



JANAPRIYA MULTIPLE CAMPUS

जनप्रिय बहुमुखी क्याम्पस, पोखरा

AFFILIATED TO TRIBHUVAN UNIVERSITY



LAB REPORT OF SOFTWARE ENGINEERING

SUBMITTED TO:
MEKH RAJ POUDEL

SUBMITTED BY:
SHREYA BHARATI
SYMBOL NO: 12451/20
BIM 6th SEMESTER

May, 2024

Tribhuvan University
Janapriya Multiple Campus
Pokhara

INDEX

S.N.	TOPIC	PAGE NO.	TEACHER'S SIGNATURE
1.	Introduction of the Organization	1	
2.	Introduction of the system	1	
3.	Requirement Specification	2	
4.	System Design	4	
5.	System Testing	8	
6.	Conclusion	10	

1. Introduction of the Organization

Planet Spa stands as a premier destination for those in pursuit of relaxation and rejuvenation in Lakeside, Pokhara-06. Renowned for its exceptional range of spa treatments, beauty services, and skincare therapies, it offers a luxurious and tranquil environment where guests can unwind and indulge in high-quality services. Catering to both locals and tourists, Planet Spa invites individuals to step into its serene oasis and experience personalized treatments from skilled therapists. Whether seeking break from the daily grind or looking to enhance a vacation experience, visitors are welcomed to immerse themselves in a world of tranquility and well-being at Planet Spa.

Despite its esteemed reputation and dedication to excellence, Planet Spa struggles with the inefficiencies of manual data management systems. Relying on outdated methods and basic software solutions for handling member information has resulted in recurring issues such as errors in records, missed appointments, and billing inconsistency. These challenges not only hinder operational efficiency but also compromise the high service standards the spa aims to deliver. As demand for their services continues to rise, addressing these data management challenges has become a vital necessity for Planet Spa to maintain its esteemed position in the competitive landscape of Lakeside. To further enhance the experience, they plan to implement the Membership Management System that can streamline and automate the membership process.

2. Introduction of the System

The Membership Management System (MMS) is designed to address the challenges in managing the member data of Planet Spa efficiently. It facilitates the entire membership lifecycle, including member registration, profile updates, membership renewals, and expiration tracking. By streamlining these processes, the system reduces the manual workload on administrative staff, minimizes the risk of errors, and ensures a seamless experience for members. With the MMS, Planet Spa can maintain accurate and up-to-date records, manage membership renewals effortlessly, and generate detailed reports on membership and revenue.

This system is a comprehensive solution that allows users to easily apply for membership online, while administrators can efficiently approve or reject applications, issue membership numbers, and manage member profiles. The system supports seamless membership renewals and allows for updates to membership types. Additionally, it provides detailed membership and revenue reports, offering valuable insights for decision-making. Administrators can also update system settings, including the system name and passwords, ensuring security and customization. Overall, this system enhances operational efficiency, improves member experience, and supports the growth of Planet Spa, solidifying its reputation as a leading spa destination.

3. Requirement Specification

Requirement specification for Planet Spa's membership management system entails listing what the system needs to do, like storing member data, automating tasks, generating reports, generating membership card and having easy-to-use interfaces. This ensures smoother operations, accurate data, happier members, and business growth. The requirements can be of two types as mentioned below:

3.1 Functional Requirement

Functional requirements specify the essential tasks a system must perform, such as managing user data, generating reports, and ensuring security. They outline the system's core functions to meet user needs effectively. They define the application features that developers must implement to allow users to complete their tasks.

Here are some of the functional requirements for Planet Spa's MMS:

- Allow new members to apply membership by providing their details.
- Enable admin to approve/reject applications, edit profiles, and manage memberships.
- Allow admin to add and update membership types and their pricing plans.
- Generate and manage digital or physical membership cards for members.
- Allow admin to update and renew membership status when expired.

- Generate reports on membership trends and revenue.
- Allow admin to change the system name and password securely.

3.1.1 Use Case Diagram

Use-case Diagram is the interaction between system and actors. In the given use-case diagram it shows the interaction between Membership Management System and actors i.e., Admin and Applicant. Use-case diagram shows which actors can perform which functions of the system and the relationship between them as well.

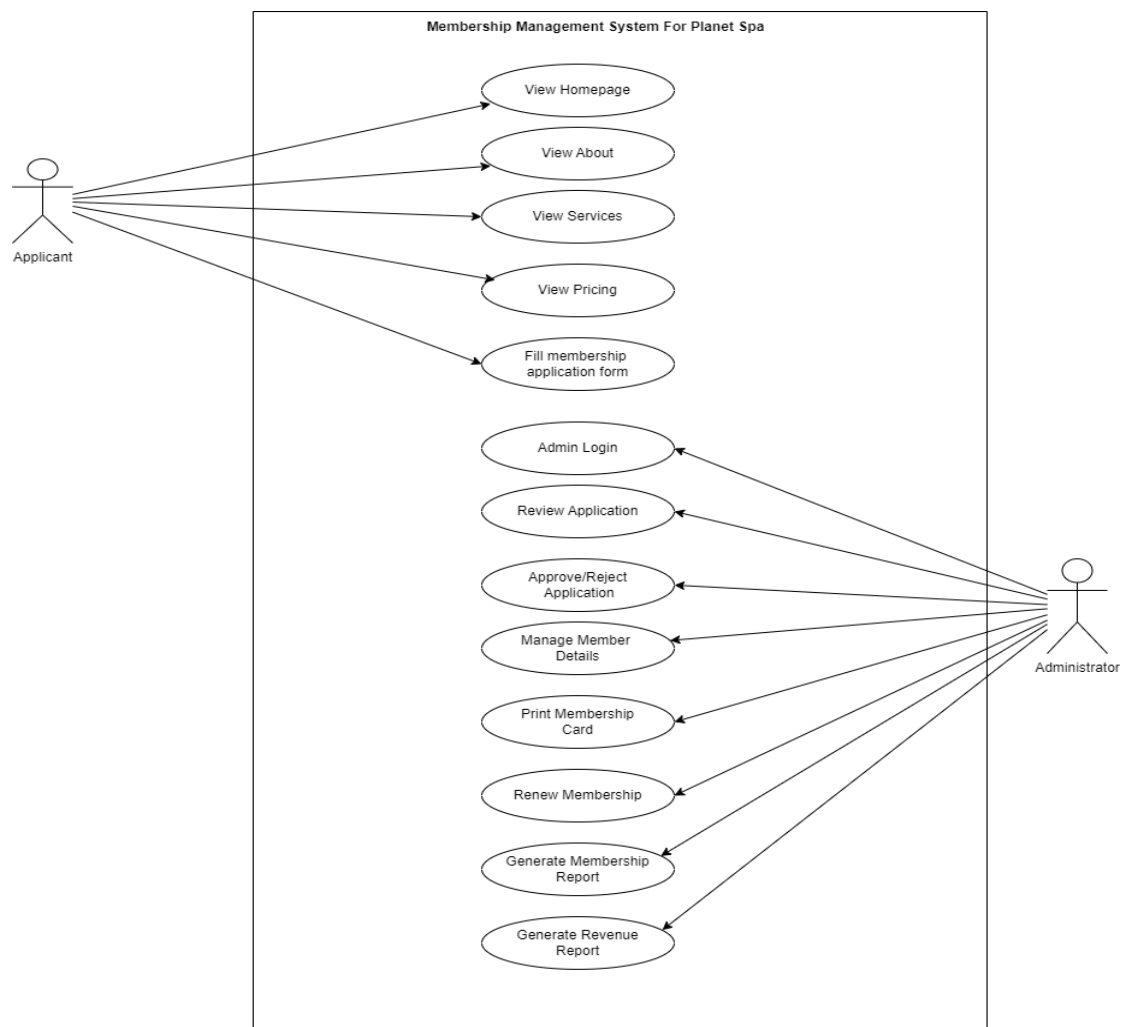


Figure 1. Use Case Diagram

4. System Design

System design is the process of defining the elements of a system such as the architecture, modules and components, the different interfaces of those components and the data that goes through that system. One of the main components of software design is the software requirement analysis. In this project there is one database used for store the information of customer who have register their account in system.

4.1 Class Diagram

A class diagram shows how different parts of a computer program relate to each other. Each part, called a "class," represents something in the program, like a person or a piece of data. The diagram helps programmers understand how these parts work together and what they can do. It's like a map that shows the roads and intersections in a city, helping you navigate through the program's structure.

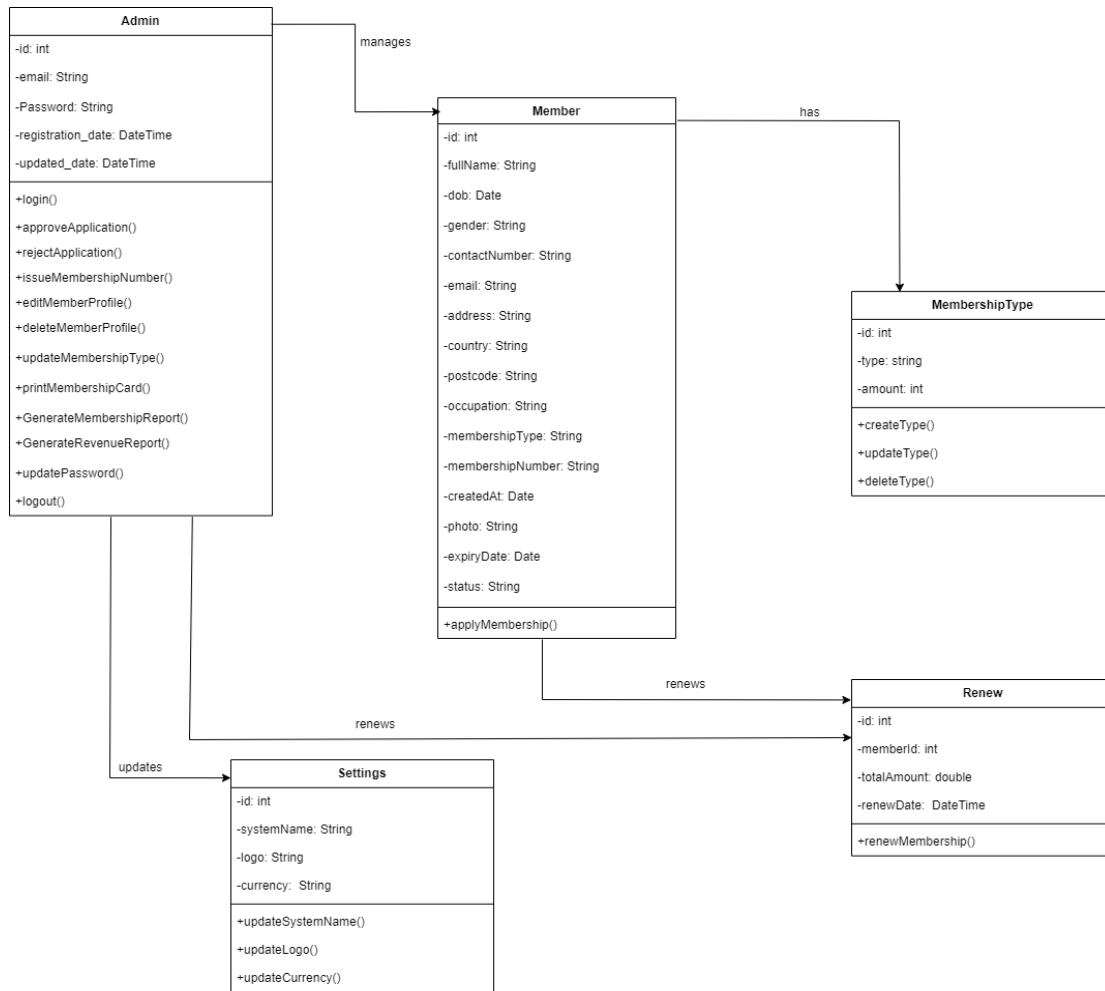


Figure 2. Class Diagram

4.2 Activity Diagram

An activity diagram visually presents a series of actions or flow of control in a system similar to a flowchart or a data flow diagram. Activity diagrams are often used in business process modeling. They can also describe the steps in a use case diagram. Activities model can be sequential and concurrent. In both cases, an activity diagram will have a beginning and an end.

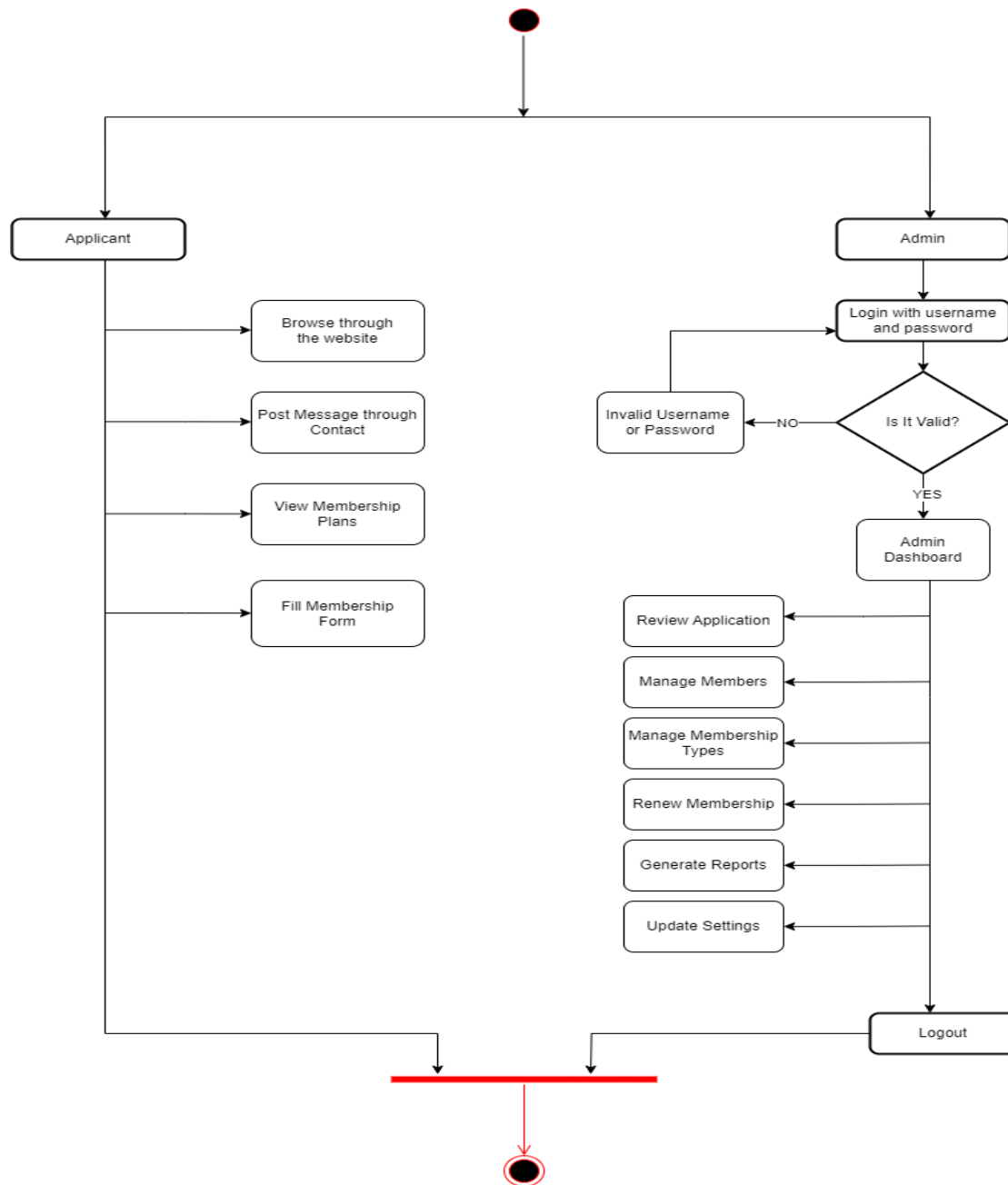


Figure 3. Activity Diagram

4.3 Sequence Diagram

UML Sequence Diagrams show how different parts of a system communicate with each other over time. They focus on the order of these communications, using a vertical axis to represent

time. It's like watching a conversation between people, where you can see who talks and when they talk.

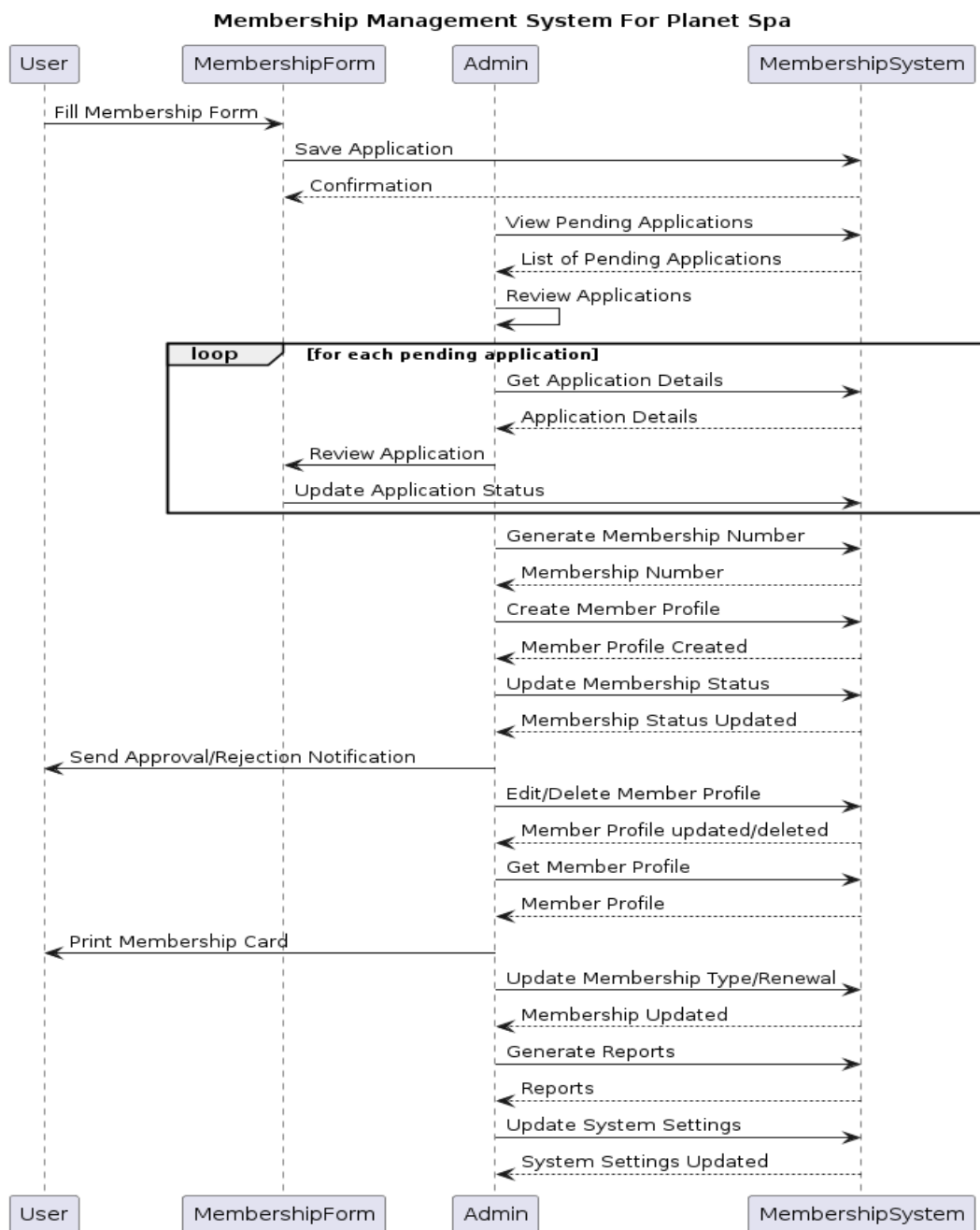


Figure 4. Sequence Diagram

4.4 ER-Diagram

An Entity-Relationship(ER) Diagram is a visual tool that displays the entities in a system and how they're connected. It's like a map showing the different parts of a system and how they relate to each other. ERDs help us understand the structure of data in a system and how information flows between different parts.

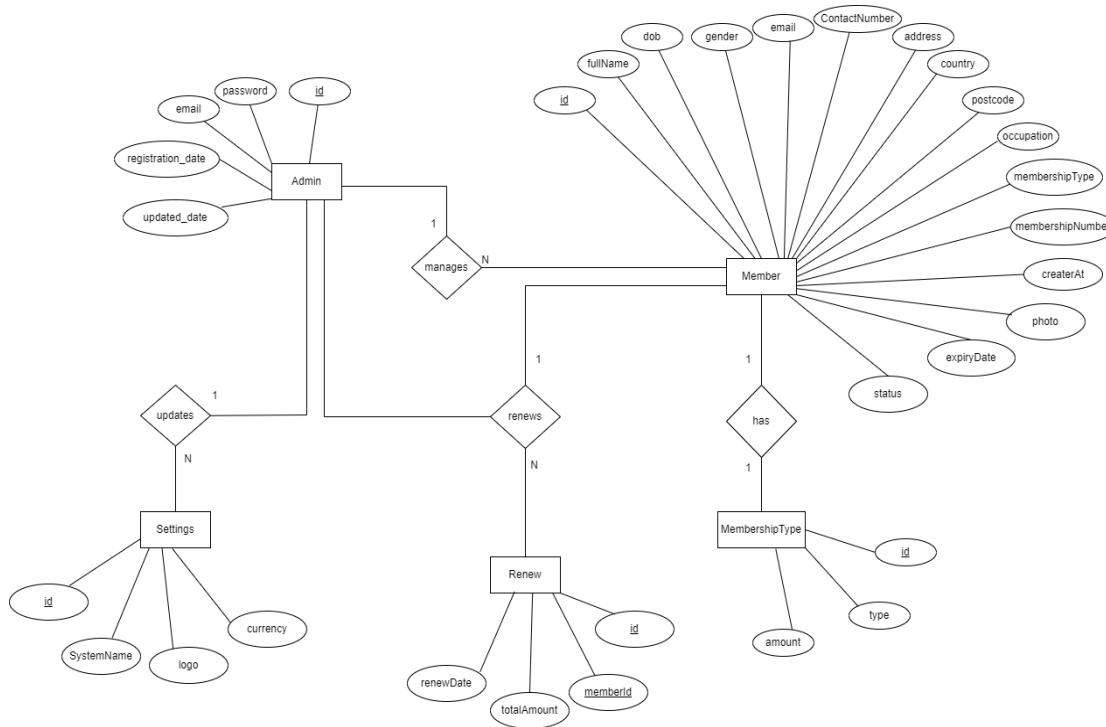


Figure 5. ER-Diagram

5. System Testing

System testing is a stage of software testing where the entire, integrated software is examined. The goal is to ensure that the system meets the specified requirements. This process involves testing the developed system to verify that it complies with the outlined specifications. Given the flexible development methodology adopted, testing began during development, with bugs being addressed as they were found. Each section of the application was tested upon completion to identify and correct any errors.

5.1 Unit Testing

Unit testing was conducted during the system's implementation. Each time new code was written, it was executed and monitored for bugs. Bugs were fixed by adding or modifying code, often by analyzing error messages and making the necessary changes. After the system development was completed, additional testing was performed. Functionality testing and interface testing were combined to ensure that the system met all specified requirements.

5.1.1 Test Case

Title: Membership Management System for Planet Spa

Unit Name: Login and Registration

Precondition: The system's database has email="admin@mail.com" and
password="admin@123"

Assumption: The login U/I has text field to enter username and password.

Test Steps:

- a) Open login file
- b) Enter email and password
- c) Press Login button

Expected Result: The entered email and password must validate with database's email and password and after validation success, it is expected to locate for admin dashboard.

Table 1. Test Case

Test Case	Test Scenario	Test Data	Expected Result	Status
1	Check response when invalid email and password is entered.	Email= abc@mail.com Password= password	Message Display: "Invalid email or password!"	Pass

2	Check response with blank email and blank password is submitted	Email= Password=	Message Display: "Email and password are Required!"	Pass
3	Check response when correct email and incorrect password is entered	Email= admin@mail.com Password= admin123	Message Display: "Invalid email or password!"	Pass
4	Check Response when incorrect email and correct password is entered	Email= abc@mail.com Password= admin@123	Message Display: "Invalid email or password!"	Pass
5	Check response when valid email and password is entered.	Email= admin@mail.com Password= admin@123	Redirect to Admin Dashboard	Pass

6. Conclusion

The development of the membership management system for Planet Spa represents a significant achievement in my efforts to enhance the spa's operations and elevate the experience for its members. With its intuitive design and comprehensive features, the system is poised to capture the interest of potential members and simplify the membership process. By providing seamless services and effectively managing user feedback, the system is expected to foster improved communication between the spa and its members, promoting transparency and engagement within the community.