reduced the time consume and confident while using the system. Last but not least, 45% of the respondents agreed that the system has all functions and capabilities that they are expecting to have in the system. In overall, all the respondents were fully satisfied with the functions and features in PERTEKMA Activity Monitoring.

## **5.6 Summary**

In conclusion, functionality testing and non-functionality testing have been successfully carried out in this chapter.

# CHAPTER 6

## CONCLUSION AND FUTURE WORKS

### 6.1 Introduction

This chapter presents the summary of the study and the presentation of the objective achievements of the project. This chapter also discussed in detail the project constraint that defines a project's limitation that limit of what the project is expected to accomplish. Therefore, the most significant for the project constraint are the future works. The future works signifies the opportunity to overcome the project limitations.

### 6.2 Objective Achievement

Objective	Achievement
1. To propose a workflow of the activity execution of PERTEKMA's exco in managing their activities	A flowchart was designed and system implementation are based on the flowchart
2. To design and develop a monitoring system for managing PERTEKMA's records	Deliver a prototype to monitor PERTEKMA activity execution. The prototype provides efficiency in managing the activity proposal, proper documentations and reduce time consumed
3. To display the statistical data of PERTEKMA's activity proposal yearly	The system provides statistical data presentation such as line graph for activities overview manage by PERTEKMA Batch and activity completion progress

### 6.3 Project Limitation

There are limitations of the current system that are stated below:-

- The development of the prototype is using a localhost server and does not required an

Internet connection. The limitation of using this, it is hosted locally in the developer's computer, cannot be hosted elsewhere and inaccessible by the stakeholders

- b) The prototype limited to three levels of user's login which only consist of Superadmin (advisors), Admin (High Council of PERTEKMA), User (main excos). The approval of the activity proposal is based on faculty's Deputy Dean and supported by Dean. However, another approval by Student Affairs and Deputy of UNIMAS's Chancellor also needed
- c) The system does not have a feature to record the list of memos for each of the activity proposal
- d) The system does not have a feature for media upload such as picture, documents etc. in the activity monitoring

#### **6.4 Future Works**

Some suggestions listed as below for the improvement of the proposed project for better performance and its functionality. The suggestions are:

- a) Hosting the system (Internet access required) to make it accessible by the PERTEKMA Committee anytime and anywhere. This is to ensure the efficiency and accessibility of the system.
- b) Email notification to notify the Dean, Deputy Dean, Director of Student Affairs and Deputy of UNIMAS's Chancellor about the pending proposal
- c) Add login pages for the Director of Student Affairs and Deputy of UNIMAS's Chancellor to monitor and approve the activity proposal. Digital sign needed in terms of approval
- d) The system must have a menu to record the memo of every activity proposal. The purpose of having this to make sure there is no repetition of having the same person or agency in applying the sponsorship of the event

- e) The system should be able to upload any media contents for better performance such as uploading the images of the activity that has been done or even upload any other related text documents
- f) Provide the activity dependency for each of the activity execution
- g) Graphical Use Interface (GUI) or activity sorted based on date or person responsible

## 6.5 Conclusion

In summary, the project was properly done and developed based on the proposed design system and achieved the objectives. PERTEKMA Activity Monitoring provides efficiency and better use of the system, proper documentation for every activity proposal, clearly identify of the excos job scope and proper way to monitor the activity. Last but not least, the most important thing to highlight is PERTEKMA Activity Monitoring is the transition from the conventional file system to the automation system.

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## APPENDIX A

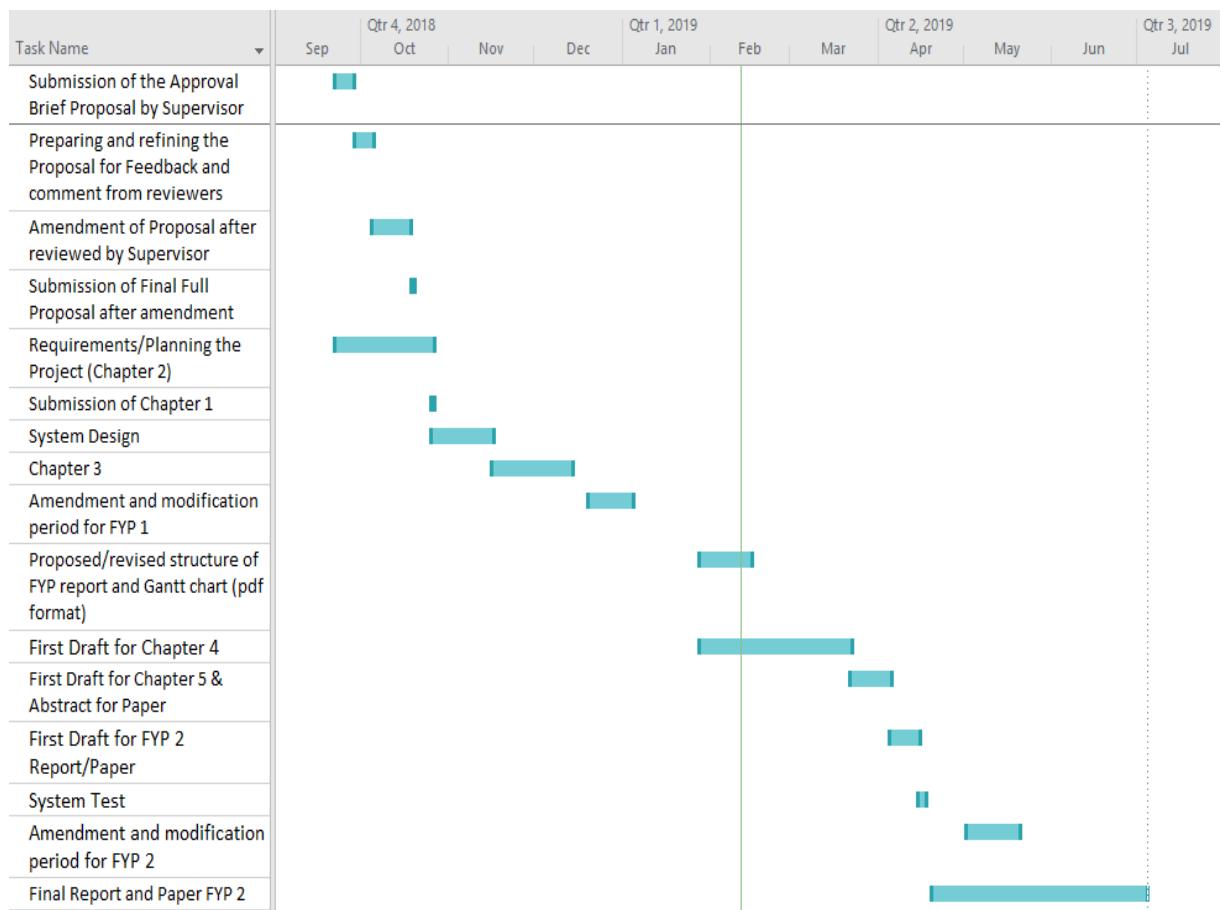


Figure A.1 – Project Gantt C

## APPENDIX B

No	Task	Rating				
		Very Poor (5)	Poor (4)	Average (3)	Good (2)	Excellent (1)
1.	Overall, I am satisfied with how easy to use the system					
2.	I found the system is unnecessarily complex					
3.	It was simple to use the system					
4.	I believe I could become productive quickly using this system					
5.	I found the various functions in the system were well integrated					
6.	The interface of this system was pleasant					
7.	I would imagine that PERTEKMA Committee would learn to use this system very quickly					
8.	I found the system reduce my time consumed					
9.	I felt very confident using the system					
10.	This system has all the functions and capabilities I expect it to have					