

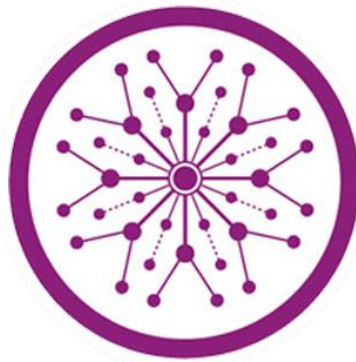
Serene Solutions

Final Year Project

Session 2018-2022

A project submitted in partial fulfillment of the degree of

BS in Computer Science



Department of Computer Science

Superior University, Lahore

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Area of specialization				
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Plagiarism Free Certificate

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Project Report

[Serene Solutions]

Change Record

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APPROVAL

PROJECT SUPERVISOR

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PROJECT MANAGER

Comments: _____

Date: _____ Signature: _____

HEAD OF THE DEPARTMENT

Comments: _____

Date: _____ Signature: _____

Dedication

This project is dedicated to our parents individually, who taught us that the best kind of knowledge to have is that which is learned for its own sake, and that even the largest task can be accomplished if it is done one step at a time.

Acknowledgements

In the name of ALLAH ALMIGHTY, who gave us strength to start our project with his noble blessing, we present our heart full of gratitude to our Holy Prophet Hazrat Muhammad (SAW) who is always source of guidance for humanity. We are heartily grateful to **Mr. Hafiz Waseem Arif**, Lecturer at Department of Computer Science, Superior University Lahore and our supervisor, for his suggestions and great deal of understanding. This web project is just start of our journey!

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Executive Summary

Serene Solutions is a web application which provide the easy for booking all the process which are nester for the events and it will be act as the final year project. The project is a Web application which helps to organize successful events for users. This application provides an easy way to plan their special events. The user can add all the details of the event and can get the service. The user can select the type of event, type of food to be served, type of decoration and estimated budget. All the details given by users will be verified by admin. Admin will add all the details of the planner based on the requirement of the user and send the user's event details to the planner. The planner will verify and send his response with a confirmation mail. The user needs to complete the payment process to confirm the order.

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Chapter 1

Introduction

Chapter 1: Introduction

The objective of this project is to develop a web application which will help to reduce the human effort to arrange their events, to arrange halls, tours and a complete e-commerce site. Through this web application the customers can arrange their events online. There will be 4 modules in this project that will be managed through this one web application. There will be admin panel from where the application will be used. The customer will login first to use our services.

1.1. Background

Serene Solutions mainly focuses on managing the all types of events to ease the effort of the users. Everything related to the event can be manage on our system and that will reduce the human effort.

1.2. Motivations and Challenges

Our aim to provide users ease so that they can easily arrange their events through only one platform. Challenges that we faced were Requirement Gathering, Time and cost.

1.3. Goals and Objectives

This system automatically generates certificate and issue it. The system very efficiently store, maintain and retrieve data from its database and can be used for further analysis. This system provides latest notification to its user and time saving activities. The data is available to all the event managers and it is easy to manage historical data in database. Participants can register for any event from anywhere. Manager of event can keep records of participants.

1.4. Literature Review/Existing Solutions

The existing systems are manual /machine systems where users must have to perform manually and it will take a lot of time. Problem of the existing systems is that it is limited to a single system. It has lot of manual work (Manual work means working with pen or paper, spread sheets and other simple software). The present system is very less secure. It unable to generate different kinds of reports. It

is difficult to maintain phone bookings and cancellations. User cannot do the reservation from remote place. Retrieval of information is difficult and time consuming. A lot of time and manual effort is required.

1.5. Gap Analysis

We need a system that can provide everything to its users related to their events in one platform that will reduce their time and human effort and that can be achieved by this system.

1.6. Proposed Solution

The purpose of the Serene Solutions is to provide users a platform where they can find information for their events. There will be four modules in this application that will be given to our customers.

1. Event Management
2. Halls Booking
3. Tour Management
4. E-commerce

First the customer will login and provide basic information and then he will choose which type of service he required from us.

Event Management:

This module is for arranging marriages. Serene Solutions will provide each and everything according to the event. The customer will select the Halls first and then how much dishes required, weather dj, and other fun activities required or not.

Halls Booking:

It will be advanced module where the customers can select the halls according to the event. He/she will select halls from the images and then if he/she want to visit physically then we will allocate time to visit that hall.

Tour Management:

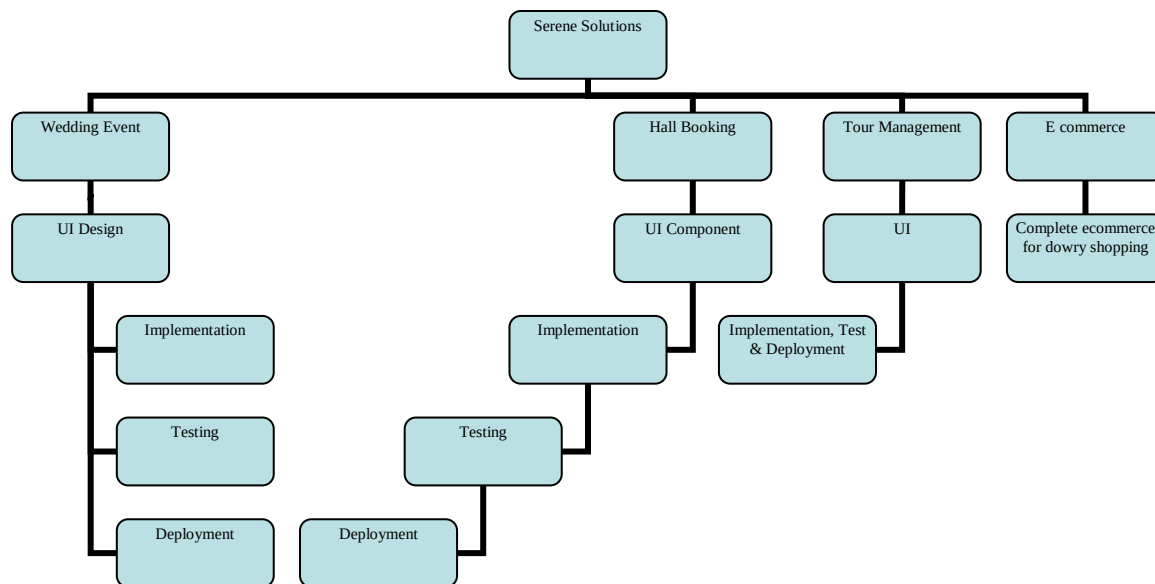
This module will provide all the facilities regarding tours. If a customer wants to travel then we will arrange each and everything like buses, hotels etc.

E-commerce:

Serene Solutions will sell all the items related to marriage in this application like dresses, furniture required in the marriage.

1.7. Project Plan

First, the front end of the whole application will be designed and then move towards the backend of the project. First, the login forms will be created for every entity. As we have 4 modules so we will work on them one by one and after that we will deal with the back-end code.

1.7.1. Work Breakdown Structure

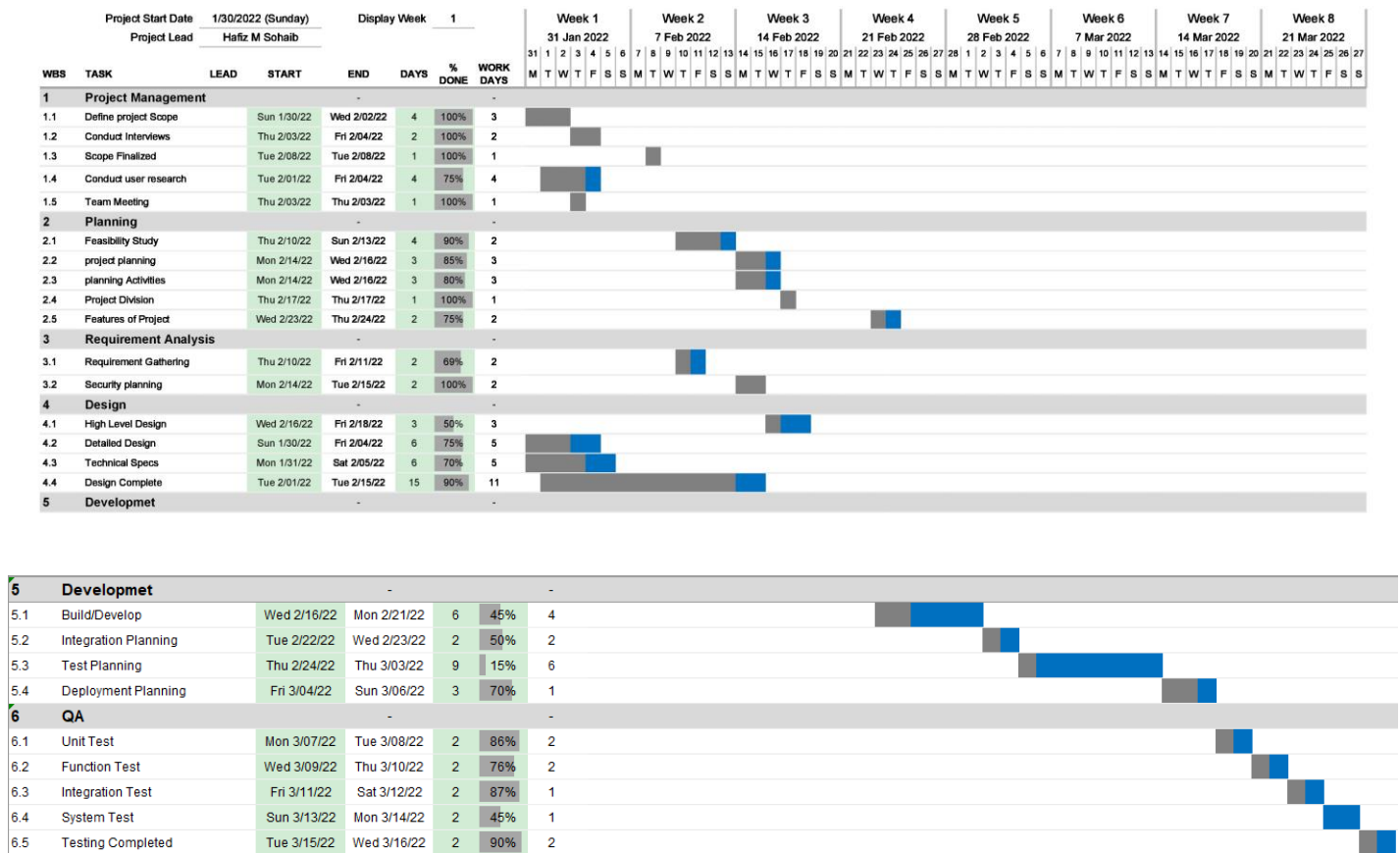
1.7.2. Roles & Responsibility Matrix

WBS #	WBS Deliverable	Activity #	Activity to Complete the Deliverable	Duration (# of Days)	Responsible Team Member(s) & Role(s)
1	Wedding event	1	User Interface	14	Usman Saddique
1	Wedding	1	Backend of WE	14	Usman Saddique
2	Hall Booking	2	Complete	28	Humayun Rasool
3	Tour Management	3	Complete	35	Hafiz Sohaib
4	Ecommerce	4	Complete	21	Usman + Sohaib

1.7.3. Gantt Chart

[Serene Solution] Project Schedule

[Infinite Connections]



1.8. Report Outline

We have discusses everything related to our project such as Introduction, Background, Motivation, Goals and Objectives. We have discussed the existing solutions and compared them with our solution that gave us gap analysis in results. Also how this this system will be implemented also discussed in this report.

Chapter 2

Software Requirement Specifications

Chapter 2: Software Requirement Specifications

2.1. Introduction

2.1.1. Purpose

The main purpose of SRS is to help our users to tell them how our web application will perform. SRS describes the functionality that the product needs to fulfill all stakeholders' needs. A typical SRS includes a purpose and overall description. Our SRS should be used by many stakeholders. Stakeholders may include business and users' stakeholders. Business stakeholders include developers, designers, testers, and project managers. It could also include stakeholders in other departments, including leadership teams, sales, and marketing. On the other hand, user's stakeholder includes all that users who will use our application to find how to use it.

2.1.2. Document Conventions

- Whole document is justified
- Bold Calibri font is used for all headings and sub headings.

2.1.3. Intended Audience and Reading Suggestions

This document can be readable by the developers, project manager, testers, document writers, and supervisor of FYP.

2.1.4. Product Scope

Serene Solutions aims to provide our users a platform to save their time and find the best solution. It minimizes the effort of our users by providing a more authentic way to deal online with their relevant stakeholder. It focuses on the stakeholders, and users to provide the easier way to find the thing which they want and save their time.

2.1.5. References

- <https://bit.ly/3zn8Q1b>
- <https://staruml.io/>

2.2. Overall Description

2.2.1. Product Perspective

Serene Solutions is fully responsive web application with modern design and technology. Our inspiration is to fulfill needs of our users. Through this, users can easily find and manage process of wedding and other events. Users can easily choose the best location, occasion according to their events and also select the dowry through our E-commerce App. Manager can assign task directly through web application and also communicate to others stakeholders and teams in company.

2.2.2. Product Functions

- Users can Login/ Sign Up
- Users can Update/ Delete their accounts
- Admin can Create/Update/View/Delete Dowry
- Admin can add Discount offer
- Add cart function will be shown to every customer
- Payment for all the products
- Admin Create/Edit/View/ Delete Halls
- Admin can cancel the booking
- Admin can Create/Delete/View/Update Vendors
- Admin can accept the order of Booking
- User can search the products
- Admin can add different types of transport services
- Admin can check the availability of the desired package

2.2.3. User Classes and Characteristics

There are two users that interact with the system: users and Administration. There can be multiple users and multiple administration as we introduced vendor system in our project.

Administration manages the overall system and also manage the interaction between users and vendor team. Users can view ongoing projects, performance and can track other activities.

2.2.4. Operating Environment

This system can run on any windows greater than windows XP, furthermore it should have at least a browser that support HTML 5 so that it can run the application.

2.2.5. Design and Implementation Constraints

The Internet is the main constraint for using our website. Since the application fetch the data from database which require internet and that can cause time consumption. Other than this there is no more constraints to use our web application.

2.2.6. User Documentation

The user interface is user friendly, user can easily understand what to do. Furthermore, we will guide the user how to use the web application.

2.2.7. Assumptions and Dependencies

Only one dependency of our web application is that it should always have a good internet connection. Some of the others are as follows:

1. Environmental Circumstances:

Project team should develop software which has to suitable for international factors.

2. Availability of Resources:

As we are developing a software project, system manager should provide suitable resources for the project team considering the complexity of project.

3. Dependencies:

Project dependencies should be followed, like project finish-start dependency. All the activities of our project from analyzing to deploying should be followed step by step.

4. Security:

System requirement are particular significant in defense system and database system they place restrictions on the use of certain commands and maintain a log of activities in the system. Not everyone can access all features of an application.

2.3. External Interface Requirements

2.3.1. User Interfaces

This will contain many user interfaces which are listed below:

- Login/ Signup
- Delete/ Update Account
- Crud Dowry
- Booking
- Payment
- Crud Halls
- Cancel Booking
- Crud Vendor Products
- Tour Booking
- Transport
- Group/ Couple Tour

2.3.2. Hardware Interfaces

There are no such hardware requirements to run a web application as the system should be able to run a browser which is capable of running basic functionality.

2.3.3. Software Interfaces

Operating System	Any
User/Web Interface	Razer Pages
Backend	Asp .Net core
Database	SQL
Browser	HTML 5 Compatible

2.3.4. Communications Interfaces

Internet will be used to communicate between the web application and the Database to fetch the data from database.

2.4. System Features

Features of our System are discussed below:

2.4.1. Login Page

2.4.1.1. Description and Priority

User will enter the required information to access his/her account. Its priority is high.

2.4.1.2. Stimulus/Response Sequences

Stimulus: Users/Admins access the web application through URL

Response: Login Page will be displayed

Stimulus: User will enter the correct username and password to login

Response: Username and password will be verified from database.

Stimulus: User will click on Login Button to proceed.

Response: User will be moved to main dashboard.

2.4.1.3. Functional Requirements

REQ-SF1-1: User can be able to enter their credentials in text fields.

REQ-SF1-2: The database is available to validate the credentials.

2.4.2. Event Management

2.4.2.1. Description and Priority

Everything related to marriage will be handled in this module such as which hall is selected by the user. Its priority is high

2.4.2.2. Stimulus/Response Sequences

User will Login with username and password to access his account. After login he can manage the account such as update profile or delete or reject order.

2.4.2.3. Functional Requirements

REQ-SF2-1: Login

REQ-SF2-2: Sign up

REQ-SF2-3: Crud users

2.5. Other Nonfunctional Requirements

2.5.1. Performance Requirements

Performance of our system will be measured by response time, workload and scalability and these all will be achieved to make our performance better.

2.5.2. Safety Requirements

There will be different types of Users and vendors so we need to verify whether the vendor is dealing in correct way with the users if not then it will lead to loss profit. Admin should check the details of vendor and user to deal with such cases.

2.5.3. Security Requirements

All the entities will be required a password to login to our system. Password is required so that no unauthorized user can access to the account. Admin will check all the details stored in the database whether no fake information should be entered in a system.

2.5.4. Software Quality Attributes

Some of the quality attributes of our system are:

- Usability
- Reliability
- Performance
- Portability
- Maintainability

2.5.5. Business Rules

The system has a Super Admin Role that will look after all the system which will be responsible for all the activities of the system including the admin.

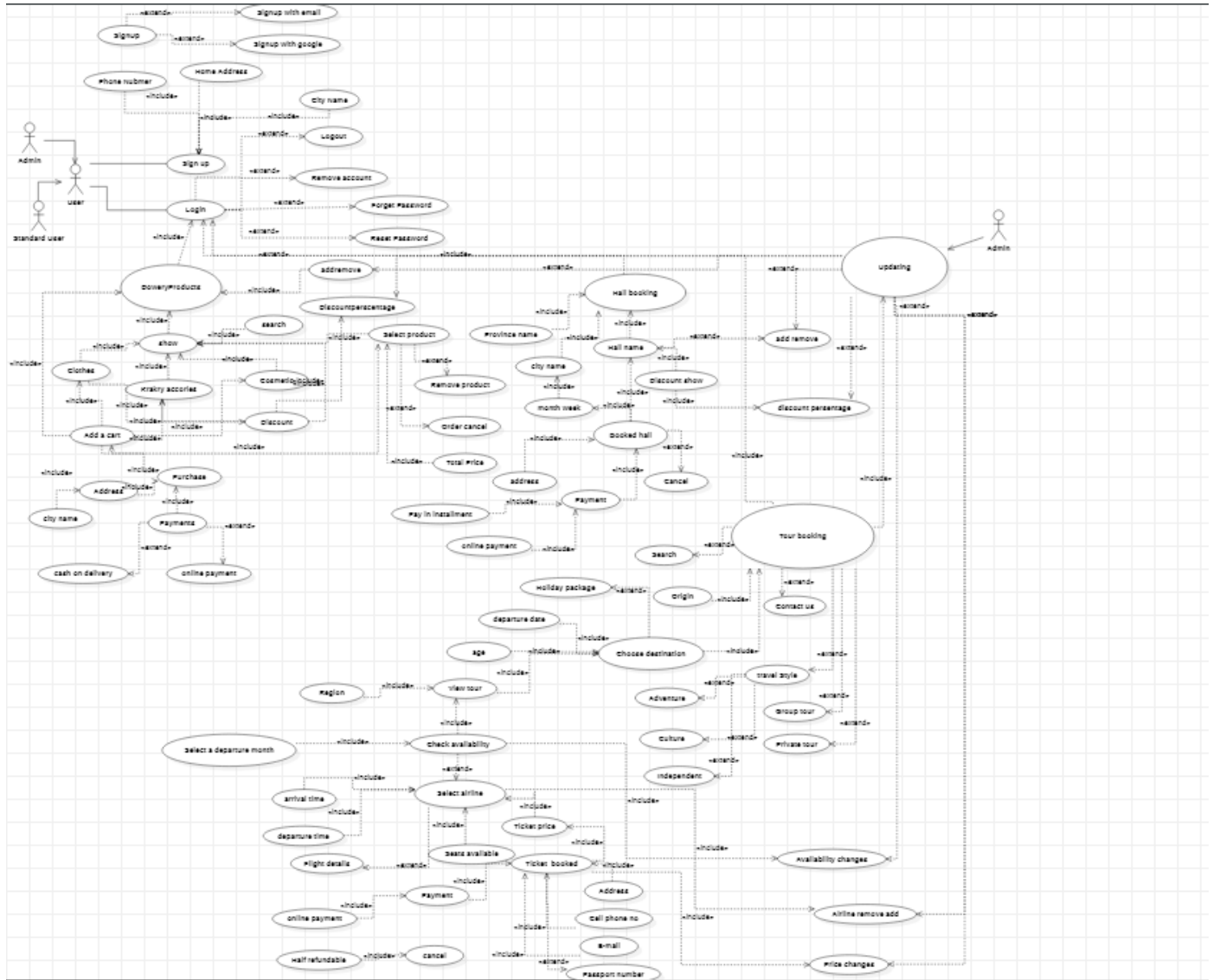
2.6. Other Requirements

All the requirements are discussing above. Furthermore, there is no more such requirement.

Chapter 3

Use Case Analysis

Chapter 3: System Analysis



3.1. Use Case Model

3.1.1 Login Use Cases

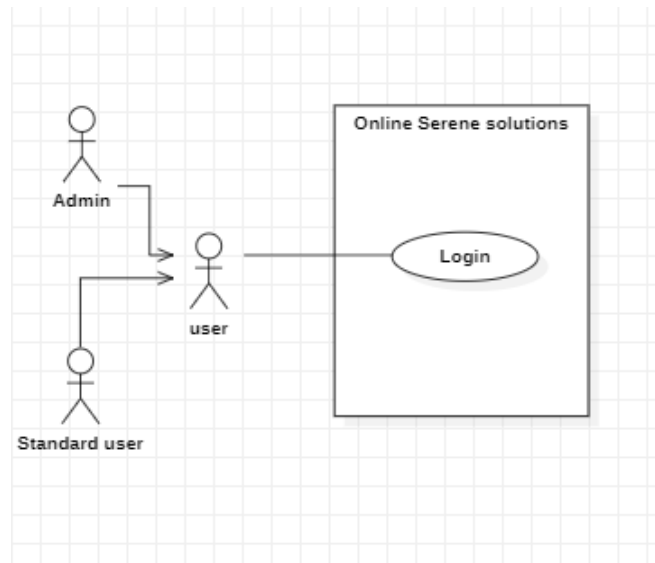


Table 3-1: (UC-01) Use-case Table of Login

Use Case ID	UC_01	
Use Case Name	login	
Description	User will login on our platform	
Primary Actor	User	
Secondary Actor	none	
Pre-Condition	User must have registered on our platform	
Post-Condition	Successful login	
Basic Flow	Actor Action	System Action
	Enter ID, Passw ord	Authenticate data
	Flow of information	Verify data
Alternate Flow	Generate error message	

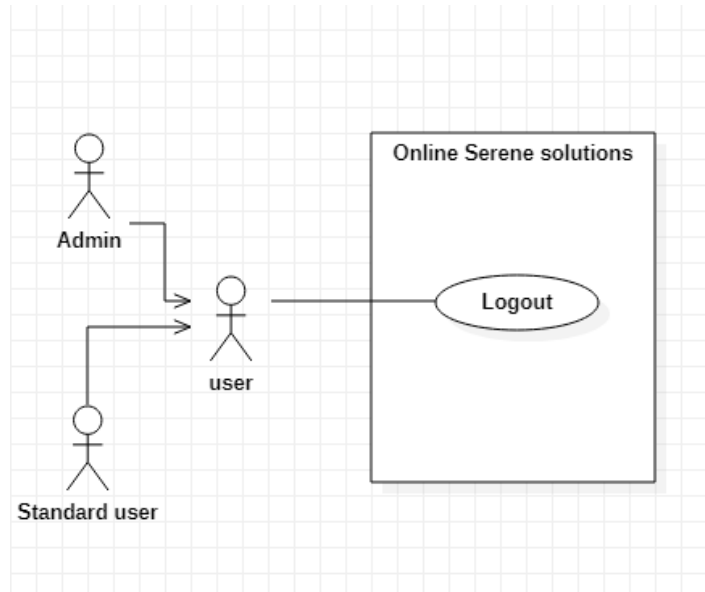


Table 3-2: (UC-02) Use-case Table of Logout

Use Case ID	UC_02	
Use Case Name	Logout	
Description	User will logout on our platform	
Primary Actor	User	
Secondary Actor	none	
Pre-Condition	User must have login on our platform	
Post-Condition	Successful logout.	
Basic Flow	Actor Action User click Logout button	System Action System will be logged out. Redirect to login page.

Figure 3-3: (UC-03) Use-case figure of Delete Account

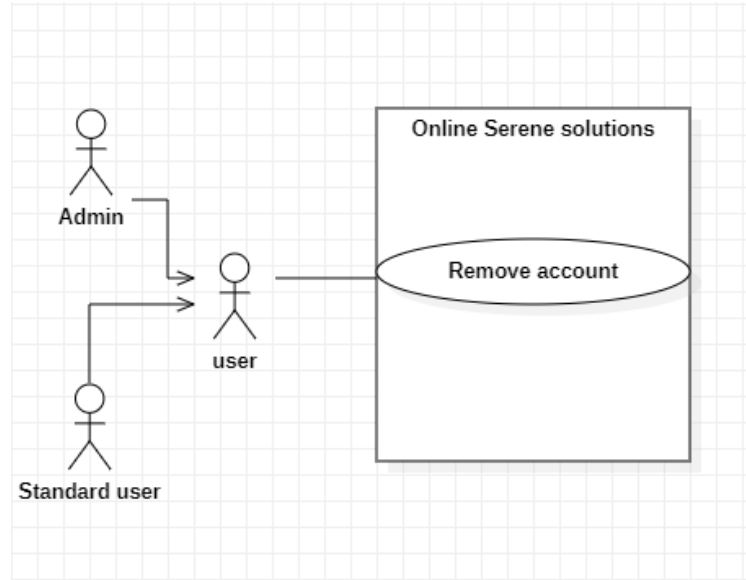


Table 3-4: (UC-04) Use-case Table of Delete Account

Use Case ID	UC_03	
Use Case Name	Remove Account	
Description	User will be able to remove his/ her account	
Primary Actor	User	
Secondary Actor	None	
Pre-Condition	Enter valid required data	
Post-Condition	Account removed	
Basic Flow	Actor Action	System Action
	Click on removed Account button a confirmation popup shown	System Redirect to login screen and record will be saved in database
	Flow of information	Click on removed Account button a confirmation popup shown. Click removed. Redirect to login screen record will be saved in database
Alternate Flow	Account is not removed	

Figure 3-4(UC-04) Use-case figure of Reset Password

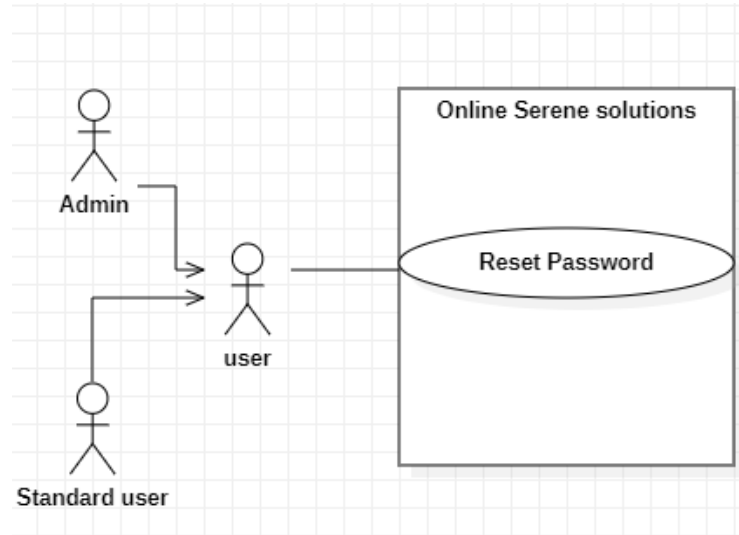


Table 3-4: (UC-04) Use-case Table of Reset Password

Use Case ID	UC_04	
Use Case Name	Reset Password	
Description	User will be able to reset his/her password	
Primary Actor	User	
Secondary Actor	None	
Pre-Condition	User will be able to change his/her Password	
Post-Condition	Password is changed	
Basic Flow	Actor Action Enter previous Password. User will enter new Password & Click on Change Password button record will be saved in database	System Action System will reset password.
	Flow of information	Enter previous Password System will validate if entered password is correct will redirect to Change Password screen User will enter new Password & Click on Change Password button record will be saved in database
Alternate Flow	None	

Figure 3-5: (UC-05) Use-case figure of show products/Dowry

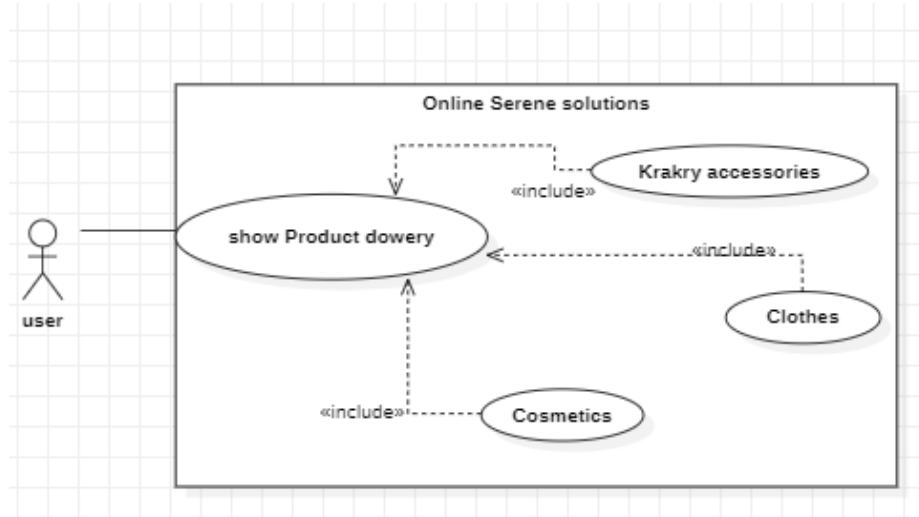


Table 3-5: (UC-05) Use-case Table of show products/Dowry

Use Case ID	UC_05
Use Case Name	<i>show products/Dowry</i>
Description	User will be <i>show the products/Dowry</i>
Primary Actor	User
Secondary Actor	None
Pre-Condition	User will be login into the system.
Post-Condition	Show the products display on page

Basic Flow	Actor Action	System Action
	Click on show button and choose the category of the products/Dowry.	System will open the specific category of products and show all the items.
	Flow of information	Click on specific category of products and choose the favorite items and search the item.
Alternate Flow	Some items are not available on this categories.	

Figure 3-6: (UC-06) Use-case figure of Add a cart

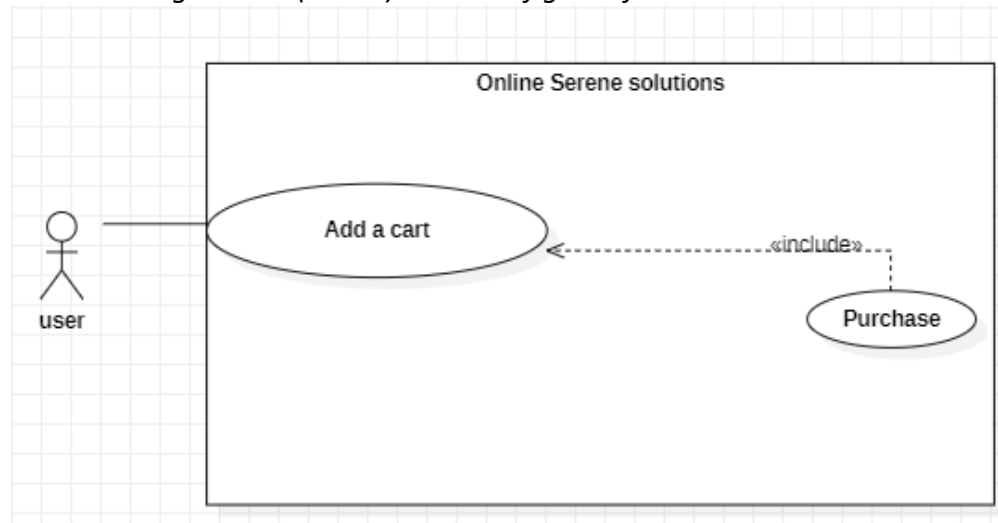


Table 3-6: (UC-06) Use-case Table of Add a cart

Use Case ID	UC_06	
Use Case Name	<i>Add a cart</i>	
Description	User move to add a cart and purchase it.	
Primary Actor	User	
Secondary Actor	None	
Pre-Condition	User will be login into the system.	
Post-Condition	Move to add a cart	
Basic Flow	Actor Action	System Action
	Click on add a cart and all show the selected or a favorite product. Click on purchase button and purchase the product.	System will show the all products in add a cart and calculate the total amount in purchase option.
	Flow of information	Click on add a cart button and select confirm products and then click the purchase button so the total calculated amount are show.
Alternate Flow	None	

Figure 3-7: (UC-07) Use-case figure of payment

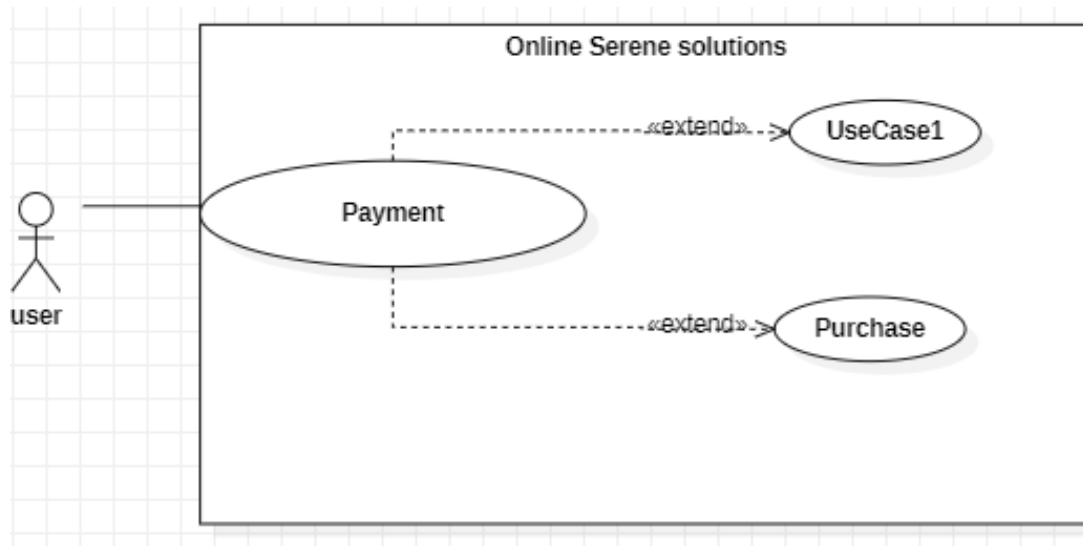


Table 3-7: (UC-7) Use-case Table of payment

Use Case ID	UC_07
Use Case Name	Payment
Description	User choose the comfortable options of payment
Primary Actor	User
Secondary Actor	None
Pre-Condition	User will be able to login into the system.
Post-Condition	payment done

Basic Flow	Actor Action	System Action
	Click on payment button and choose online payment or a cash on delivery. The payment will be confirm.	System will be saved the payment record.
	Flow of information	Click on payment button and user chooses what is best for him/her.
Alternate Flow	none	

Figure 3-8: (UC-08) Use-case figure of show search

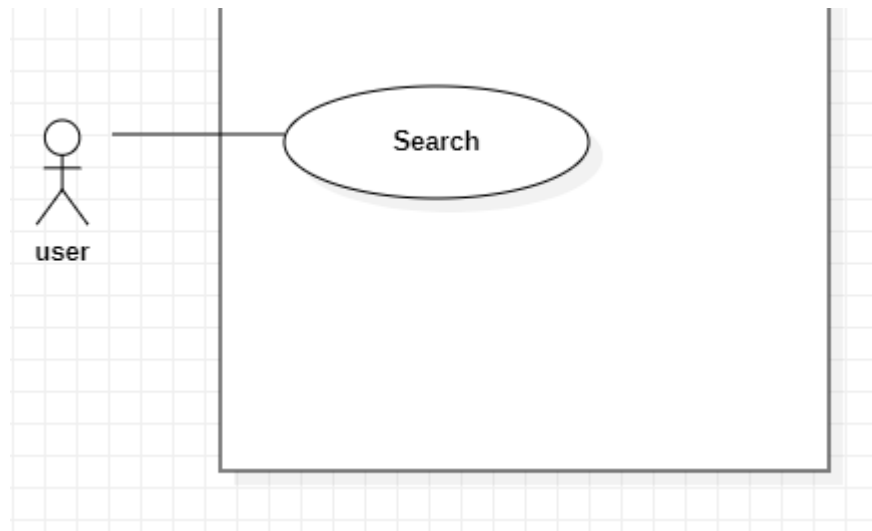


Table 3-8: (UC-08) Use-case Table of Search

Use Case ID	UC_08	
Use Case Name	Search	
Description	User often the search.	
Primary Actor	User	
Secondary Actor	None	
Pre-Condition	User will be able to login into the system.	
Post-Condition	List of all product showed.	
Basic Flow	Actor Action Click Login and click on search and check choose the product.	System Action The system will be show the product.

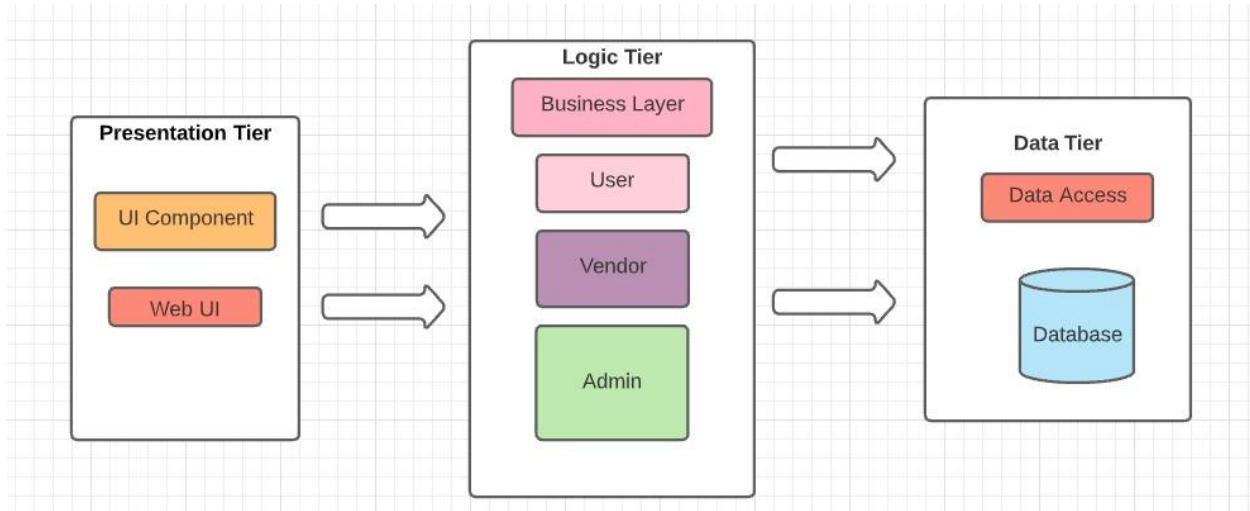
	Flow of information	Click Login and click on Show the ticket price and check choose the tickets. The system will be save the tickets records.
Alternate Flow	none	

Chapter 4

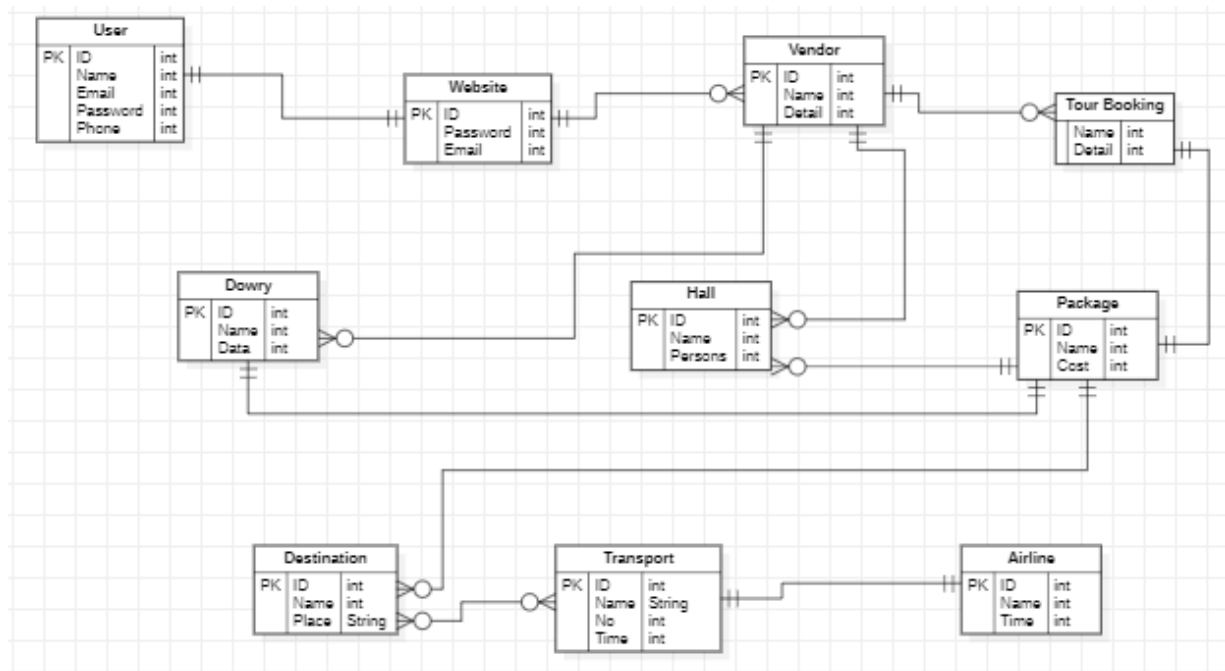
System Design

Chapter 4: System Design

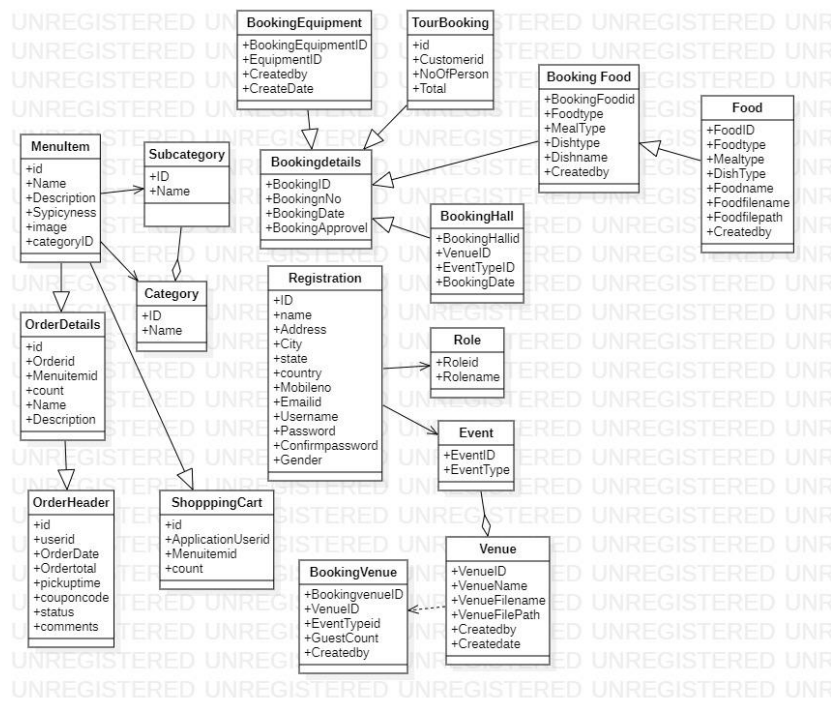
4.1. Architecture Diagram



4.2. Entity Relationship Diagram with data dictionary

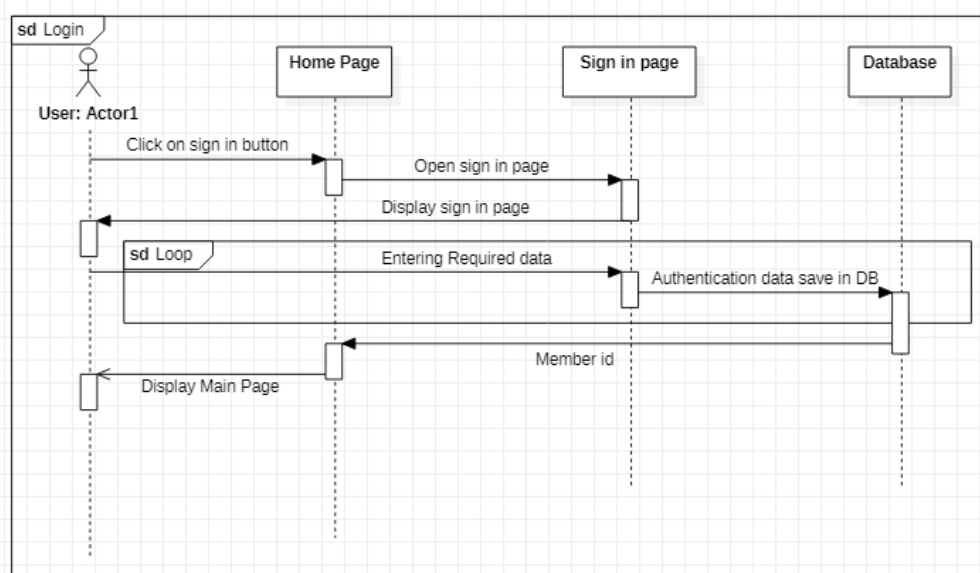


4.3. Class Diagram

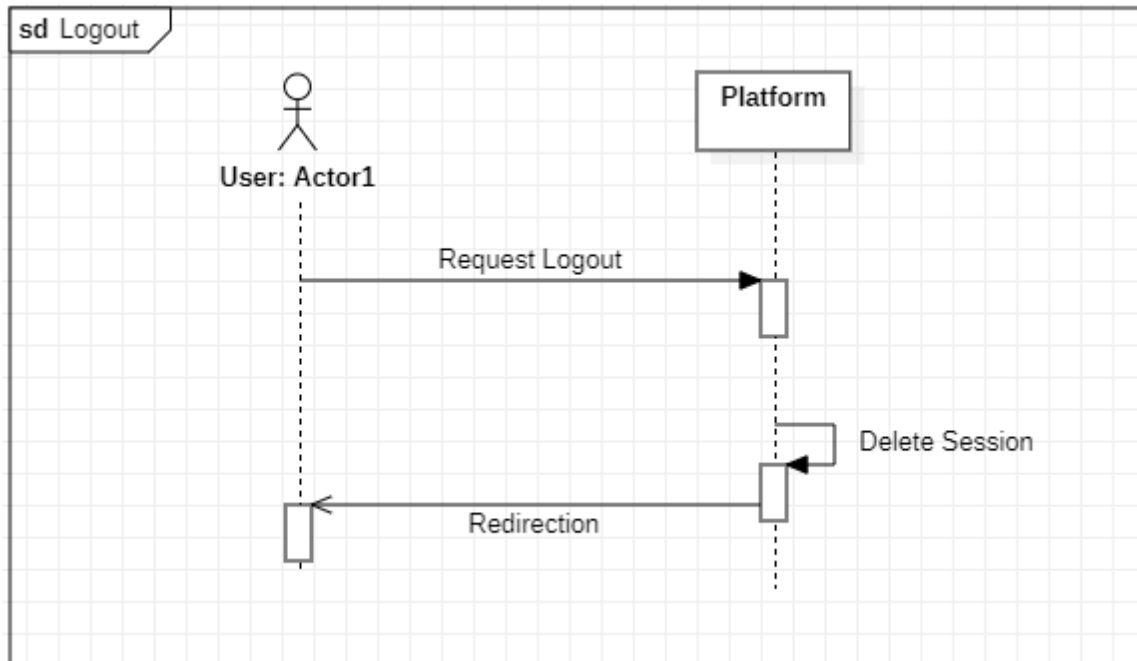


4.4. Sequence Diagram

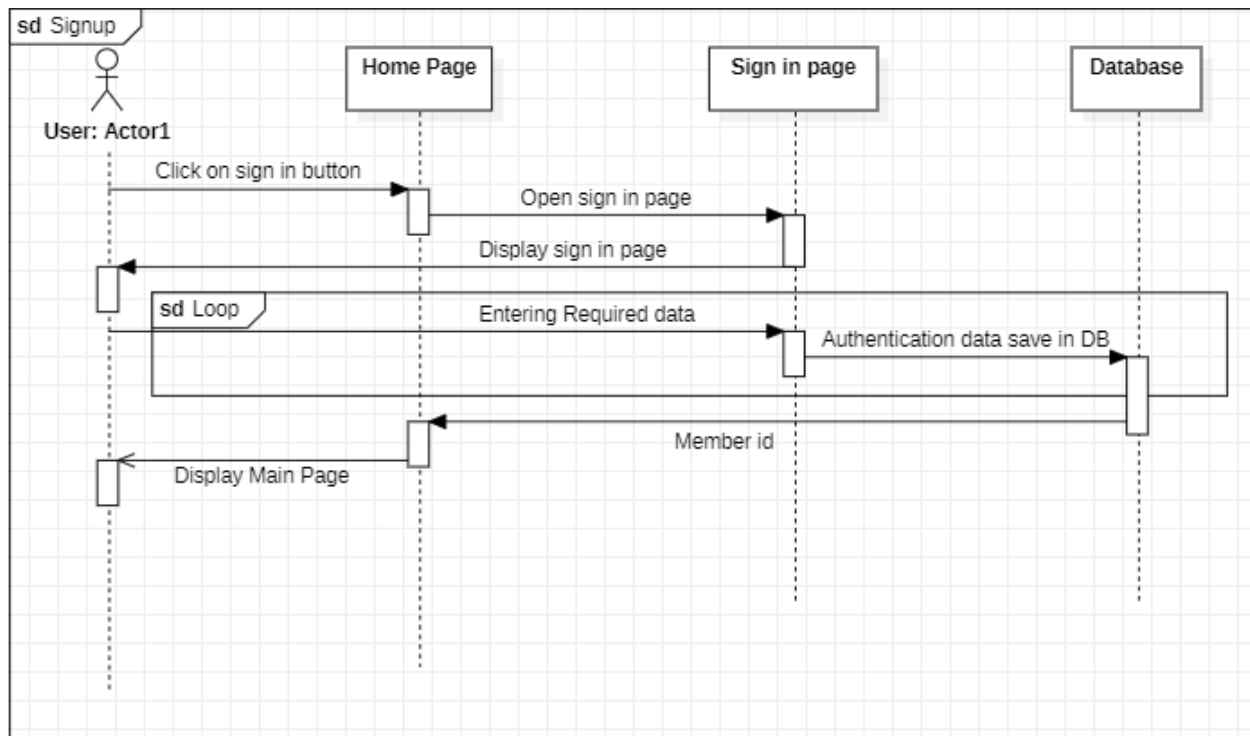
4.5.1 Login



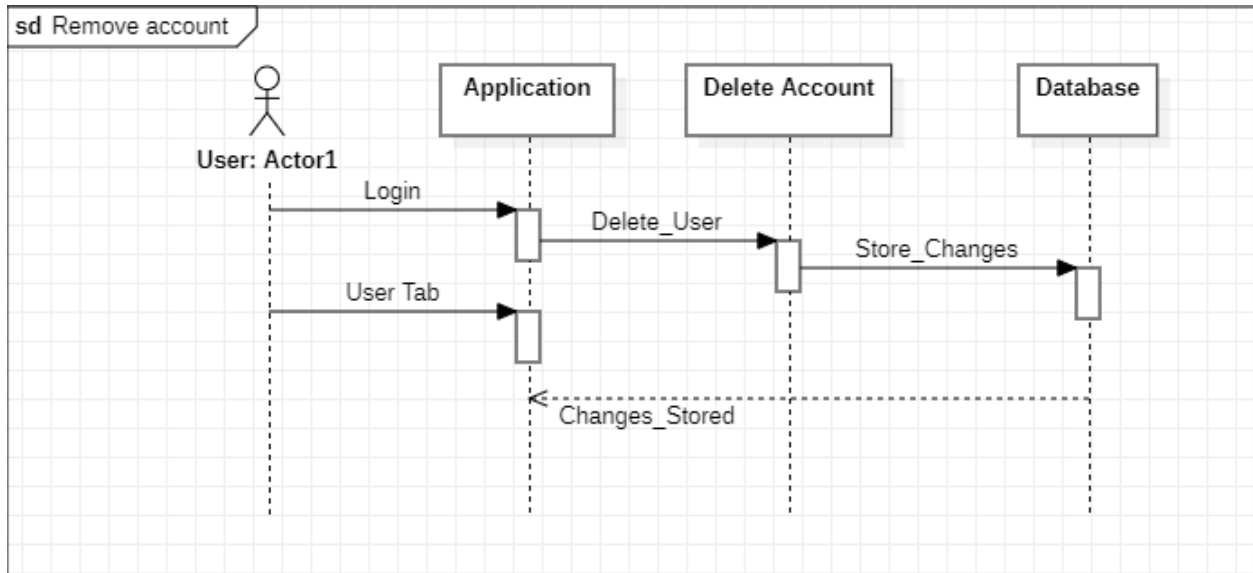
4.5.2 Logout



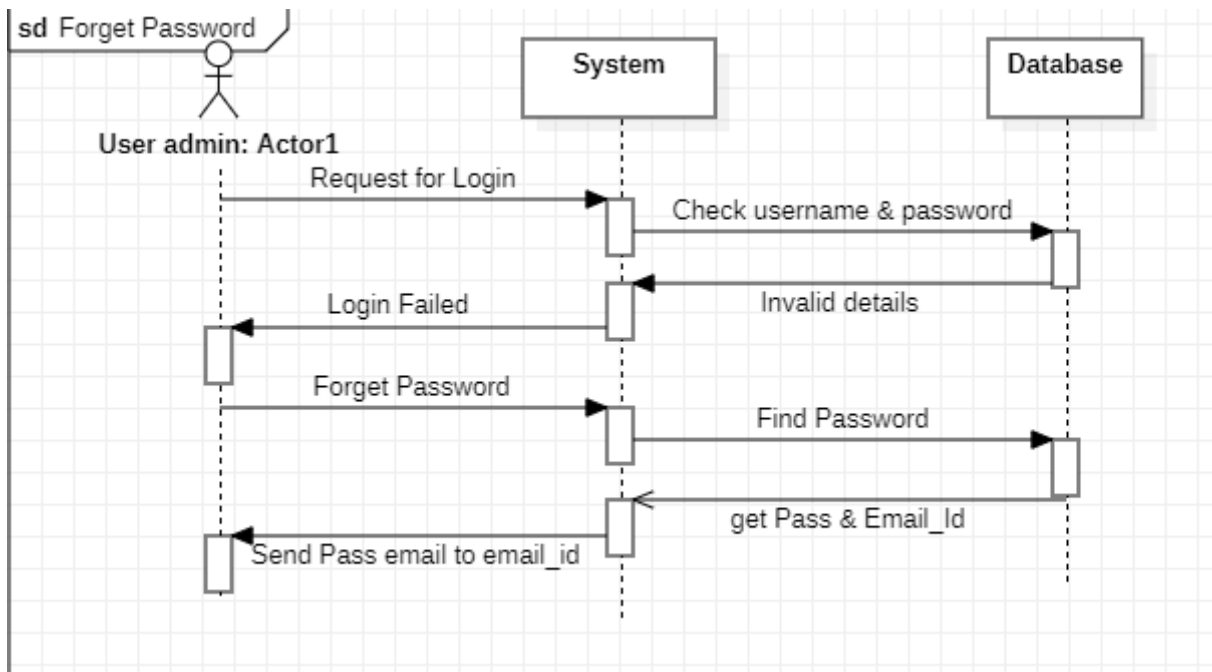
4.5.3 Signup



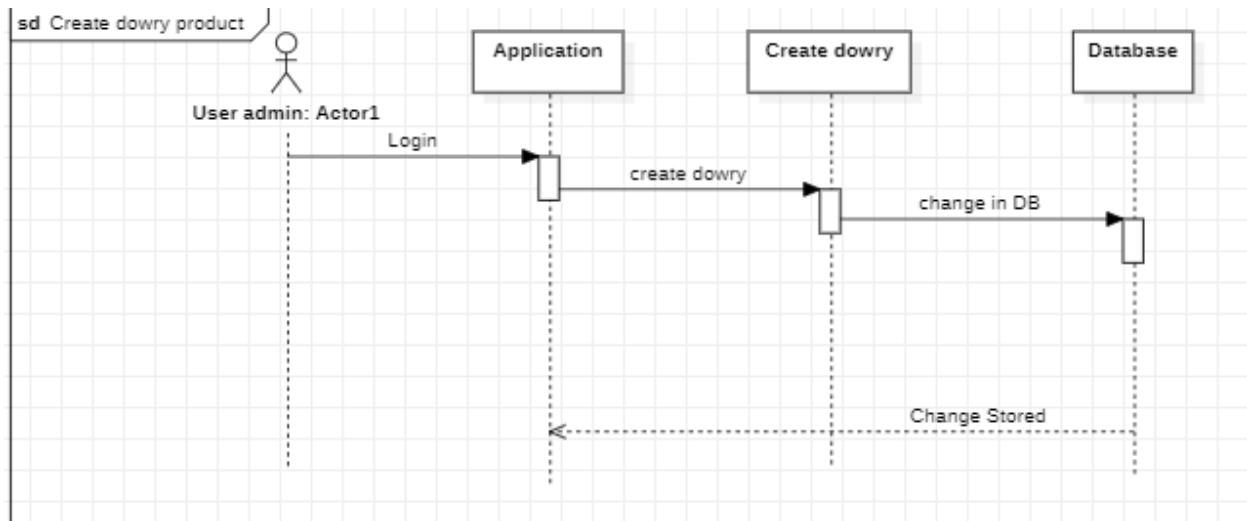
4.5.4 Remove Account



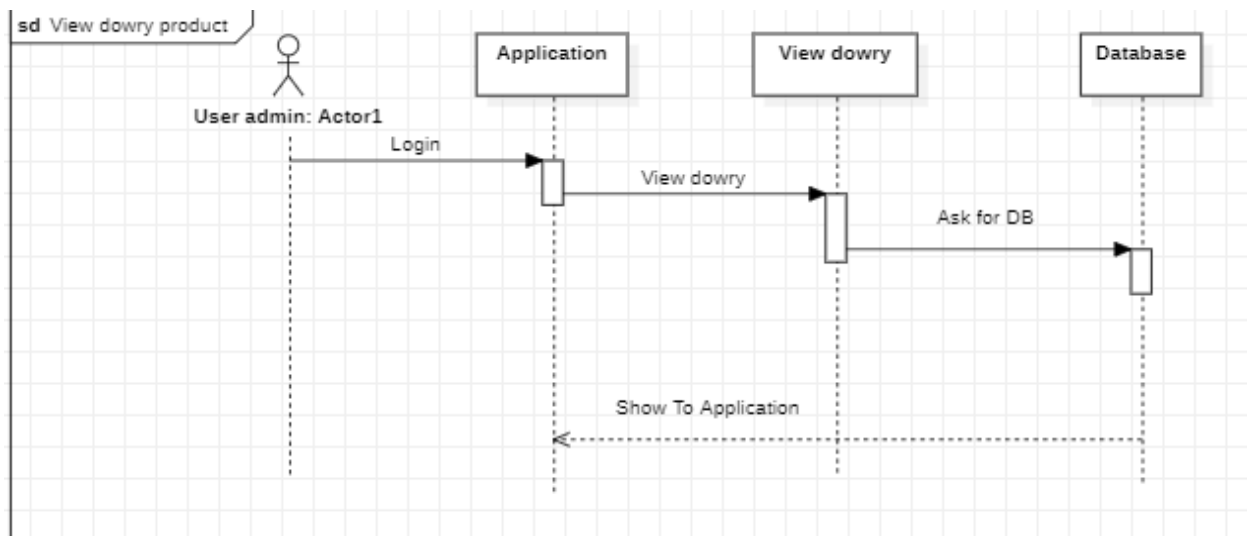
4.5.5 Forget Password



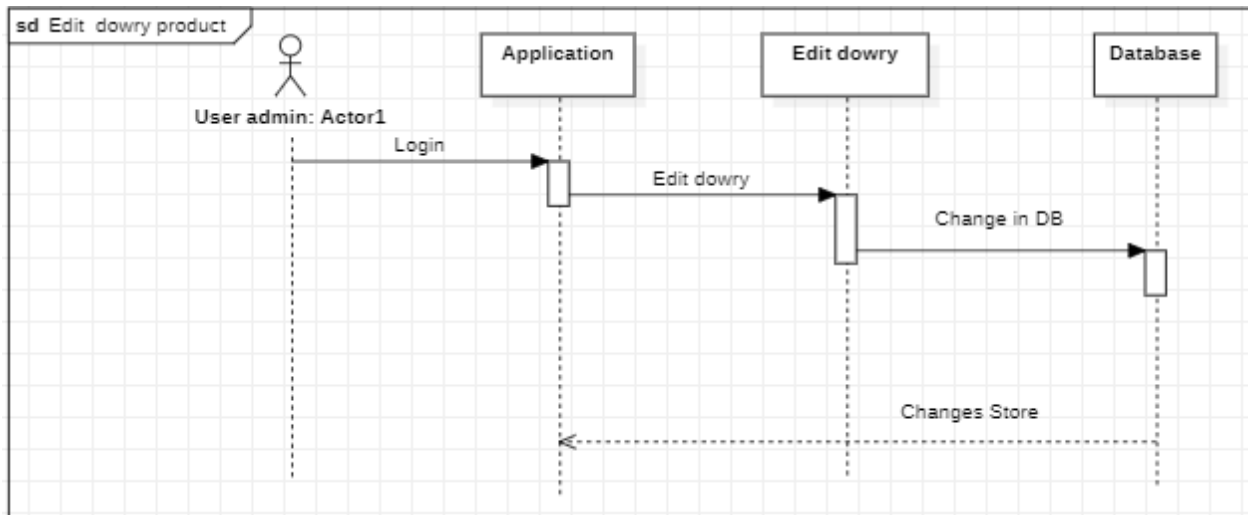
4.5.6 Create product/dowry



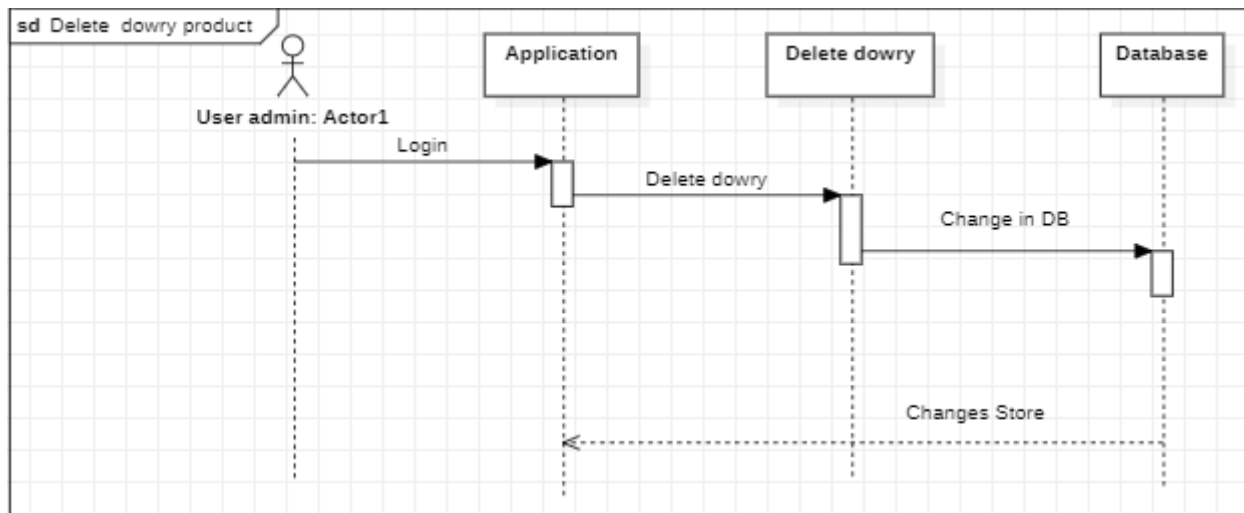
4.5.7 View product/dowry



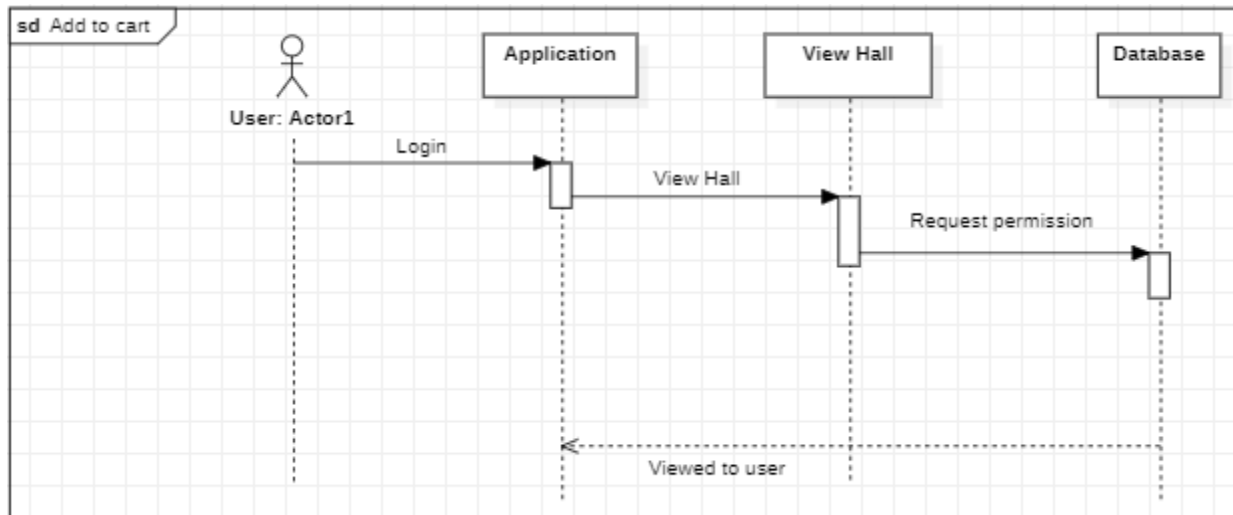
4.5.8 Edit product/dowry



4.5.9 Delete product/dowry

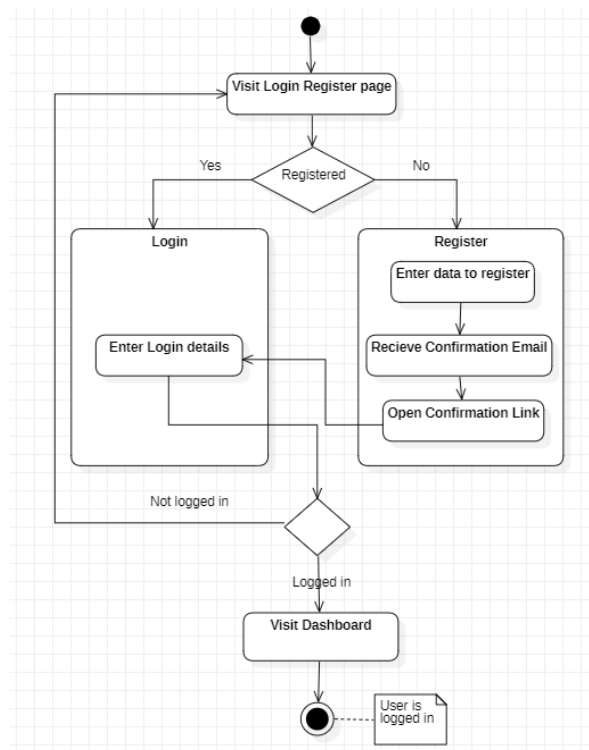


4.5.10 Add to cart

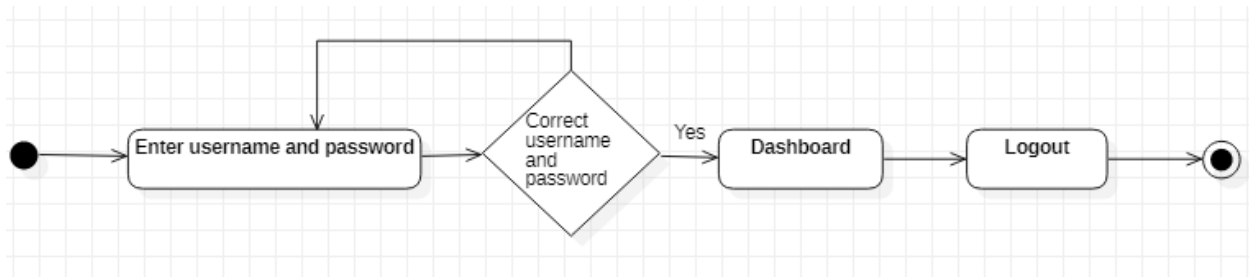


4.5. Activity Diagram

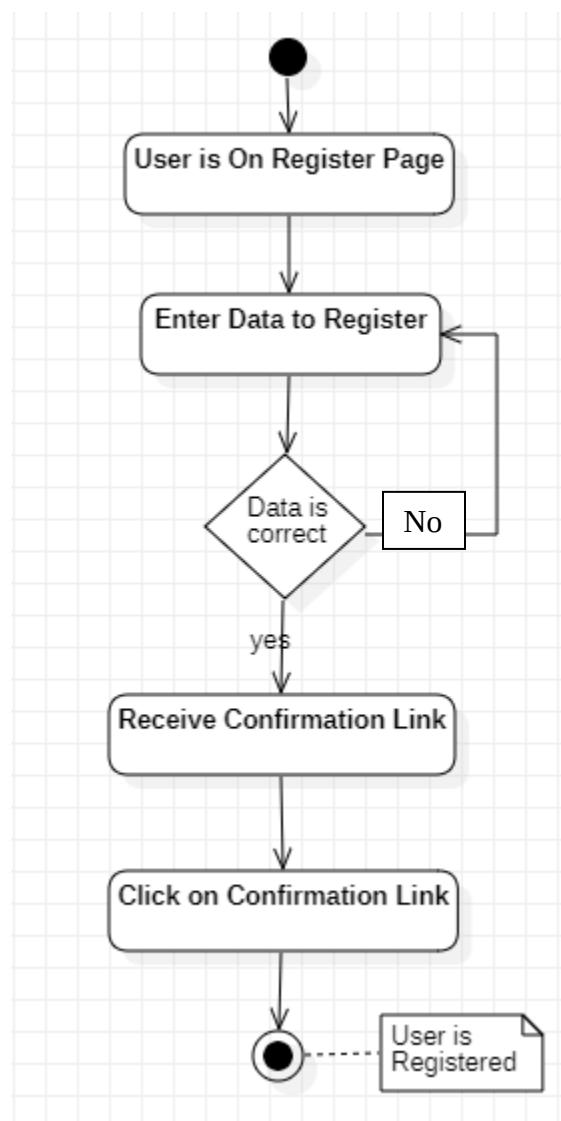
4.7.1 Login



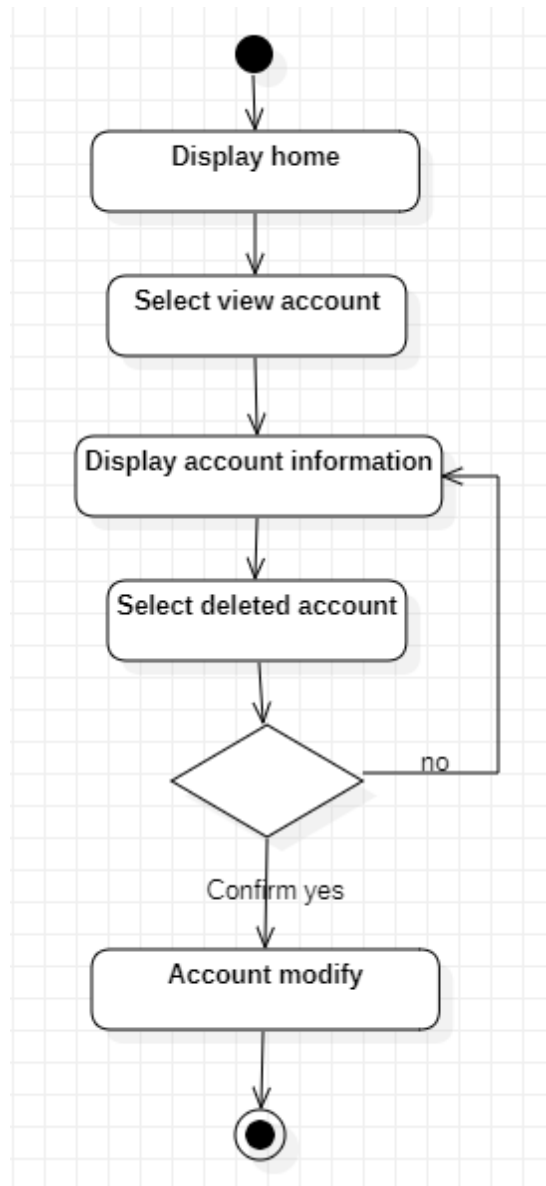
4.7.2 Logout



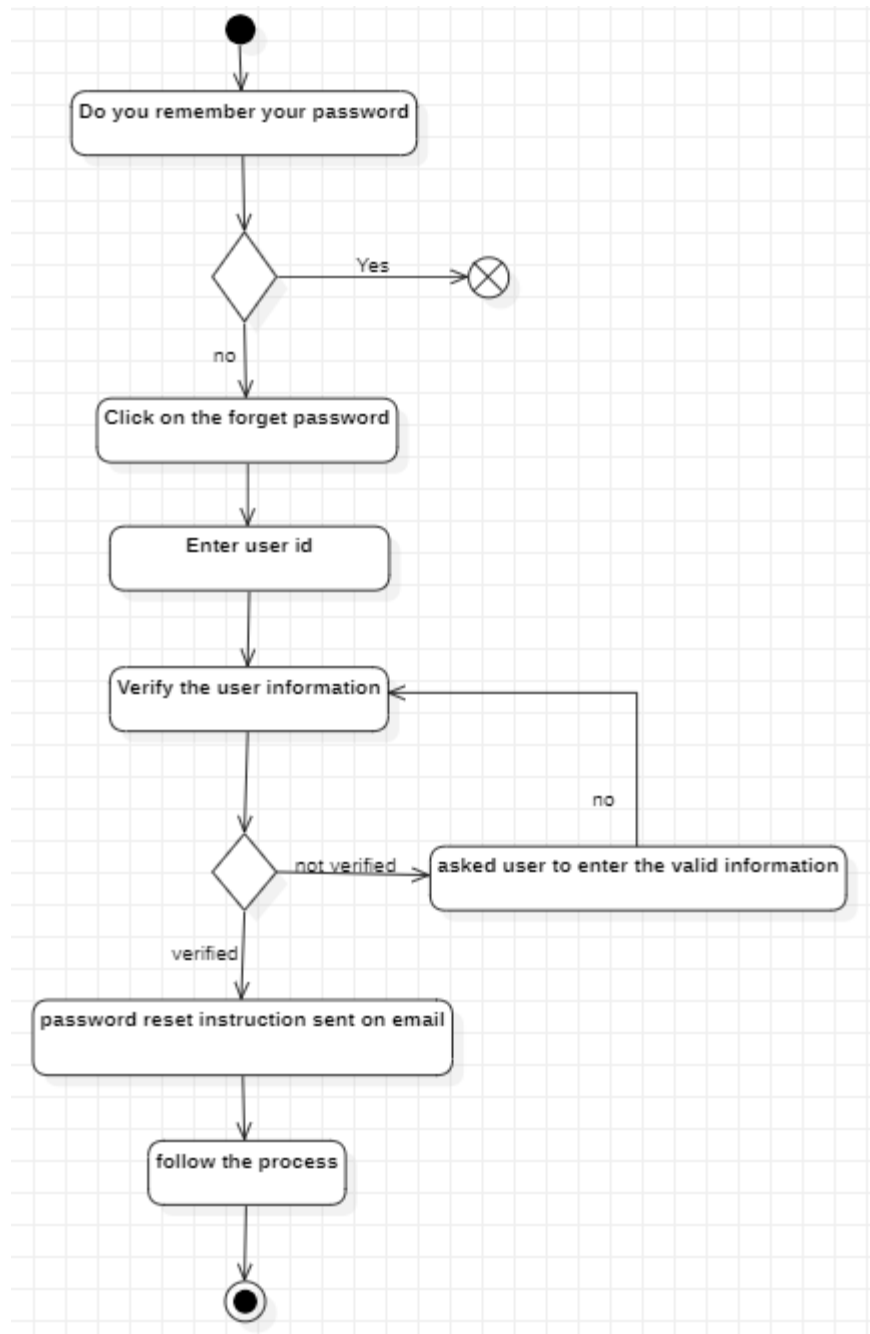
4.7.3 Sign up



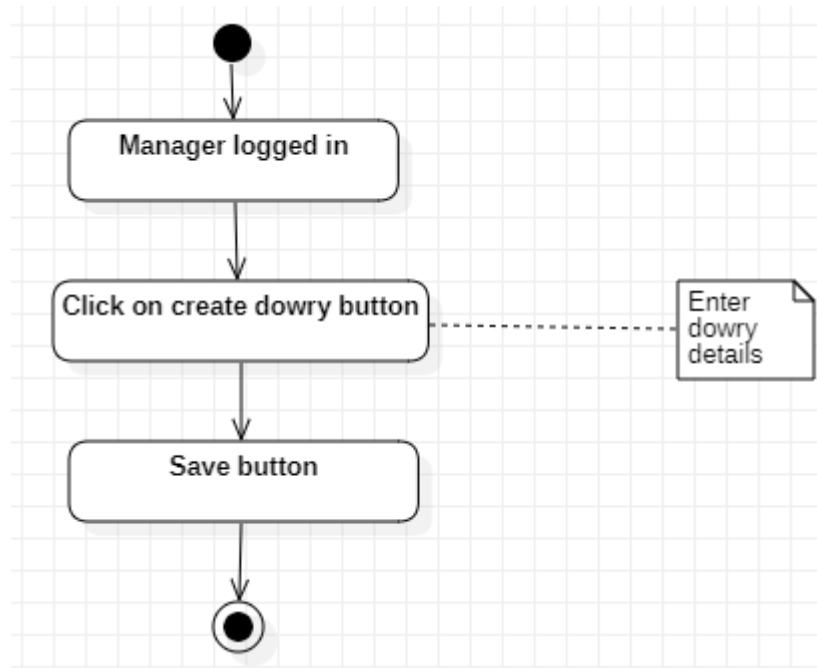
4.7.4 Remove account



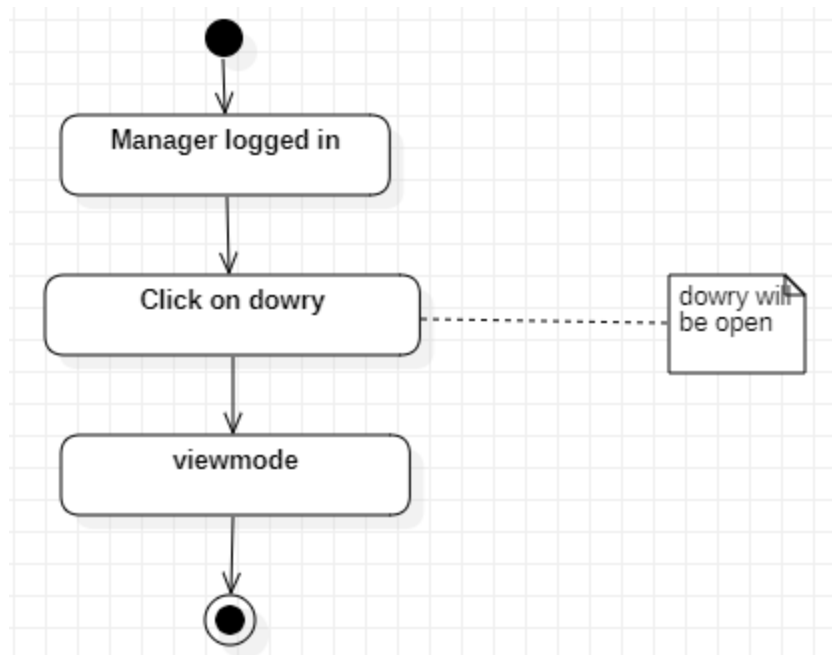
4.7.5 Forget Password



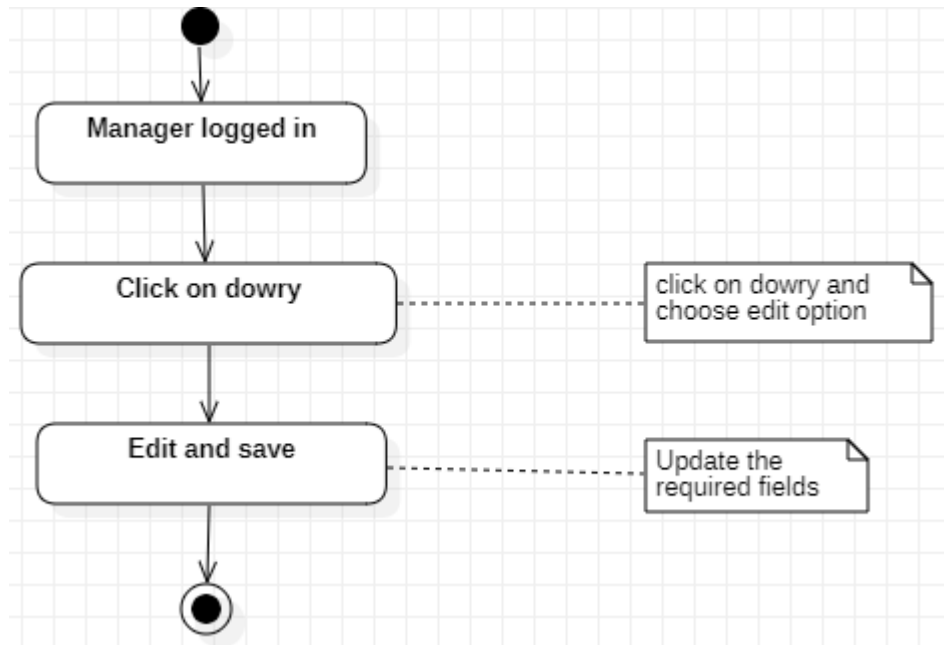
4.7.6 Create product/dowry



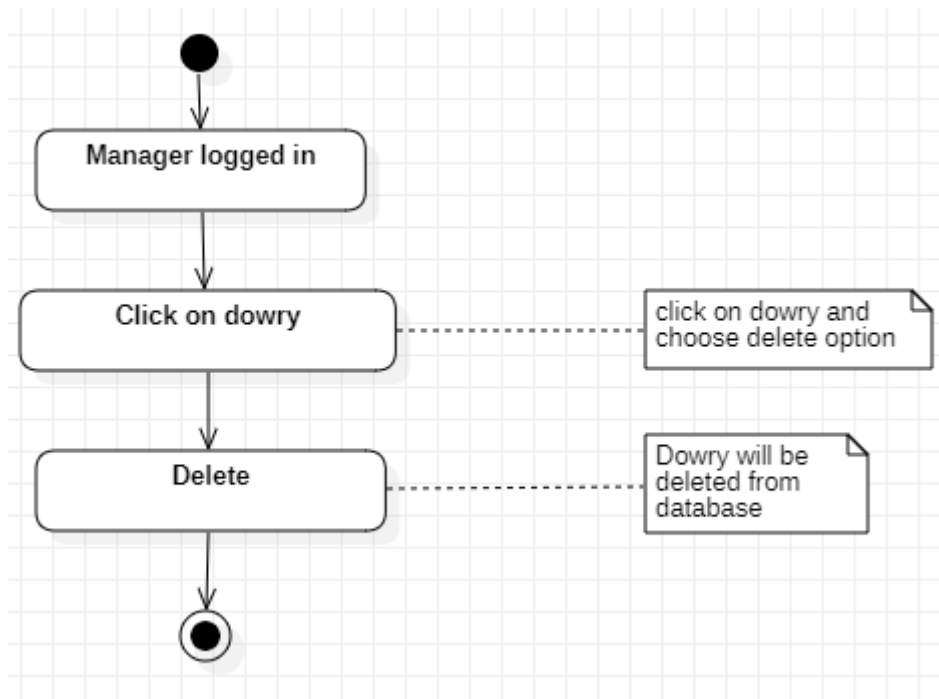
4.7.7 View product/dowry



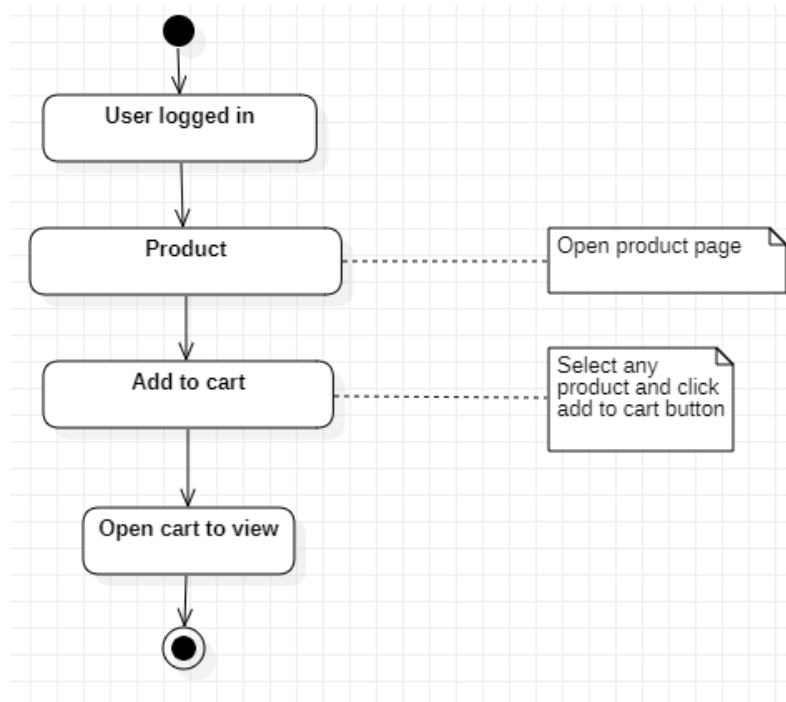
4.7.8 Edit product/dowry



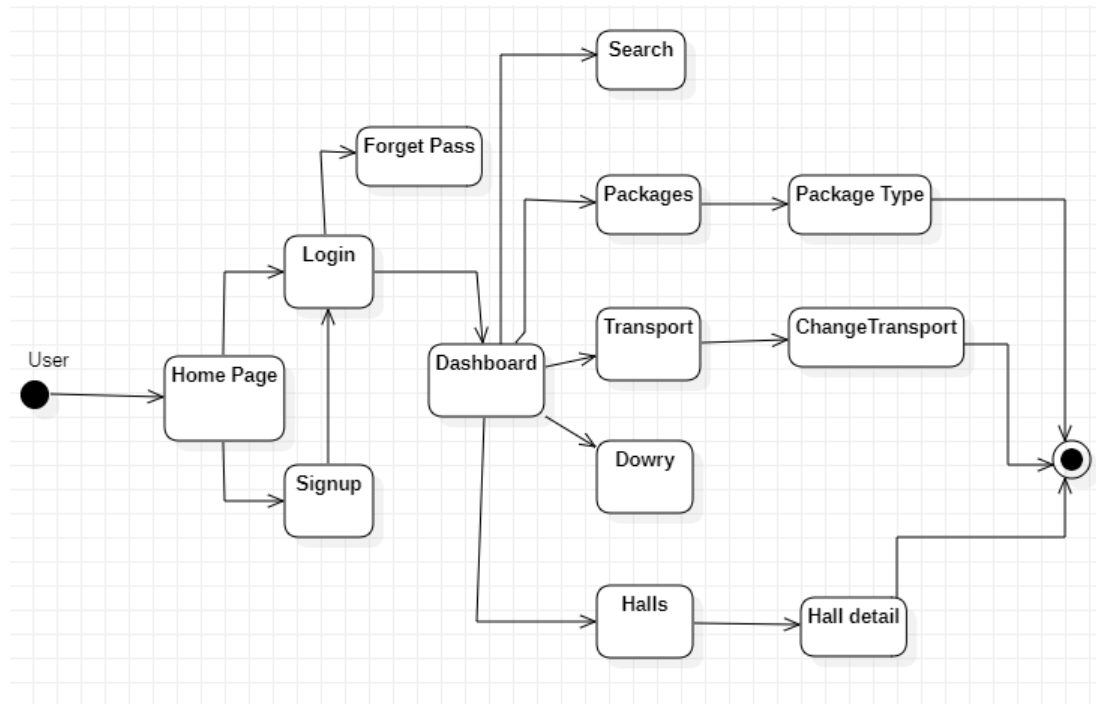
4.7.9 Delete product/dowry



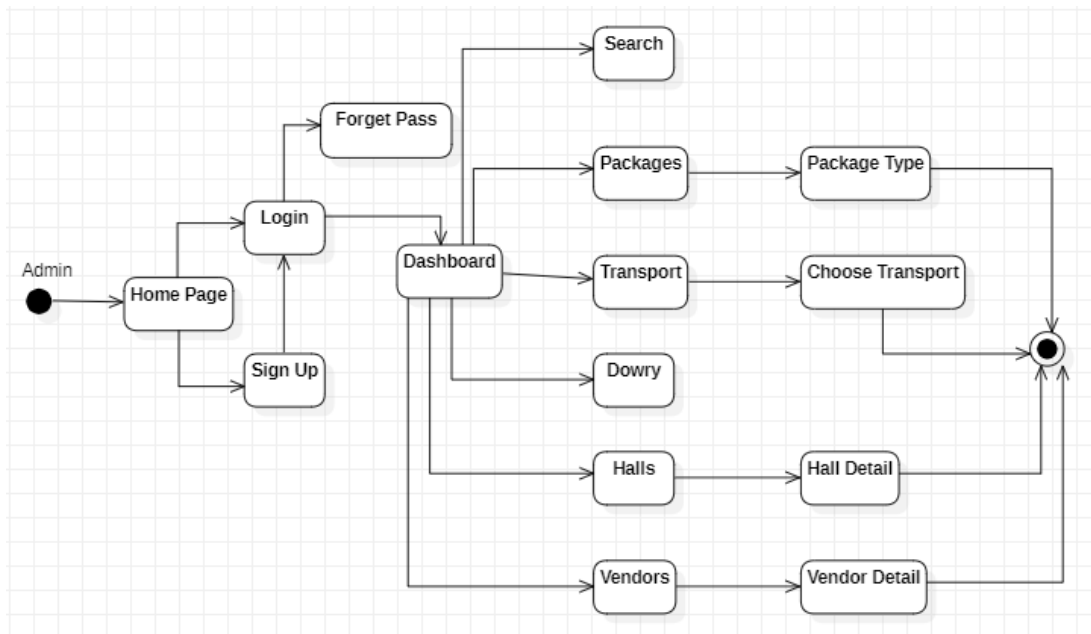
4.7.10 Add to Cart



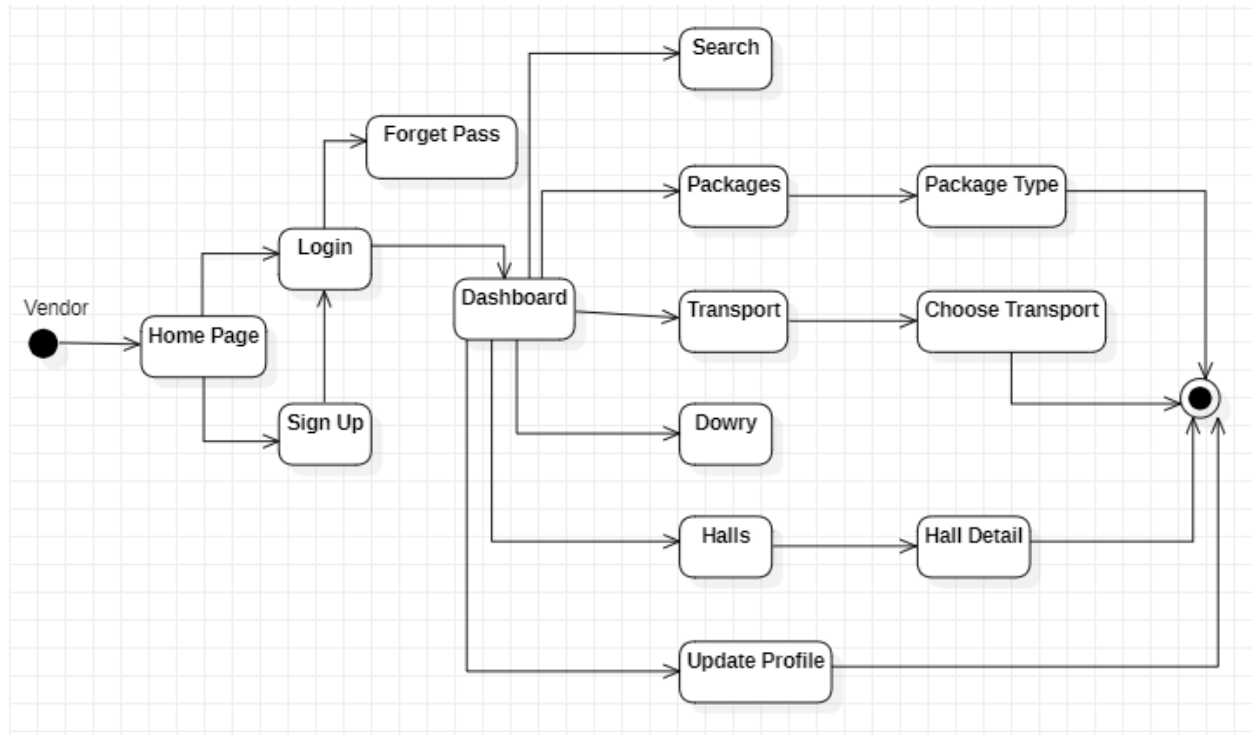
4.6. State Transition Diagram



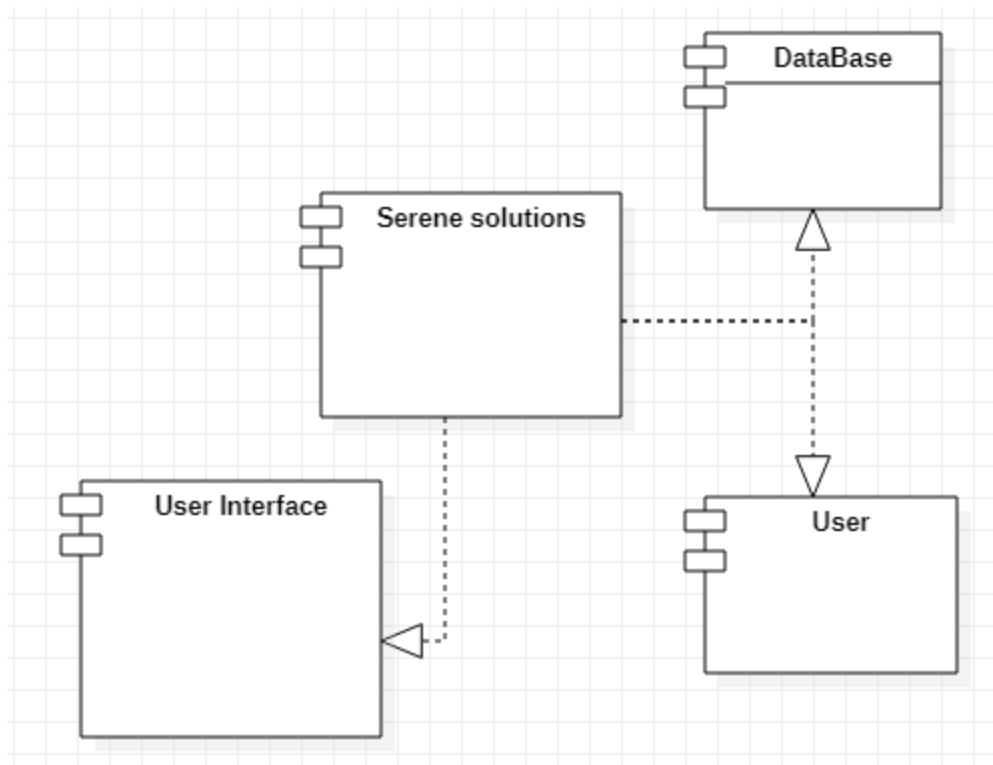
4.6.1. Admin



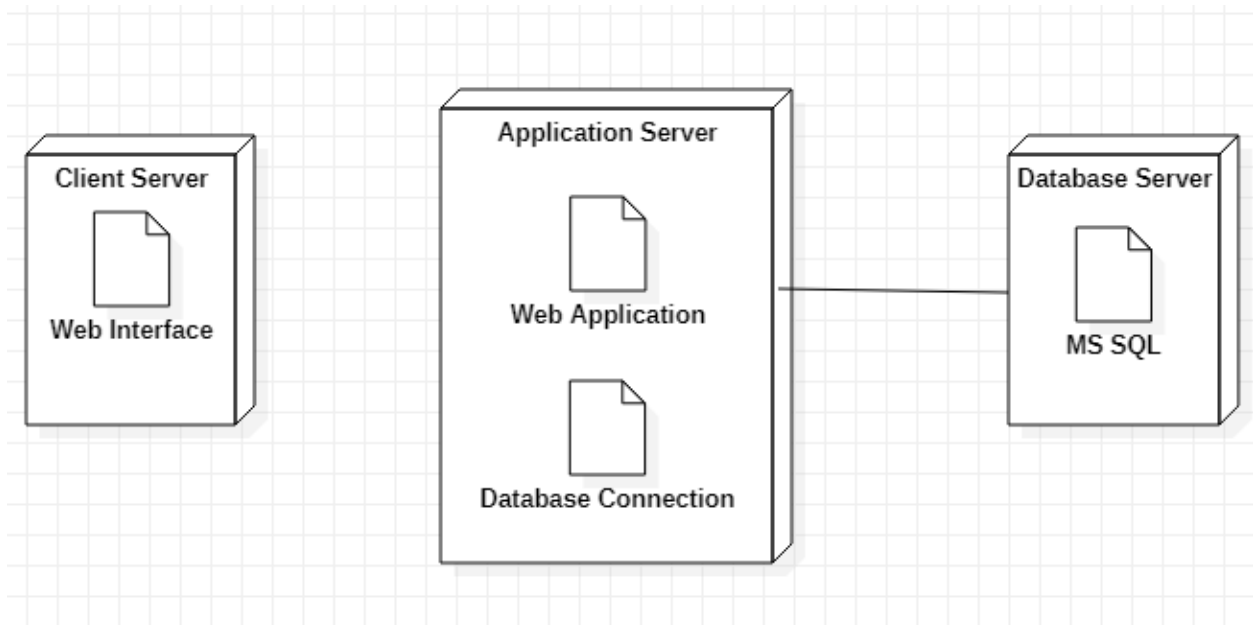
4.6.2. Vendor



4.7. Component Diagram

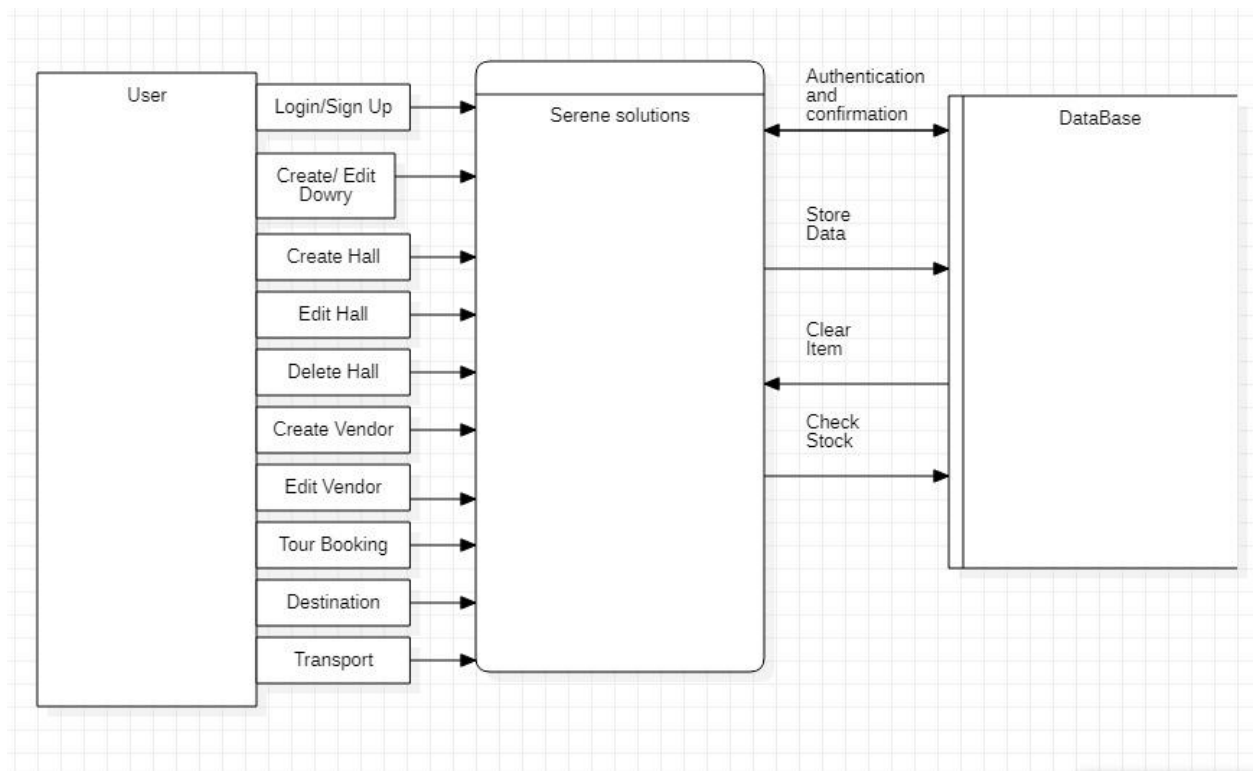


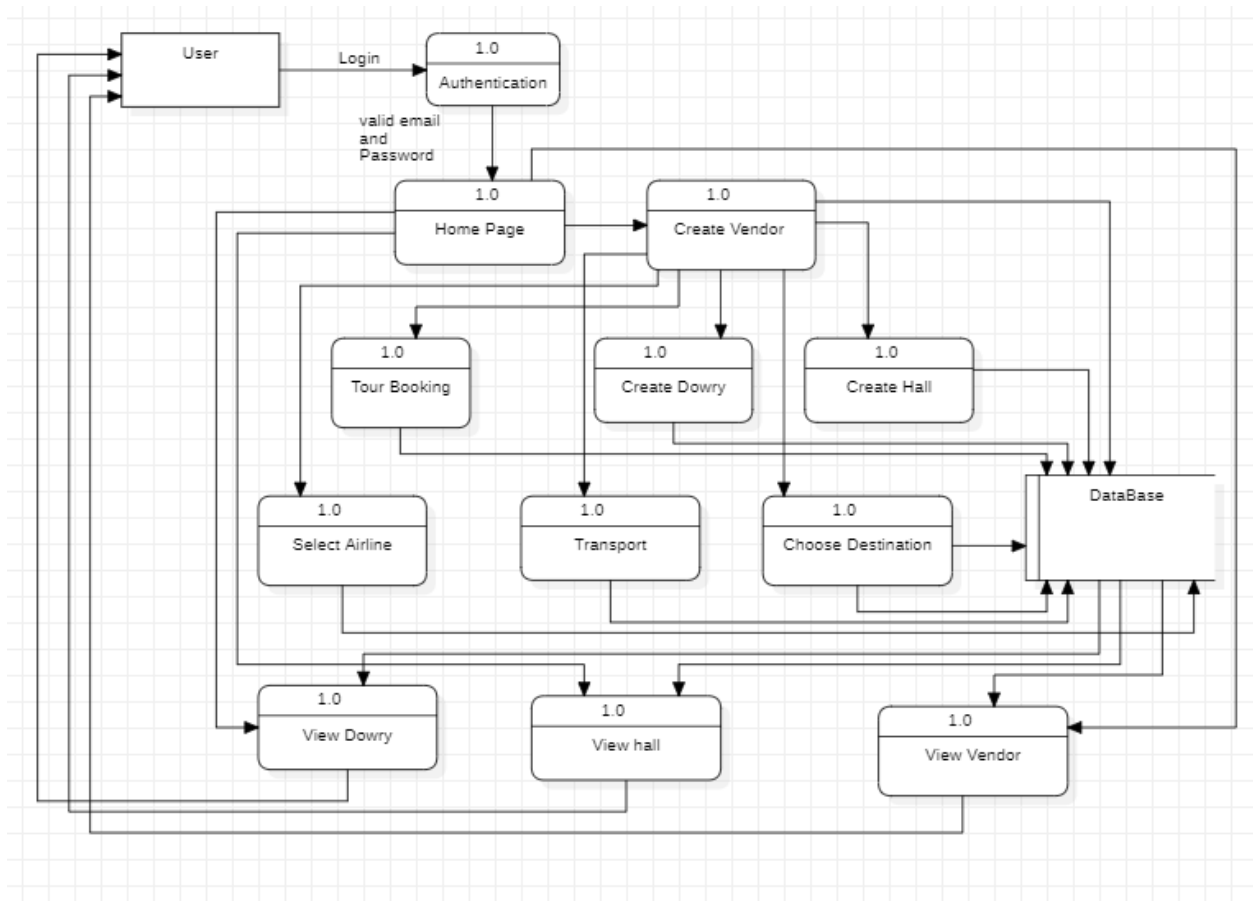
4.8. Deployment Diagram



4.9. Data Flow diagram

Level 0:



Level 1:

Chapter 5

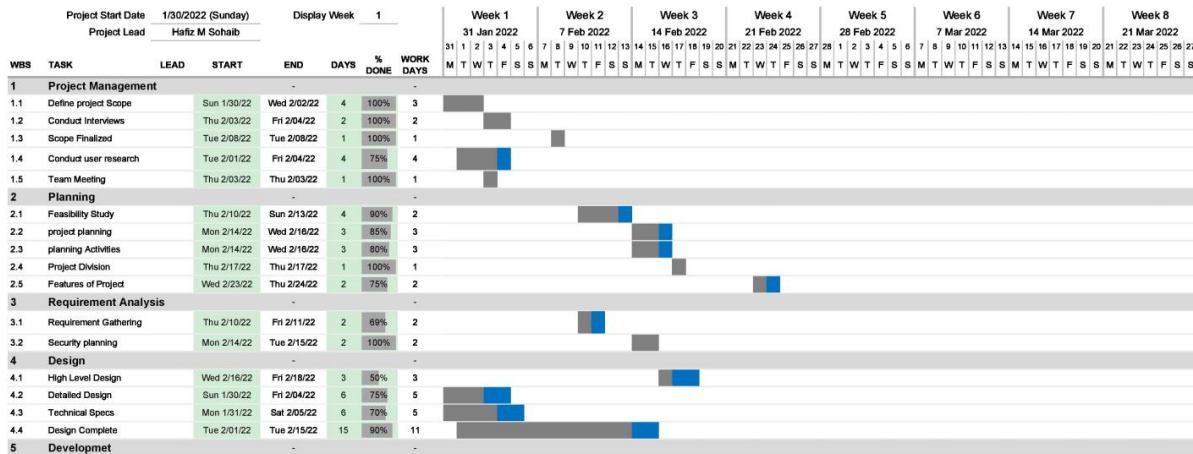
Implementation

Chapter 5: Implementation

Implementation of the project is described in the Gantt chart given below:

[Serene Solution] Project Schedule

[Infinite Connections]



5.1. Important Flow Control/Pseudo codes

Login Panel will be displayed by the system to the user. User will Login to the system by using username and password. Admin can manage all the system. All the booking can be accesses by the admin. He can accept or reject the booking of the customer. A super Admin is there to look after the whole system. User can get four modules which are Event Management, Hall Booking, and Tour Management and E commerce website.

5.2. Components, Libraries, Web Services and stubs

No such hardware component is used. As we are making system in .Net core so some libraries are System, SystemUI.

5.3. Deployment Environment

It is a web application so it can be access by any device having browsing functionality.

5.4. Tools and Techniques

Tools that we used are:

- Visual Studio
- Microsoft SQL
- Xampp

5.5. Best Practices / Coding Standards

Coding standard that we used are given below:

- Neat and Well maintained code
- OOP
- OOAD

5.6. Version Control

We used GitHub as a version control.

Chapter 6

Testing and Evaluation

Chapter 6: Testing and Evaluation

After development, last stage is to test and evaluate our web application before deploying on the server. Testing phase will be done by Quality Assurance agent.

6.1. Use Case Testing

In the beginning QA will check that all the stakeholders are able to perform main functionality in the application or not. Like login/signup, dashboard and bookings, etc.

6.2. Equivalence partitioning

Then it will be divided into number of users like in our case we have three main users such as Admin, Super Admin and Customer. All the modules related to our users will be tested separately.

6.3. Data flow testing

Through this test we can check all the screens and flow of application and flow of data is working or not. When users logging to the application using credentials whether they are getting authentic data from database or not.

6.4. Performance testing

Performance test is very important in this phase. Test Database authentication quickly. Data storing and retrieving from database is fast or not. Whether Application crashes with increase in number of users or not.

6.5. Stress Testing

Test if in case users increase from expectation like we assume that maximum 100 users will use application but the users increased to 200 users then how application behave. It should not compromise on the performance.

Chapter 7

Summary, Conclusion and Future Enhancements

Chapter 7: Summary, Conclusion & Future Enhancements

7.1. Project Summary

Serene Solutions is a web application which provide the easy for booking all the process which are nester for the events and it will be act as the final year project. The project is a Web application which helps to organize successful events for users. This application provides an easy way to plan their special events. The user can add all the details of the event and can get the service. The user can select the type of event, type of food to be served, type of decoration and estimated budget. All the details given by users will be verified by admin. Admin will add all the details of the planner based on the requirement of the user and send the user's event details to the planner. The planner will verify and send his response with a confirmation mail. The user needs to complete the payment process to confirm the order.

7.2. Achievements and Improvements

This project can be improved in many ways. We can add unlimited functionalities into this web application. We have achieved our goal to complete our Final Year project in efficient way and try to add lot of features in it.

7.3. Lessons Learnt

The lessons that we learnt that we should never stop learning things. As if we chose one field for our future then we should also have some knowledge of latest technologies that are currently in the market.

7.4. Future Enhancements/Recommendations

Serene Solution is a very vast application. We are managing 4 modules in it which was not an easy task for us. We have done a lot of effort while building this project. It have potential to be enhanced in efficient way. We can add multiple AI based modules in it for the better performance of the application.