

1.1 Objective

The objectives of this project aims to provide a solution for above problems by developing KPSU Management System (KPSUMS). The main objectives of this project are:

- i. To develop a computerized system that will manage information within KPSU club in a convenience and systematic manner.
- ii. To record and retrieve the details of the member through online platform without searching for physical documents which results in tedious and wastage of time.
- iii. To reduce data redundancy in the member registration process in order to give accurate data accessibility and improve the efficiency and quality of admin and executive member tasks.

1.2 Scope of Study

1.2.1 User Scope

KPSU Management System (KPSUMS) is a system that mainly developed which only can be accessed by two users which are :

i. Admin

- a) The admin is able to manage member including add, edit and delete the information of member.
- b) The admin is able to manage user such as add, edit and delete the executive member's account.
- c) The admin is able to add, edit and delete event.
- d) The admin is able to view fees.
- e) The admin is able to manage own profile by update their profile details.
- f) The admin is able to generate member report.

ii. Executive Member

- a) The executive member shall be able to manage member including add, edit and delete the information of member.
- b) The executive member is able to add, edit and delete event.
- c) The executive member is able to view fees.
- d) The executive member is able to manage own profile by update their profile details.
- e) The admin is able to generate member report.

iii. Member

- a) The member is able to register themselves online.
- b) The member is able to add fees and upload fees evidence.

1.2.2 System Scope

KPSU Management System (KPSUMS) is an online system that will be used to manage data within KPSU club in an organized manner. System scope comprises of eight main modules which includes :

i. Log in System

This module can access by the registered user only. This aids to identify user level where unregistered user is not allowed to log in into the system as it requires username and password.

ii. Manage Member

The admin and executive member is able to manage this module including add, edit and delete member of the club.

iii. Manage User

Only admin has the authorization to add, edit and delete user of the system.

iv. Manage Event

The module can be access by both admin and executive member to add, edit and delete event.

v. Manage Fees

The module is managed by the admin and executive member to view fees made by the member. The member is able to add fees by upload the fees evidence in the system.

vi. Manage Profile

This module can be access by all users to edit and update their own profile details.

vii. Generate Report

This module can be access by both admin and executive member to generate member report in order to track all members.

4.3 System Requirement

This subchapter will break into more specific categories that comprises of two categories which is the functional and non-functional requirement in order to represent the system requirement. This can be used as a guideline for developing KPSUMS.

4.3.1 Functional Requirement

Table 4.2 Functional Requirement

No	Requirement	Description	User
1	Register in the system	<ul style="list-style-type: none">The system shall allow member to create their own account for a new member by registering their names, username and password in order to get access into the system.	<ul style="list-style-type: none">Member
2	Login into system	<ul style="list-style-type: none">The system must only allow the registered user with valid username and password to login into the system	<ul style="list-style-type: none">AdminExecutive MemberMember
3	Manage Member	<ul style="list-style-type: none">The system shall allow admin to create member account for a new member by registering their names, username and password in order to get access into the system.The system shall be able to update, view and delete the member info.	<ul style="list-style-type: none">AdminExecutive member

4	Manage User	<ul style="list-style-type: none"> The system shall allow admin user to create another user account for executive member by registering their names, username and password in order to get access into the system. The system shall be able to update, view and delete any information regarding user. 	<ul style="list-style-type: none"> Admin
5	Manage Event	<ul style="list-style-type: none"> The system shall allow the user to add, edit, view and delete event. 	<ul style="list-style-type: none"> Admin Executive Member
6	Manage Fees	<ul style="list-style-type: none"> The system shall allow the member to add fees with payment details and upload a image of their payment receipt as the evidence for the fees payment The system shall allow admin and executive member to view the payment evidence. 	<ul style="list-style-type: none"> Admin Executive Member Member
7	Manage Profile	<ul style="list-style-type: none"> The system shall allow the user to update their own personal details 	<ul style="list-style-type: none"> Admin Executive Member Member
8	Generate Report	<ul style="list-style-type: none"> The system shall allow admin and executive member to generate report based on member list. 	<ul style="list-style-type: none"> Admin Executive Member

4.3.2 Non-Functional Requirement

Table 4.3 Non- Functional Requirements

No	Requirement	Description
1	Security	Only registered username and password can access the system.
2	Usability	This system shall be a user friendly and ease of use with a minimal computer literacy and does not require any training to use the system.
3	Reliability	The system shall cater any information update and saved in the database.
4	Performance	The load time screen should take no longer than two seconds from the time of the request submittal.
5	Availability	This system shall be available and accessible 24/7.

5.3 System Design

5.3.1 Use Case

Use case diagram overview the requirements for KPSUMS. It is useful for presentations to the users. Figure 5.2 shows KPSU use case diagram which consists of three users. Users are also known as “Actor” named Admin, Executive Member and Member. These actors will demonstrate their specific actions of how they interact with KPSUMS.

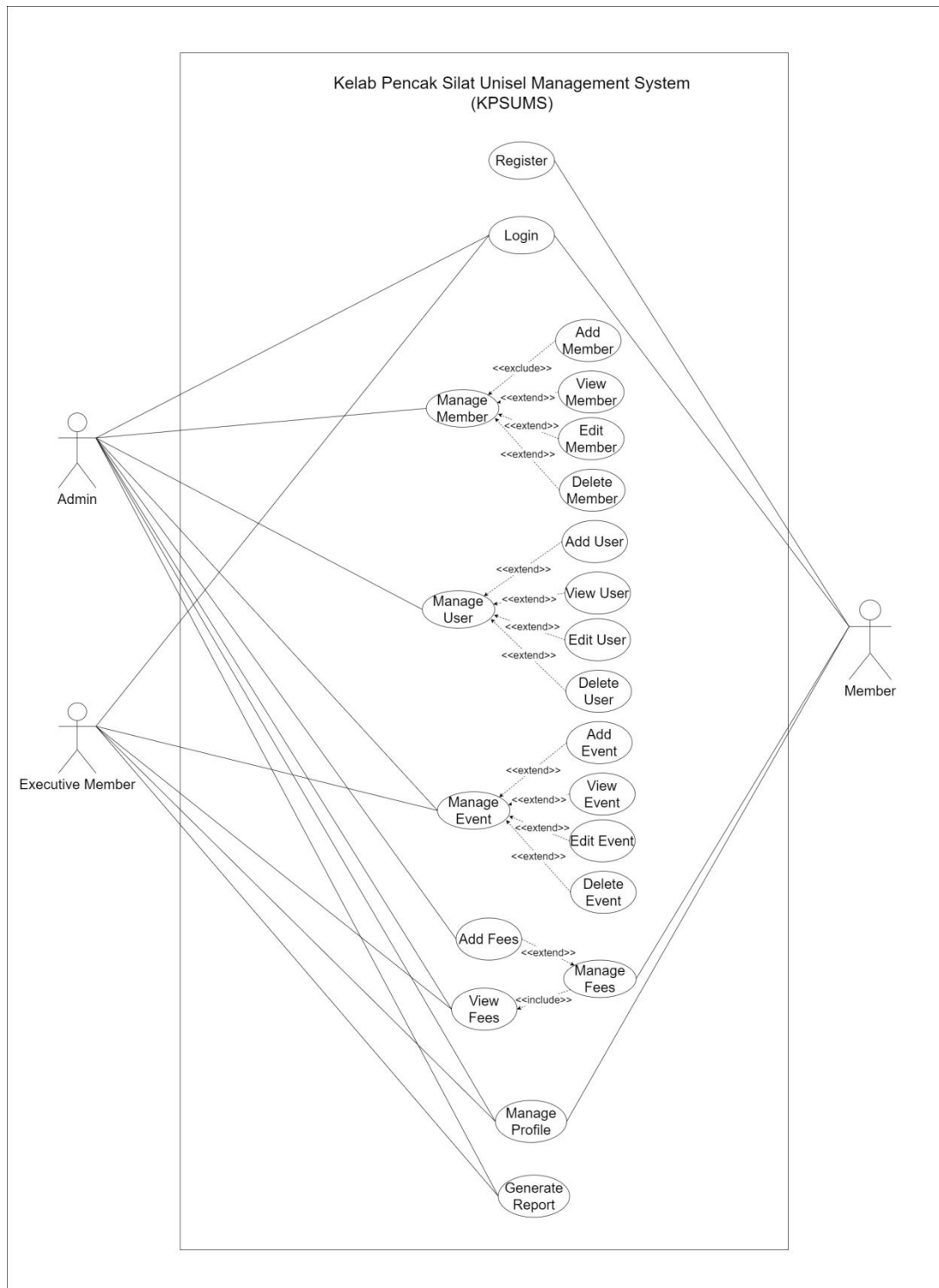


Figure 5.2 KPSUMS Use Case Diagram

Figure 5.2 indicates how admin, executive members and members are interacting with the KPSUMS.

5.3.1.1 Table of Description

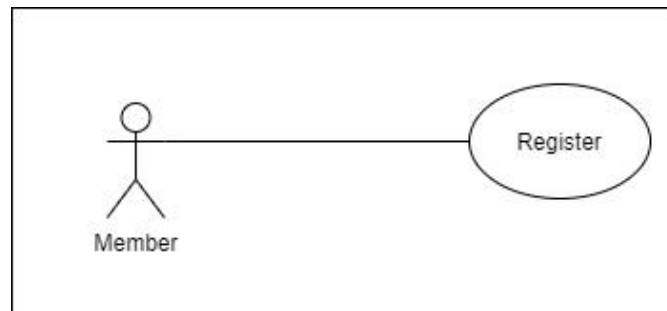


Figure 5.3 Use Case for Register

Table 5.1 Table Description for Register

Description	
Use case	Register
Actors	Member
Purpose	Member register themselves
Brief description	Member will register account to gain access to enter the system.
Pre-condition	Member must fill in the registration form to be registered
Post-condition	If the use case was successful, the user is able to access the system.
Flow of Events	
Actor Action	System Action
1. This use case begins when member register their account into the system.	3. Register the user if the user does not exist.
2. Member will register username, password and member details.	4. The information of the member will be saved at the database
Alternative Flow	
Line 3 : Invalid username or password if user already has been registered. Error message is displayed. Return to step 2	

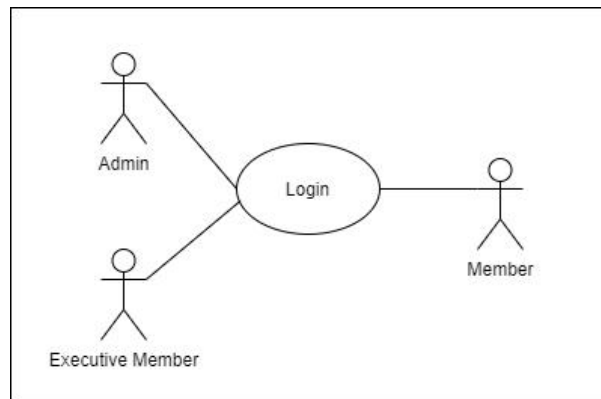


Figure 5.4 Use Case for Login

Table 5.2 Table Description for Login

Description	
Use case	Login
Actors	Admin, Executive Member and Member
Purpose	Login and validate the user
Brief description	Admin, Executive Member and Member will login to access the system. The system will validate the user's account.
Pre-condition	Admin, Executive Member and Member must exist. Admin, Executive Member and Member is known by the system
Post-condition	Admin, Executive Member and Member was logged in the system. The customer must register their account.
Flow of Events	
Actor Action	System Action
1. This use case begins when a user desires to login into the System 2. The user must enter the right username and password to be validated	3. Validate the user if the does user exist. 4. The user login into homepage.
Alternative Flow	
Line 3: Invalid email or password. Error message is displayed. Return to Step 2.	

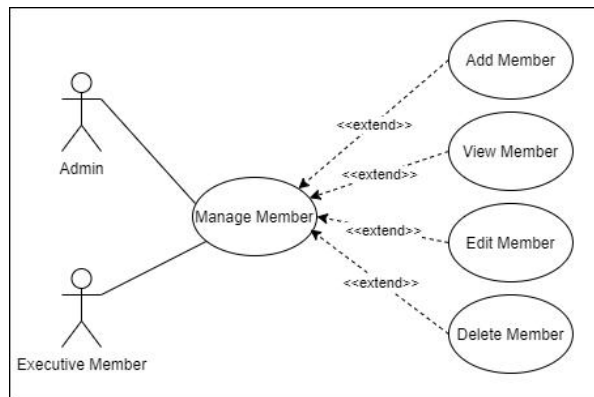


Figure 5.5 Use case for Manage Member

Table 5.3 Table Description for Manage Member

Description	
Use case	Manage Member
Actors	Admin, Executive Member
Purpose	Add, View, Edit, or Delete the member details
Brief description	Admin and executive member may add, view, edit or delete member details on the system. The system will perform the task and store the data and information.
Pre-condition	Admin, Executive Member and Member must exist. Admin, Executive Member and Member is known by the system.
Post-condition	Member details is recorded in the system.
Flow of Events	
Actor Action	System Action
1. This use case begins when admin and executive member desires to add, view, edit or delete member's details on the system	2. Add, View, Edit or delete member's details on the system. 3. Update the information in the system
Alternative Flow	
No Alternative Flow	

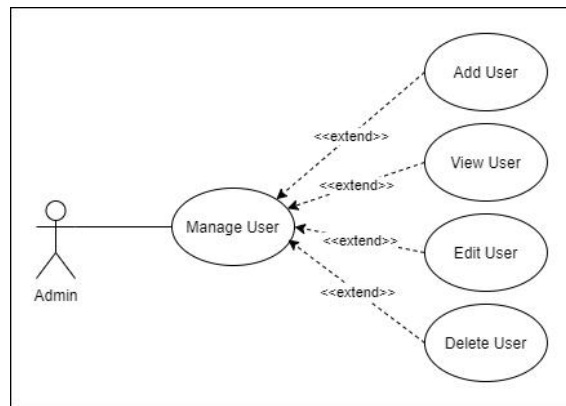


Figure 5.6 Use Case for Manage User

Table 5.4 Table Description for Manage User

Description	
Use case	Manage User
Actors	Admin
Purpose	Add, View, Edit, or Delete the user account
Brief description	Admin may add, view, edit or delete user's account details on the system. The system will perform the task and store the data and information.
Pre-condition	Executive Member must exist. Executive Member is known by the system.
Post-condition	Executive Member account details is recorded in the system.
Flow of Events	
Actor Action	System Action
4. This use case begins when admin desires to add, view, edit or delete executive member's account on the system	5. Add, View, Edit or delete executive member's account on the system. 6. Update the information in the system
Alternative Flow	
No Alternative Flow	

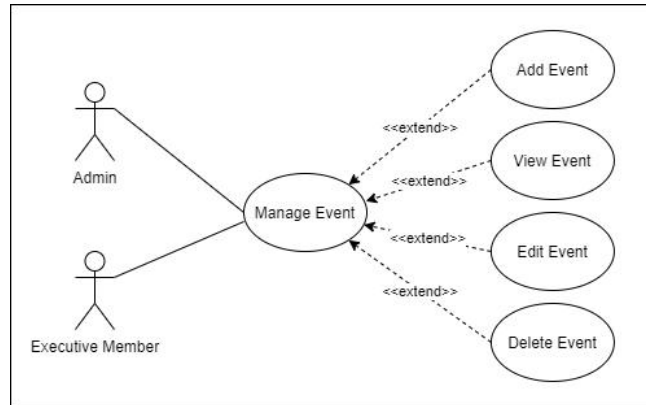


Figure 5.7 Use Case for Manage Event

Table 5.5 Table Description for Manage Event

Description	
Use case	Manage Event
Actors	Admin, Executive Member
Purpose	Add, View, Edit, or Delete the event details
Brief description	Admin and Executive Member may add, view, edit or delete the event details on the system. The system will perform the task and store the data and information.
Pre-condition	Admin and Executive Member must exist. Admin and Executive Member is known by the system.
Post-condition	Event details is recorded in the system.
Flow of Events	
Actor Action	System Action
1. This use case begins when admin and executive member desires to add, view, edit or delete the event details on the system	2. Add, View, Edit or delete the event details on the system. 3. Update the information in the system
Alternative Flow	
No Alternative Flow	

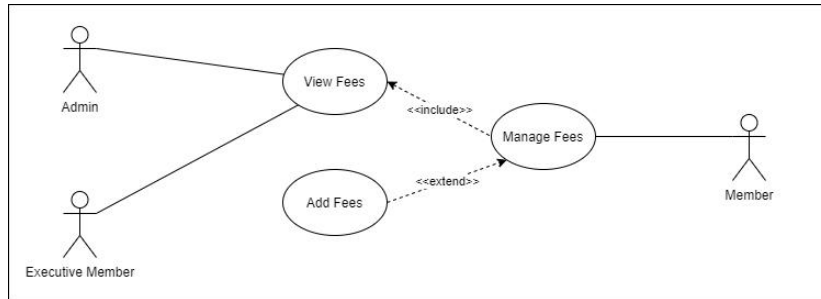


Figure 5.8 Use Case of Manage Fees

Table 5.6 Table description for Manage Fees

Description	
Use case	Manage Fees
Actors	Admin, Executive Member and Member
Purpose	View fees and upload receipt
Brief description	Admin and Executive member may view the payment details. Member may upload receipt as evidence for paying the fees.
Pre-condition	Admin, Executive Member and Member must exist. Admin, Executive Member and Member is known by the system.
Post-condition	Payment details is recorded and can be viewed in the system.
Flow of Events	
Actor Action	System Action
1. This use case begins when the member desire to upload their fees receipt to be stored as the payment evidence on the system. 2. The admin, executive member and the member is able to view the fees details.	3. Upload the fees evidence in the the system 4. View the event details on the system.
Alternative Flow	

No Alternative Flow

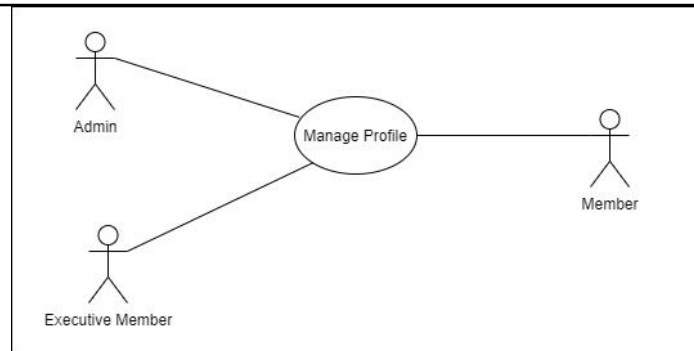


Figure 5.9 Use case diagram for Manage Profile

Table 5.7 Table description for Manage Profile

Description	
Use case	Manage Profile
Actors	Admin, Executive Member and Member
Purpose	Admin, Executive Member and Member edit their own profile details
Brief description	Admin, Executive Member and Member may edit their profile details The system will perform the task and store the data and information.
Pre-condition	Admin, Executive Member and Member must exist. Admin, Executive Member and Member is known by the system.
Post-condition	Changes of profile details is recorded and can be viewed in the system.
Flow of Events	
Actor Action	System Action
1. This use case begins when the admin, executive member and member desire to edit their personal profile.	2. Edit profile details on the system.
Alternative Flow	
No Alternative Flow	

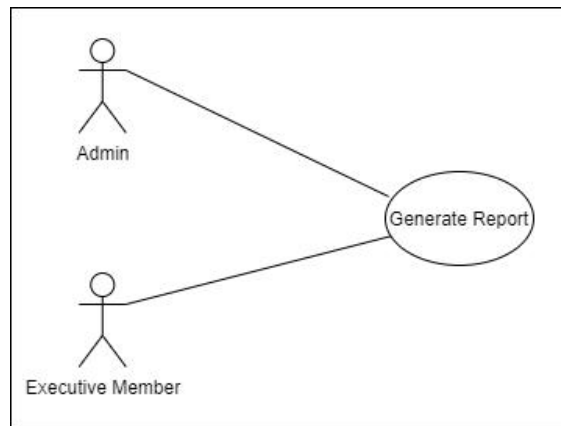


Figure 5.10 Use case for Generate Report

Table 5.8 Table Description for Generate Report

Description	
Use case	Generate report
Actors	Admin, Executive Member
Purpose	Admin, Executive Member is able to generate report
Brief description	Admin, Executive Member may generate report
Pre-condition	Admin and Executive Member must exist. Admin and Executive Member is known by the system.
Post-condition	Member's data is generated successfully and can be viewed
Flow of Events	
Actor Action	System Action
1. This use case begins when admin and executive member desires to generate report of member's data. 2. The report of member can be viewed.	3. Generate member's data report if the member is exist.
Alternative Flow	
No Alternative Flow	

5.3.2 Sequence Diagram

Sequence diagram graphically assist in showing how the objects do interact with each other through the message in the execution of the use case. This sequence diagram will show how the message are sent as well as received between the objects in the sequences. Figures below shows KPSUMS sequence diagram which consists of eight use cases.

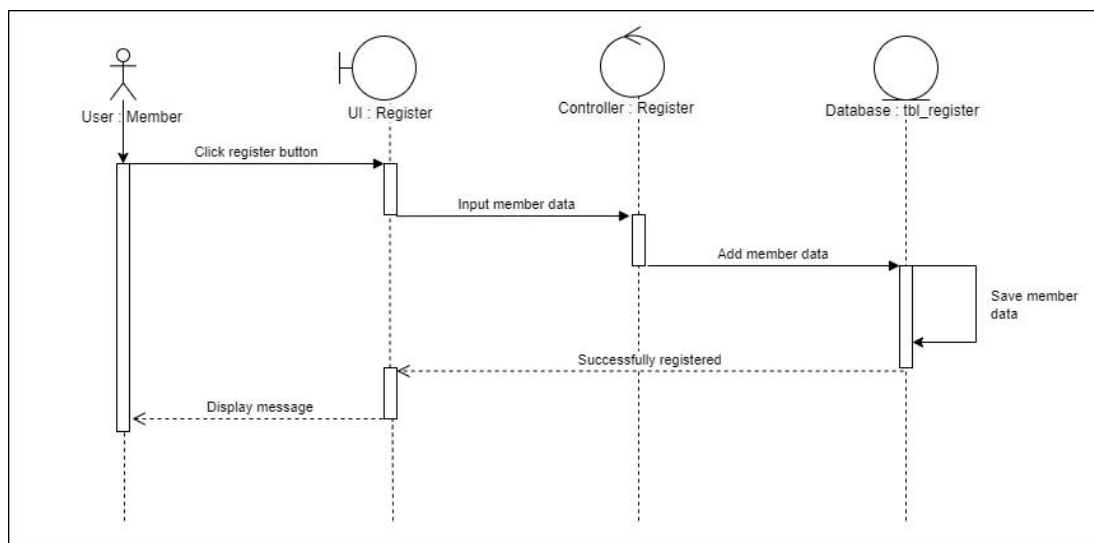


Figure 5.11 Register Sequence Diagram

Figure 5.11 shows that sequence diagram for KPSUMS register. It demonstrates how the registration process for member. After registration complete, member data will be added and the account information is saved in the database.

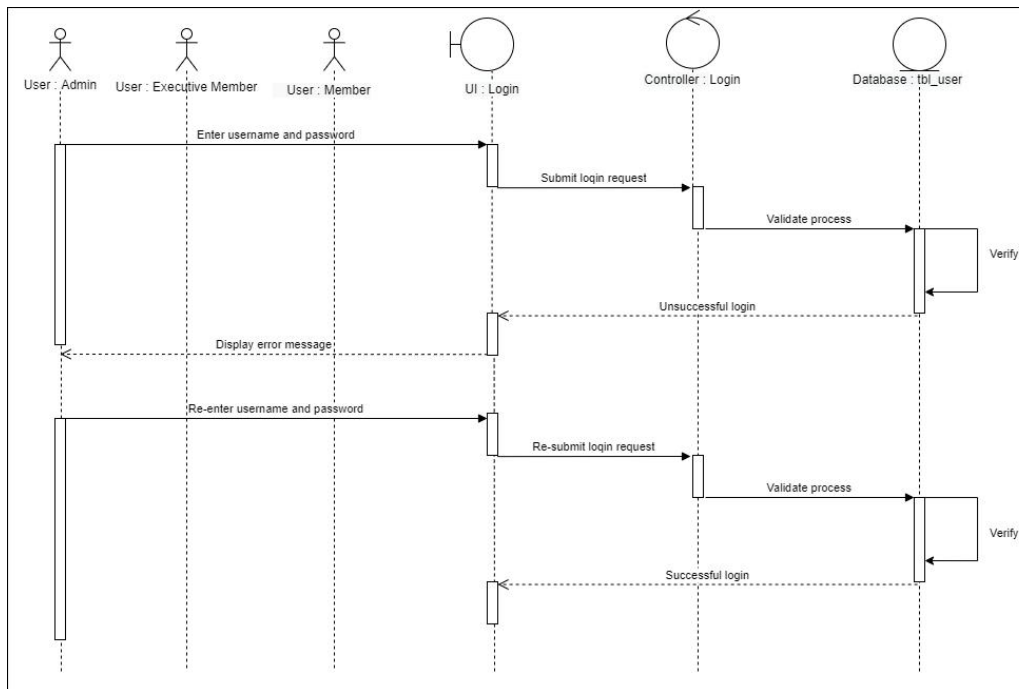


Figure 5.12 Login Sequence Diagram

Figure 5.12 shows that sequence diagram for KPSUMS login. It demonstrates how the login process for the users.

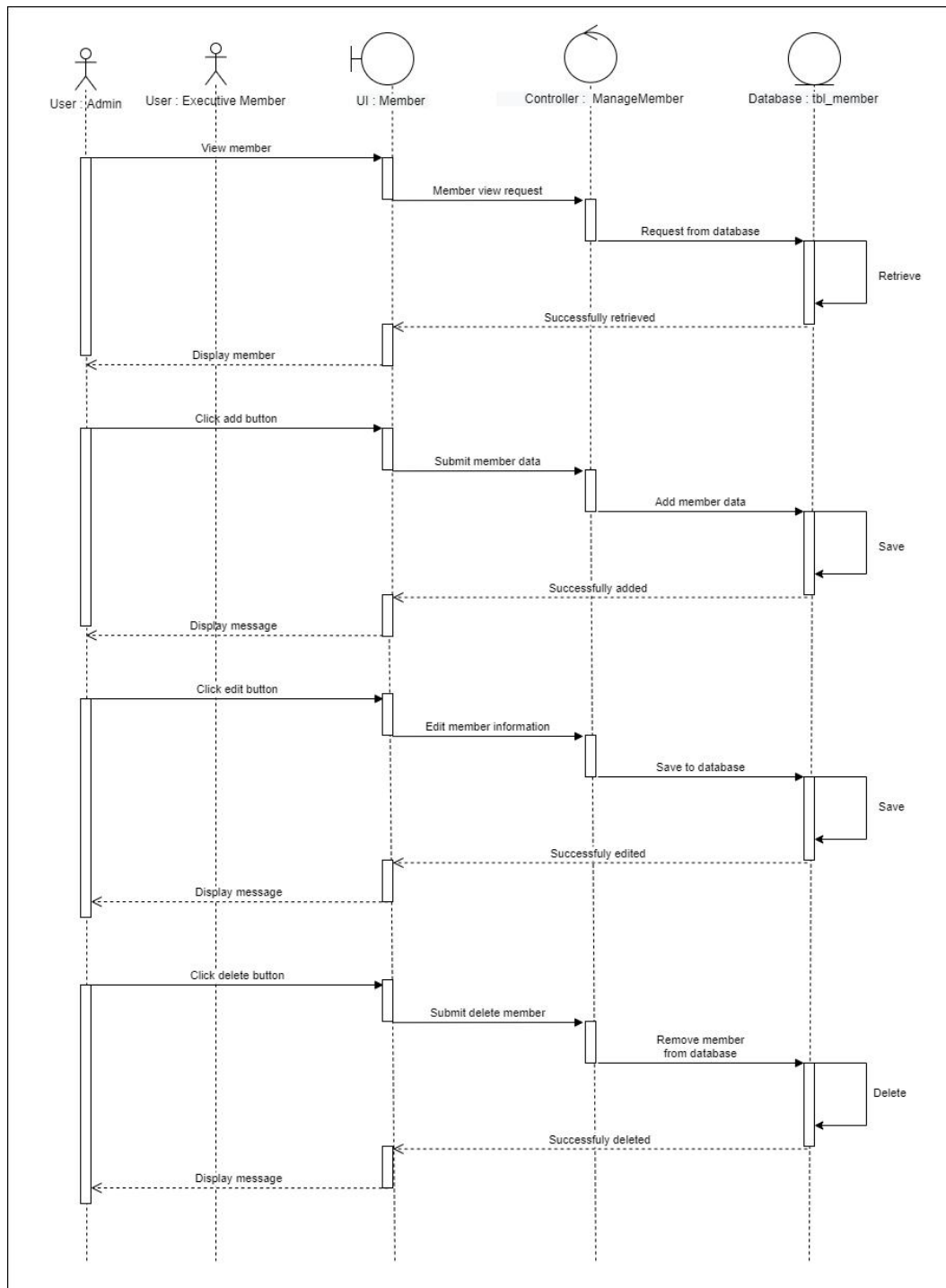


Figure 5.13 Manage Member Sequence Diagram

Figure 5.13 shows that sequence diagram for KPSUMS manage member. It demonstrates how the add, view, edit and delete member. This process is handle by admin and executive member. The member is saved in the database.

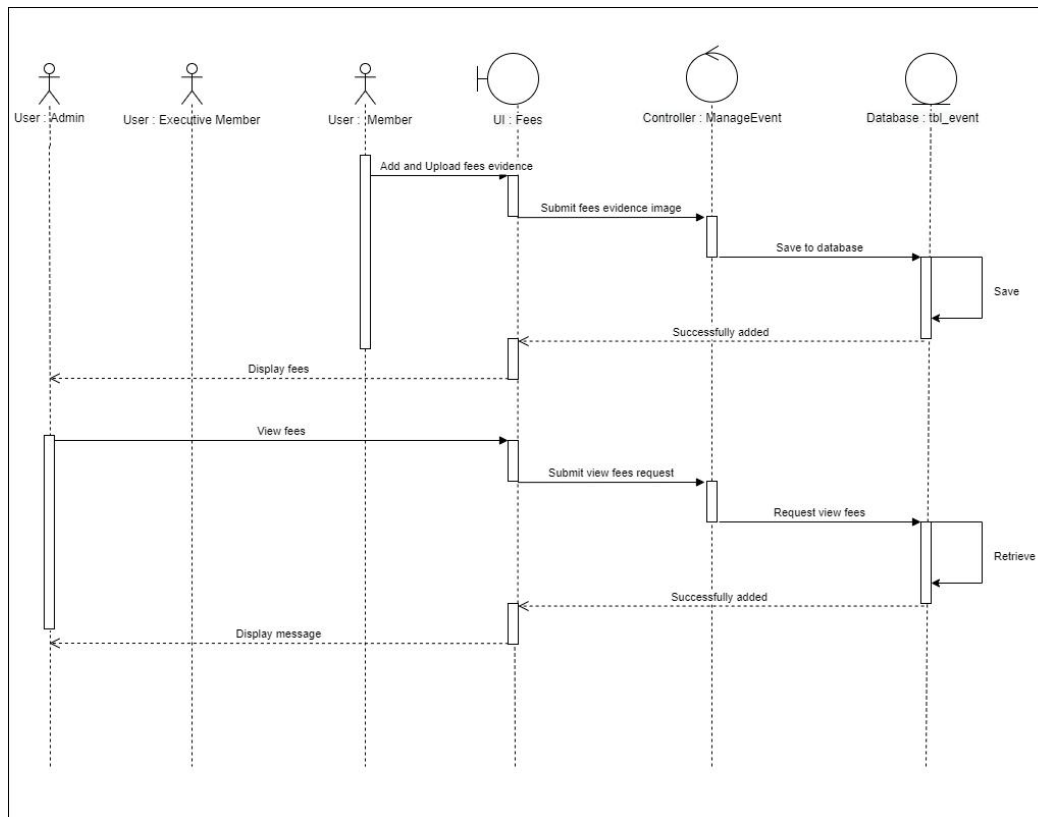


Figure 5.14 Manage Fees Sequence Diagram

Figure 5.14 shows that sequence diagram for KPSUMS manage fess. It demonstrates how the user upload and view fees. This process involve admin, executive member and member. Admin and executive member may view the payment details. While member may upload receipt as evidence for paying the fees.

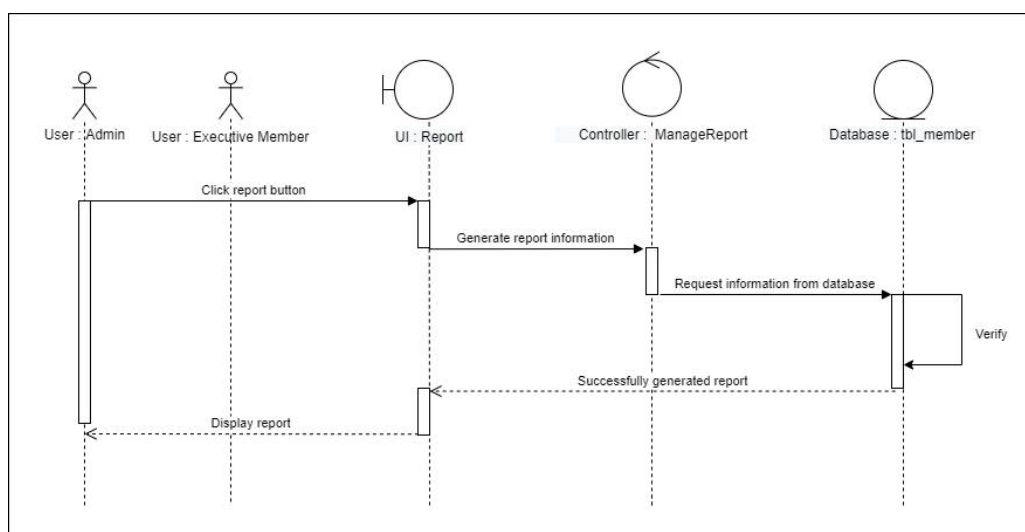


Figure 5.15 Generate Report Sequence Diagram

Figure 5.15 shows that sequence diagram for KPSUMS generate report. It demonstrates how the process of generating the report then request the report information from database. This process handle by admin and executive member.

5.3.3 Class Diagram

Class diagram would illustrate the object-oriented view of KPSUMS. It describes the structure of system by showing the system classes, attributes, methods and relationship between them. The main classes of KPSUMS are Admin, User, Member, Event and Fees. Each class contains various attributes and methods where it allows calling other class attributes to share data. Figure 5.18 below shows a class diagram of KPSUMS.

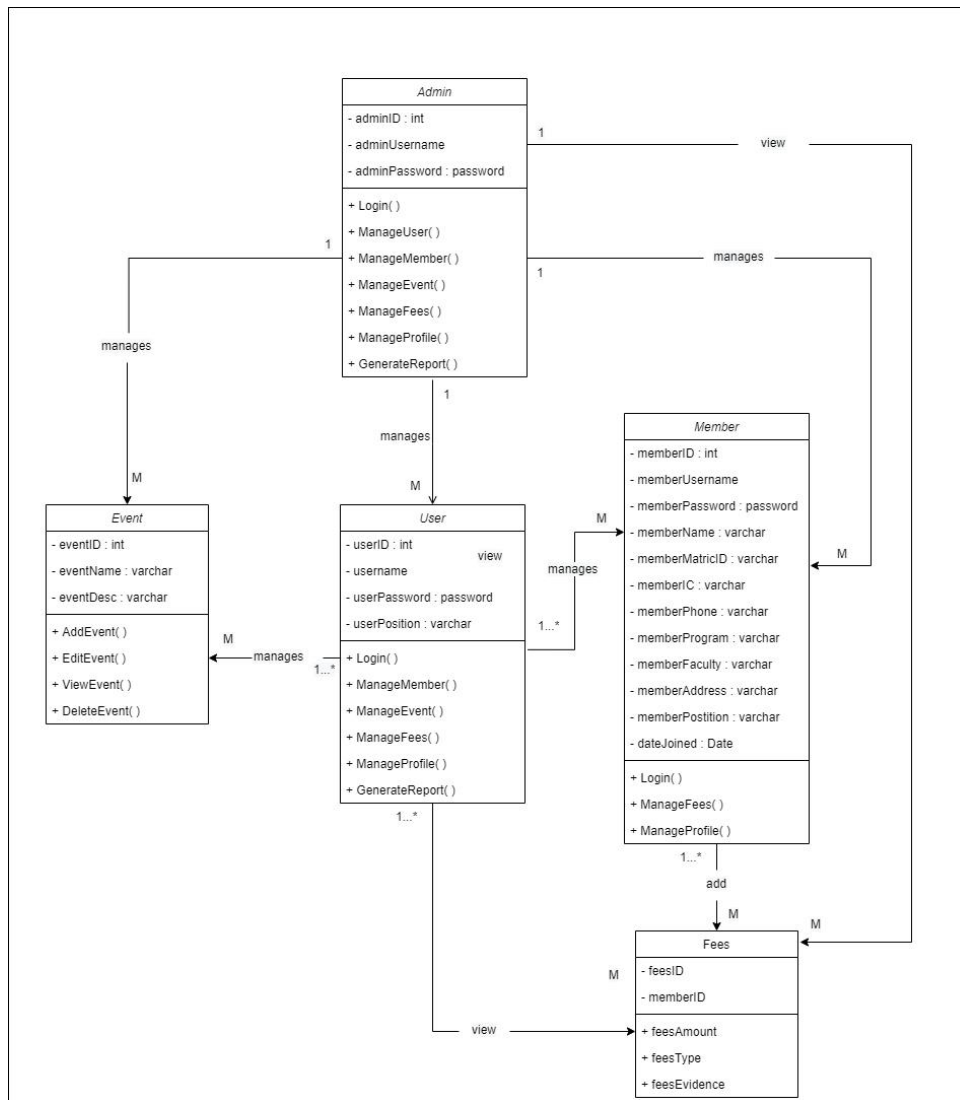


Figure 5.16 Class Diagram for KPSUMS

Based on figure 5.18 shows that all the classes were connected by a solid line that shows a relationship between the classes. The type of relationship is called association. In KPSUMS admin will manage user, member, event and fees. While the executive member is able to manage member, event and fees. But admin and executive member can only view fees evidence module because fees module can only be access by member.

5.3.4 Activity Diagram

Activity diagram is a simple illustration of what happens in a workflow. Overall, it represents the flow form of one activity to another such as flow chart. By constructing an activity diagram, it describes on how the activities are performed by the system. Figure 5.27 below shows an activity diagram of KPSUMS.

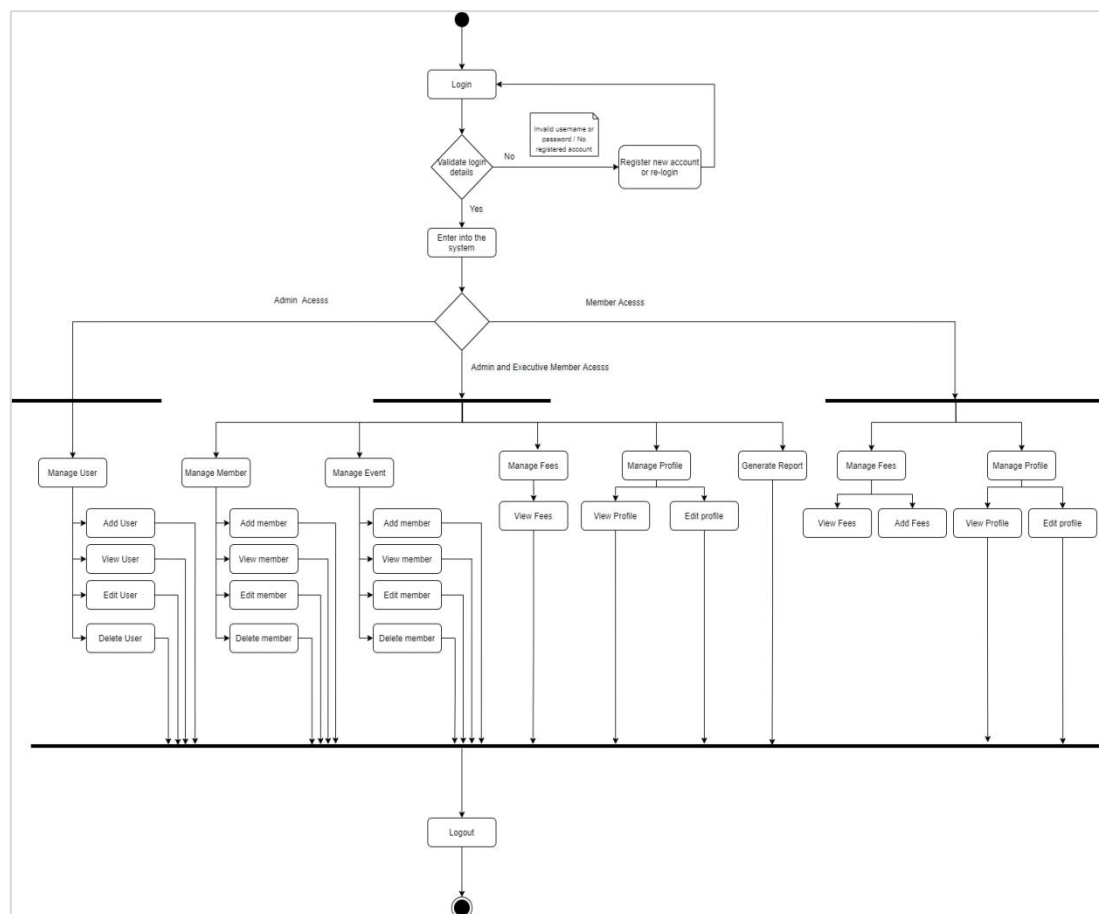


Figure 5.17 Activity Diagram for KPSUMS

Figure 5.19 shows an activity diagram for overall activities that are involved in KPSUMS. It shows that KPSUMS has three type of user level that can access into the system which consists of admin, executive member and member. The different type of user level is to allow access constraint for all users. Admin is able to access all modules in KPSUMS whereas executive member and member is restricted from accessing manage user. Member is able to upload fees evidence and manage their own account profile.

5.4 Database Design

5.4.1 ERD Diagram

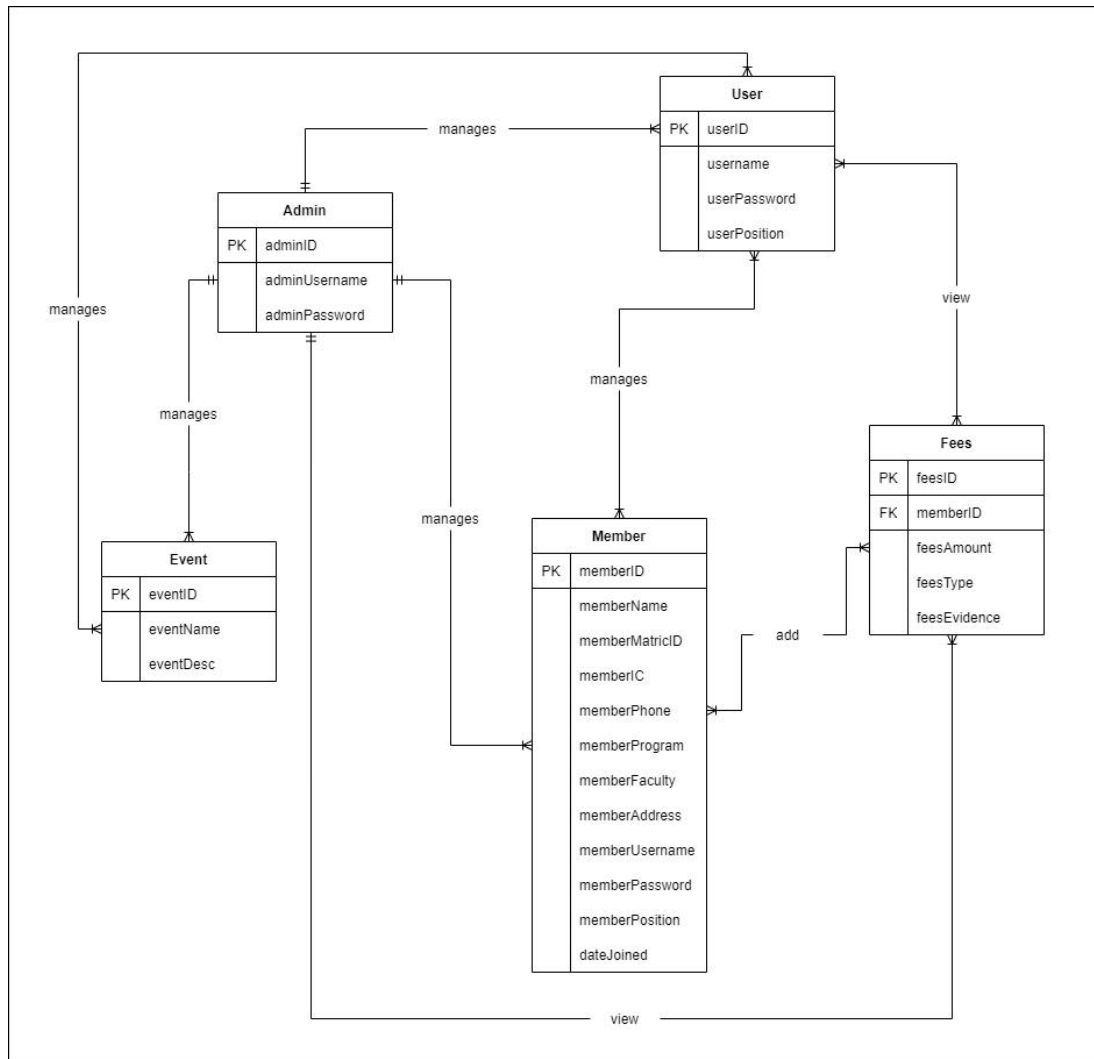


Figure 5.18 Entity-Relationship Diagram for KPSUMS

Figure 5.20 above shows KPSUMS entity relationship between entities and their functions in each relationship. This database design is represent using Crow's Foot Model. The tables are made to meet the required specification of the system and provide a much more specific detail of each entities within KPSUMS.

5.4.2 Data Dictionary

Data dictionary is an integral part of database. It contains data about data. It provides the entire database tables details such as key, attributes, data type and description. This is a valuable to understand requirements and design. Table below shows data dictionary of KPSUMS.

Table 5.9 Data Dictionary for Admin

Key	Attribute	Data Type	Description
PK	adminID	int	Unique id for admin
	adminUsername	varchar	Username for admin
	adminPassword	password	Login password for admin

Table 5.10 Data Dictionary for User

Key	Attribute	Data Type	Description
PK	userID	int	Unique id for user
	username	varchar	Username for user
	userPassword	password	Login password for user
	userPosition	varchar	Position of user

Table 5.11 Data Dictionary for Member

Key	Attribute	Data Type	Description
PK	memberID	int	Unique id for member
	memberUsername	varchar	Username for member
	memberPassword	password	Login password for member
	memberName	varchar	Name of member
	memberMatricID	varchar	Matric ID of member
	memberIC	varchar	IC of member
	memberPhone	varchar	Phone number of member

	memberProgram	varchar	Programme of member
	memberFaculty	varchar	Faculty of member
	memberAddress	varchar	Address of member
	memberPosition	varchar	Position of member
	dateJoined	Date	Date of joined as member

Table 5.12 Data Dictionary for Fees

Key	Attribute	Data Type	Description
PK	feesID	int	Unique id for fees
FK	memberID	int	Unique id for member
	feesAmount	double	Amount of fees
	feesType	varchar	Type of fees
	feesEvidence	text	Image of fees evidence

Table 5.13 Data Dictionary for Event

Key	Attribute	Data Type	Description
PK	eventID	int	Unique id for event
	eventName	varchar	Name of event
	eventDesc	varchar	Description of event

5.5 Interface Design

5.5.1 Home Page

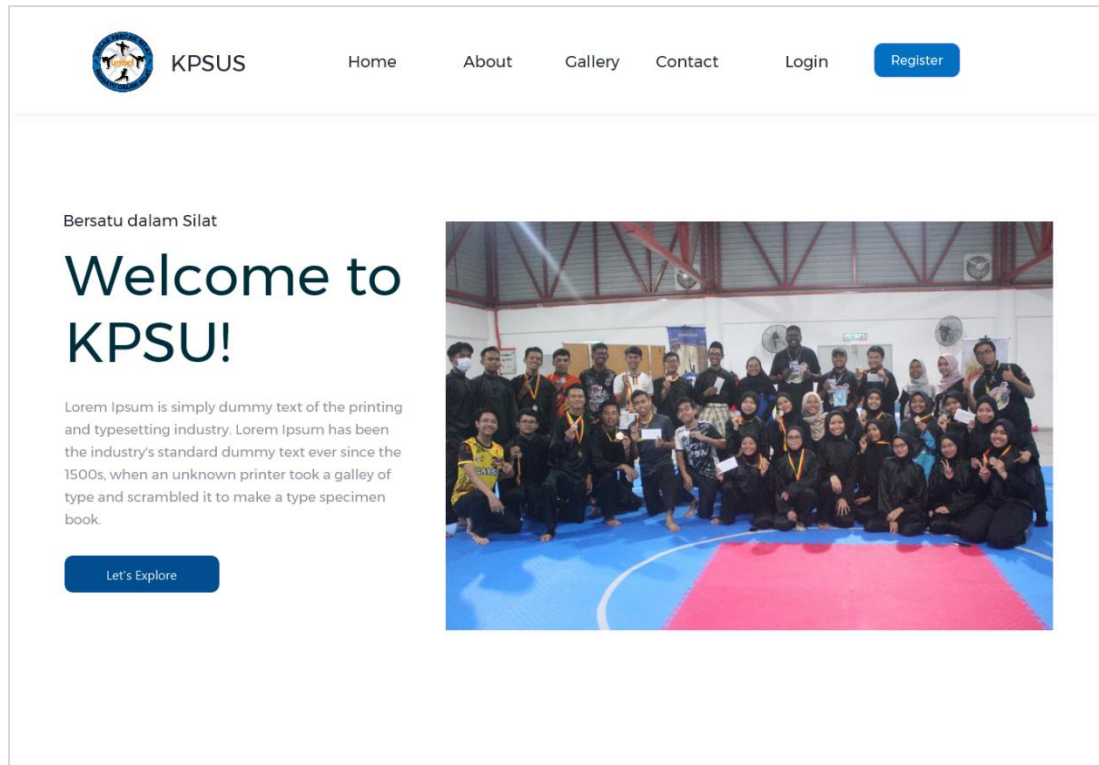
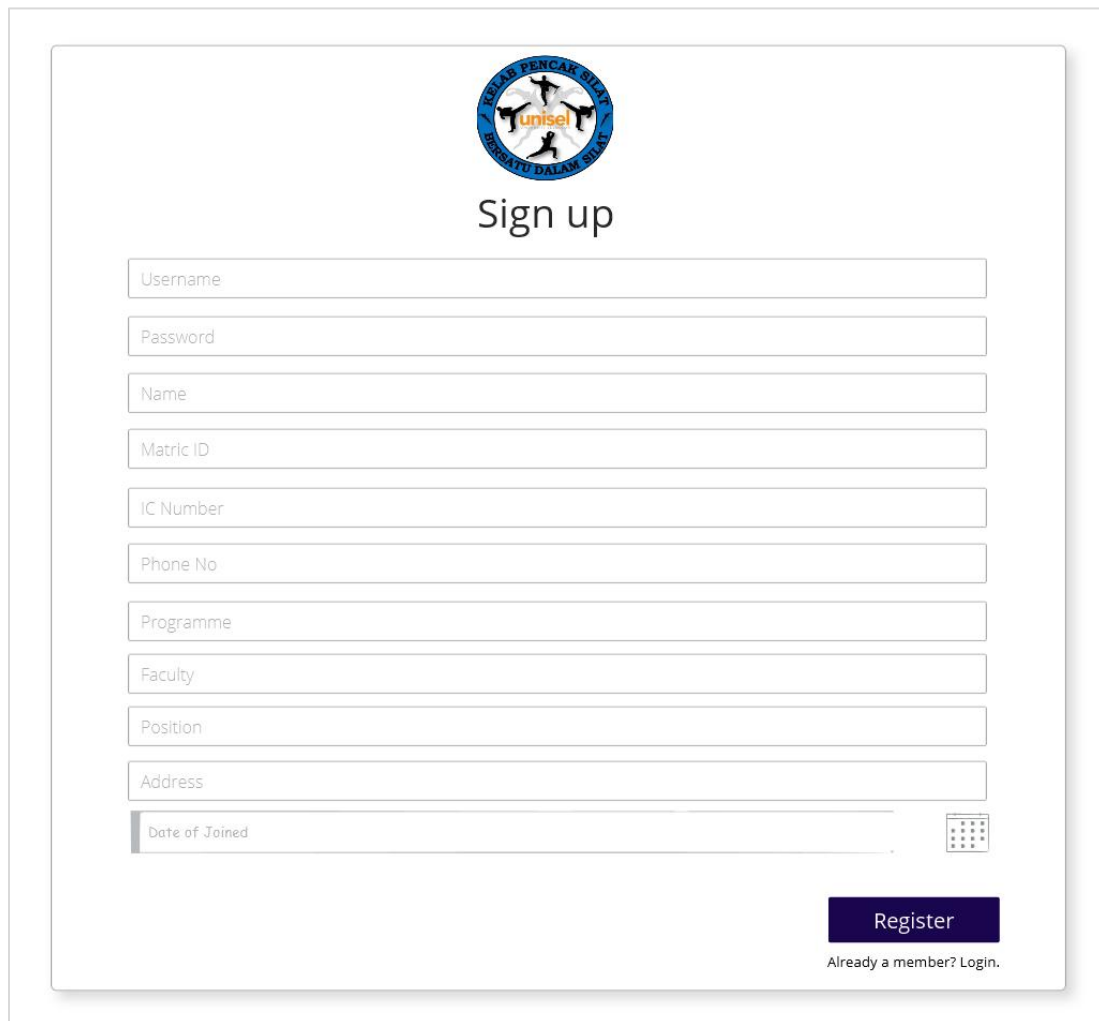


Figure 5.19 Home Page

Figure 5.21 shows the home page of KPSU Management System. This UI is designed for all users before login into their own account. Each user has different level access to the system.

5.5.2 Register Page

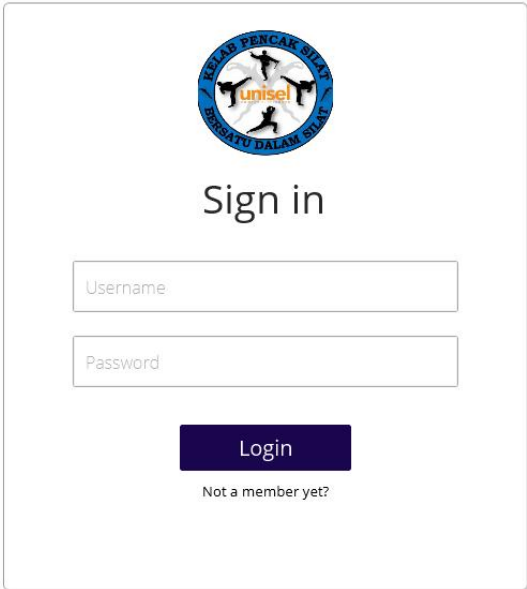


The screenshot displays a web registration form titled "Sign up". At the top center is a circular logo for "KELAB PENCAR SILAT unisel BERSATU DALAM SIAT". Below the logo, the text "Sign up" is centered. The form consists of several input fields stacked vertically: "Username", "Password", "Name", "Matric ID", "IC Number", "Phone No", "Programme", "Faculty", "Position", "Address", and "Date of Joined". The "Date of Joined" field includes a small calendar icon. At the bottom right of the form is a dark blue "Register" button. Below the button, the text "Already a member? Login." is displayed.

Figure 5.20 Registration Page

Figure 5.22 shows the member registration form page in KPSUMS. Member need to fill the form before login and perform their tasks in the system.

5.5.3 Login Page



The login page features a central white box with a blue border. At the top of this box is a circular logo for KPSUMS (Kelas Pencak Silat Unisel) with the text 'BERSATU DALAM SUKSES' around the perimeter. Below the logo, the text 'Sign in' is displayed in a large, black, sans-serif font. Underneath 'Sign in' are two input fields: the first is labeled 'Username' and the second is labeled 'Password'. Below these fields is a dark blue rectangular button with the word 'Login' in white text. At the bottom of the box, there is a link that says 'Not a member yet?'.

Figure 5.21 Login Page

Figure 5.23 shows the login page for all the users of KPSUMS. This login page requires the user to fill in their registered username and password. The password will help to prevent unauthorized user from accessing the system. Authorized user may proceed to click 'Login' button to gain access into the system.

5.5.4 Member List Page

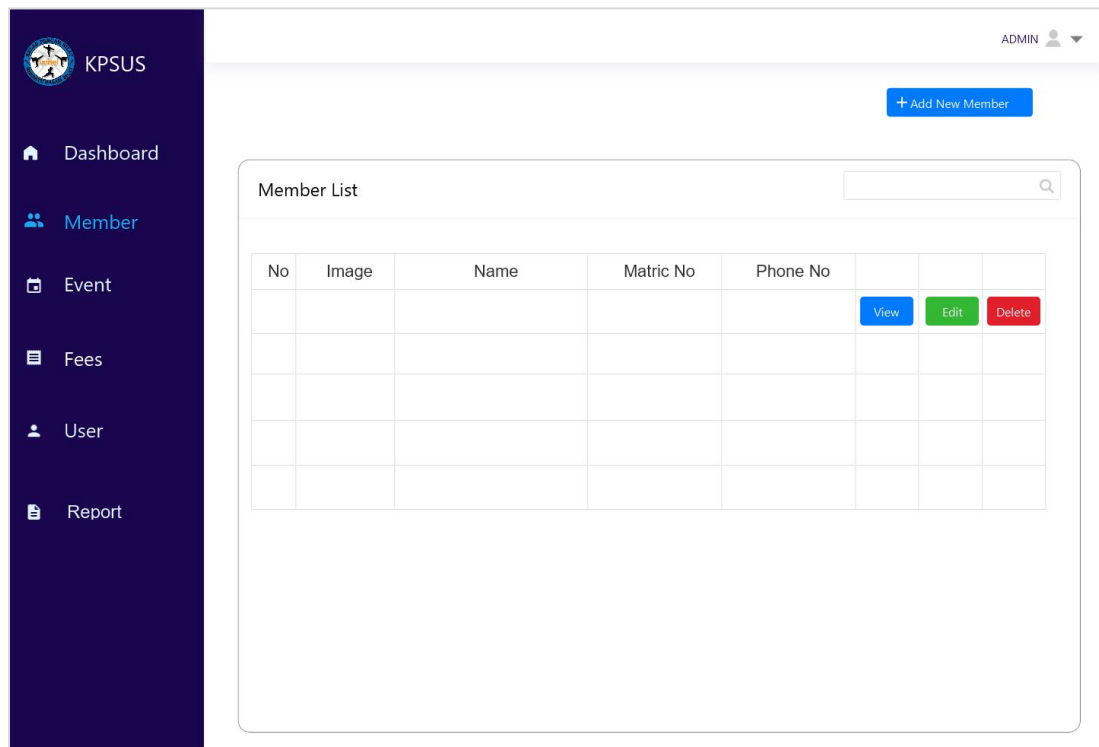


Figure 5.22 Member List Page

Figure 5.24 shows the view member list page in KPSUMS. Admin and executive member shall be able to view each individual member.

5.5.5 Add Member Page

The screenshot displays the 'Add Member' page within the KPSUS application. On the left, a dark blue sidebar contains a vertical menu with icons and labels for 'Dashboard', 'Member' (which is highlighted in blue), 'Event', 'Fees', 'User', and 'Report'. The top of the sidebar features the KPSUS logo. The main content area has a white background and is titled 'Add Member'. It contains a form with the following fields: 'Name', 'Matric ID', 'Phone Number', 'IC Number', 'Programme', 'Faculty', 'Current Address', 'Username', 'Password', 'Position', 'Date of Joined' (which includes a small calendar icon), and 'Image' (which includes a 'Choose File' button). An 'Add' button is positioned at the bottom right of the form. In the top right corner of the application window, the text 'ADMIN' is visible next to a user profile icon and a dropdown arrow.

Figure 5.23 Add Member Page

Figure 5.25 shows the add member page in KPSUMS. Admin and executive member shall able to manage member in this system including add, edit and delete member. That information of member will be display in the member page in KPSUMS.

5.5.6 Edit Member Page

The screenshot displays the 'Edit Member' page within the KPSUS system. On the left, a dark blue sidebar contains the KPSUS logo and a list of navigation options: Dashboard, Member (which is currently selected and highlighted in blue), Event, Fees, User, and Report. The main content area is titled 'Edit Member' and contains a form with the following fields: Name, Matric ID, Phone Number, IC Number, Programme, Faculty, Current Address, Username, Password, Position, Date of Joined (with a calendar icon), and Image (with a placeholder icon and a 'Choose File' button). An 'Edit' button is positioned at the bottom right of the form. The top right corner of the page shows the user 'ADMIN' with a dropdown arrow.

Figure 5.24 Edit Member Page

Figure 5.26 shows the edit member page in KPSUMS. Admin and executive member shall able to edit member's details. The changes will be update and stored in the database.

5.5.7 Add User Page

The screenshot displays the 'Add User' interface within the KPSUS application. On the left, a dark blue sidebar contains the KPSUS logo and a list of navigation options: Dashboard, Member, Event, Fees, User (which is currently selected and highlighted in blue), and Report. The main content area has a light gray background and is titled 'Add User'. It contains a form with the following fields: 'Username' (a text input field), 'Password' (a text input field), and 'Position' (a text input field). Below these is an 'Image' field, which includes a placeholder icon of a person and a 'Choose File' button. At the bottom right of the form, there is a dark blue button labeled 'Add'.

Figure 5.25 Add User Page

Figure 5.27 above the add user page in KPSUMS. Only admin has the authorization to manage user including add, edit and delete users of the system. That users are the executive member of KPSU.

5.5.8 Add Event Page

The screenshot shows the 'Add Event' page in the KPSUS system. On the left is a dark blue sidebar with the KPSUS logo and navigation links: Dashboard, Member, Event (highlighted in blue), Fees, User, and Report. The top right of the page shows 'ADMIN' with a user icon and a dropdown arrow. The main content area is titled 'Add Event' and contains a form with two input fields: 'Event' and 'Event Description'. An 'Add' button is located at the bottom right of the form.

Figure 5.26 Add Event Page

Figure 5.28 shows the add event page in KPSUMS. Admin and executive member shall be able to manage event in this system including add, edit and delete event. That information of event will be display in the event list page in KPSUMS.

5.5.9 View Fees Page

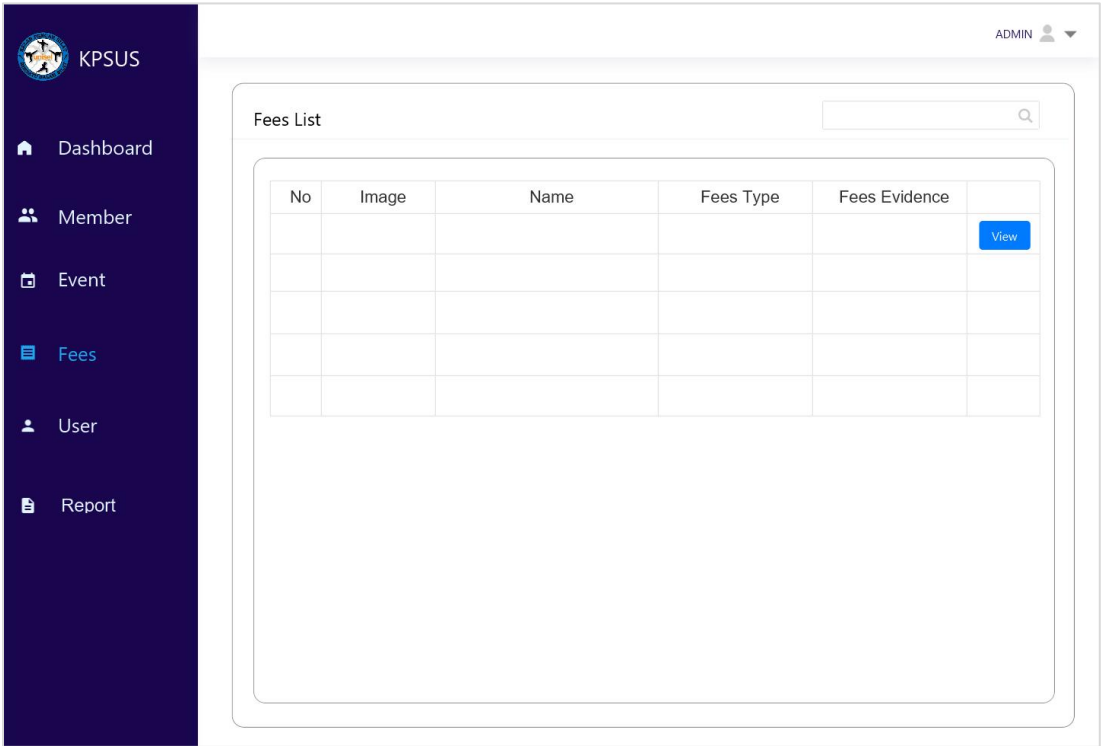


Figure 5.27 View Fees Page

Figure 5.29 shows the view fees list page in KPSUMS. Admin and executive member shall be able to view overall fees list that has been made by member.

5.5.10 Generate Report Page

ADMIN

Member Report

Start Date

End Date [FIND](#) [PRINT](#)

No	Image	Name	Matric No	Date of Joined	
					View

Figure 5.28 Generate Report Page

Figure 5.30 shows the member report page in KPSUMS. Admin and executive member shall generate the member report by entering the selected date and clicking 'Find' button. The generated member report can be printed by clicking 'Print' button.

5.5.11 Manage Profile Page

KPSUS

ALINI KHAIRINA

Dashboard

Profile

Fees

My Profile

Name

Matric ID

Phone Number

IC Number

Programme

Faculty

Current Address

Username

Password

Position

Date of Joined

Image

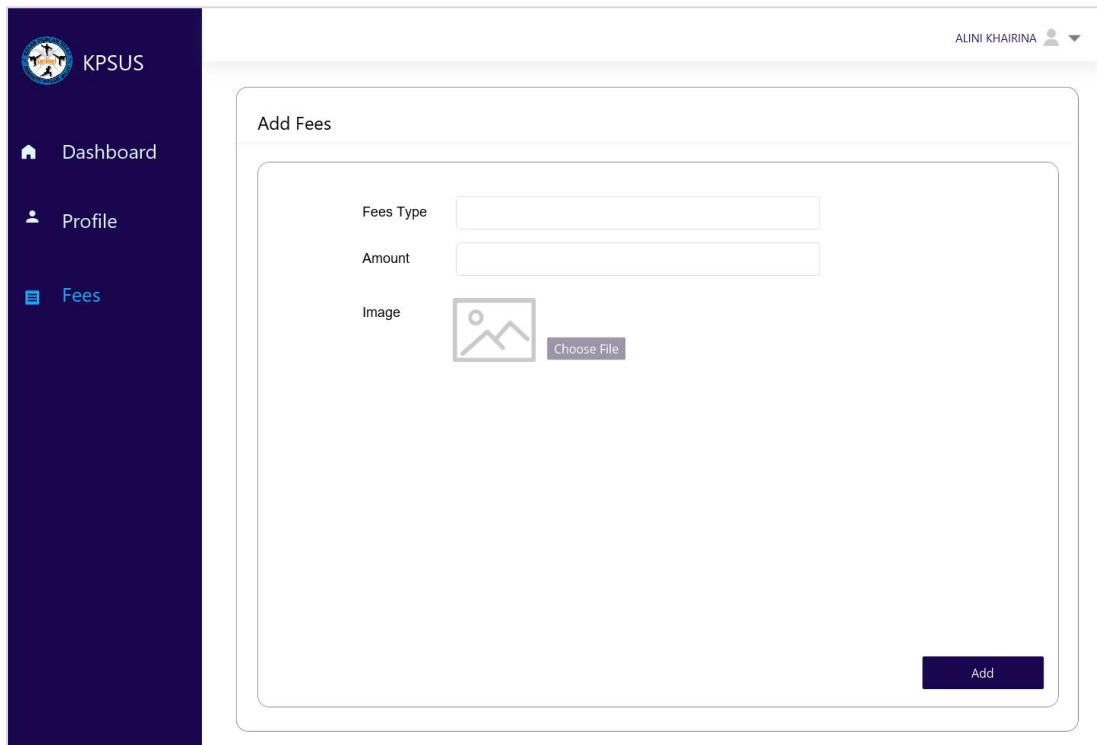
Choose File

Update

Figure 5.29 Manage Profile Page

Figure 5.31 shows the manage profile page in KPSUMS. This UI is for member if they have the desire to edit their own profile details. The changes made by them will be saved in the database.

5.5.12 Add Fees Page



The screenshot displays the 'Add Fees' page within the KPSUS application. On the left, a dark blue sidebar contains the KPSUS logo and three navigation items: 'Dashboard', 'Profile', and 'Fees'. The 'Fees' item is highlighted. The main content area, titled 'Add Fees', features a form with three input fields: 'Fees Type', 'Amount', and 'Image'. The 'Image' field includes a placeholder icon and a 'Choose File' button. An 'Add' button is positioned at the bottom right of the form. The top right corner of the page shows the user's name 'ALINI KHAIRINA' and a dropdown arrow.

Figure 5.30 Add Fees Evidence Page

Figure 5.32 shows the add fees page in KPSUMS. This UI is for member add fees by fill in the type of fees, amount and upload the fees evidence. The information will be stored in the database.