

# **TSE2101**

## **Final Report**

**for**

## **Mobile Car Wash Service System**

**Version 3**

**Group No.: <Group-15>**

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## Revisions

<b>Version</b>	<b>Primary Author(s)</b>	<b>Description of Version</b>	<b>Date Completed</b>
SRS Version 1.0	Azmina Sharaf Yoga Shri AP Murti Chan Wai Jun Nuraisyah Aqila	-	17/09/2021
SRS Version 2.0	Azmina Sharaf Yoga Shri AP Murti Chan Wai Jun Nuraisyah Aqila	-	18/10/2021

# Project Management

## 1.1 Team Members

Name	Position	Actor/Processes
Azmina Sharaf	Team Leader	User
Yoga Shri A/P Murti	Document Manager	Car washer / Employee
Nuraisyah Aqila	Quality Manager	Admin / Employer
Chan Wai Jun	Programming Manager	User

## 1.2 Project Plan

Our project is a Mobile car wash System which is application software. We use suitable applications and tools which are Microsoft Word 2010, Google docs, HTML, CSS ,Draw.io , UML software, Lucidchart,visual studio code ,and Chrome web to develop our project .

We follow the software process model which is the Spiral Model from the evolutionary model . The spiral model is coupled with the iterative nature of prototyping with systematic aspects of the waterfall model . In real life project risk may occur after the development work starts, in that case, we cannot use the Prototyping Model. In each phase of the Spiral Model, the features of the product are dated and analyzed, and the risks at that point in time are identified and are resolved through prototyping. Thus, this model is much more flexible compared to other SDLC models. Spiral model handles risk well , good for large projects , flexible in requirements even at the later phase and might as well provide satisfaction to customers.

The following Gantt chart shows the process in this project . Our main users are admin , car washer and user . All the users have their own role in the system.

## 2 System Overview

### 2.1 Description

The system will allow car washers to log in by entering ID and password. After the successful login, the car washers can select some functions on the home page. They can select the profile function, and the system will display their profile with details such as name, location and total earnings. On the same profile page, car washers also can select the edit personal detail function to update their details. Car washers can also update the current appointment status using the update appointment status function.

The system will allow the admin to log in by entering ID and password. After the successful login, there will be a homepage where the admin can select functions. The admin can view the list of car washers with the view employee list function. On the page, admins can also add car washer profile, update car washer profile, delete car washer profile and view car washer profile. Admins can also overview the appointment schedule with the overview schedule function. The system will display the appointment schedule for that particular day.

The user will be allowed to register and create a profile on the website with truthful details with the register function. Then, the user is required to subscribe to their preferred car wash service plan with the choose subscription plan function. After subscribing, they will proceed to the payment gateway for financial transactions with the make financial transactions function. Only then, they can use the website to schedule the time and fixed location for the car wash appointment for the continued period of subscription time with the schedule appointment function. Returning users can login into their profile and will be redirected on the homepage. Users can view with the view profile function. On the profile page, users can also edit their profile using the edit personal details function and unsubscribe the service using the unsubscribe function. Users can also use the view appointments function, view payment receipts function and view appointment history function on the homepage. Users can view their upcoming appointments by using the view appointments function. On the appointment page, they can add or delete different types of services for that particular appointment using the add appointment service or delete appointment service function. Users can also cancel or postpone an upcoming appointment by using the update appointment function in the appointment page. The view payment receipts function allows users to view past payments receipts. The appointment history allows users to view details of past appointments.

## 2.2 Actors

Actor	Use Cases
Car washer	View personal detail
	Edit personal detail
	Update appointment status
Admin	View employee list
	Add car washer
	Update car washer
	Delete car washer
	View car washer
	Overview schedule
User	Register
	Choose subscription plan
	Login
	Schedule appointment
	View profile
	View appointment
	Update appointment
	Add appointment service
	Delete appointment service
	Make financial transactions
	View payment receipts
	View appointment history

## **2.3 Assumptions and Dependencies**

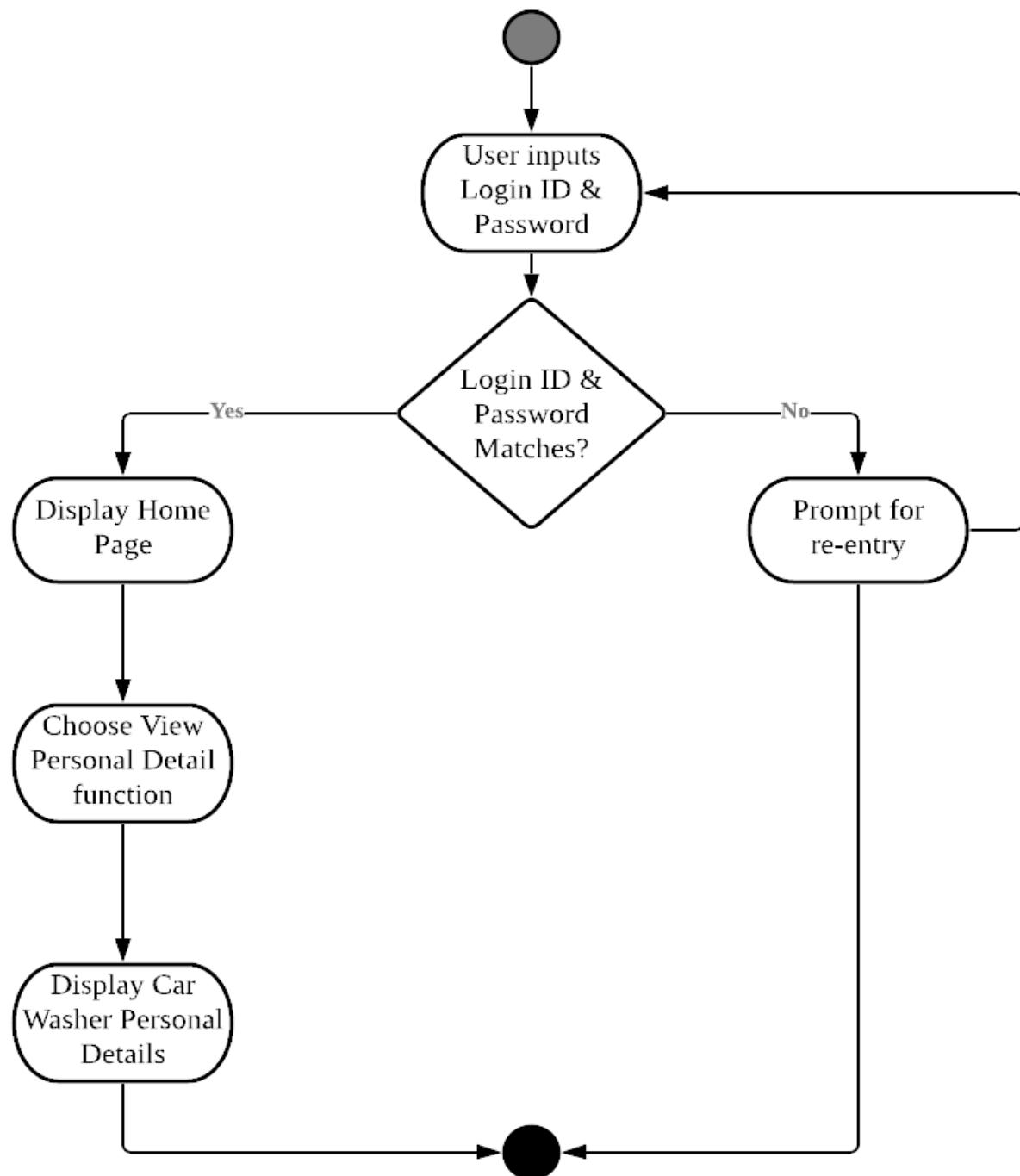
1. The system will be available as a mobile application on both iOS and Android for all the three actors.
2. There will be a database to keep the data of the car washers, users, appointment details and such.
3. The system will have a geolocation API where it will return user location and accuracy radius. This data will be used to automatically assign a nearby car washer to the user's appointment.
4. The system will have the STRIPE API which allows for online payments, money withdrawal, tracking of payments and past payments, recurring charges, etc.
5. The update appointment function for car washers will be a QR code scanner as they will scan a QR code from the customer to update that they have completed a particular appointment

## 2.4 Use Case Diagram

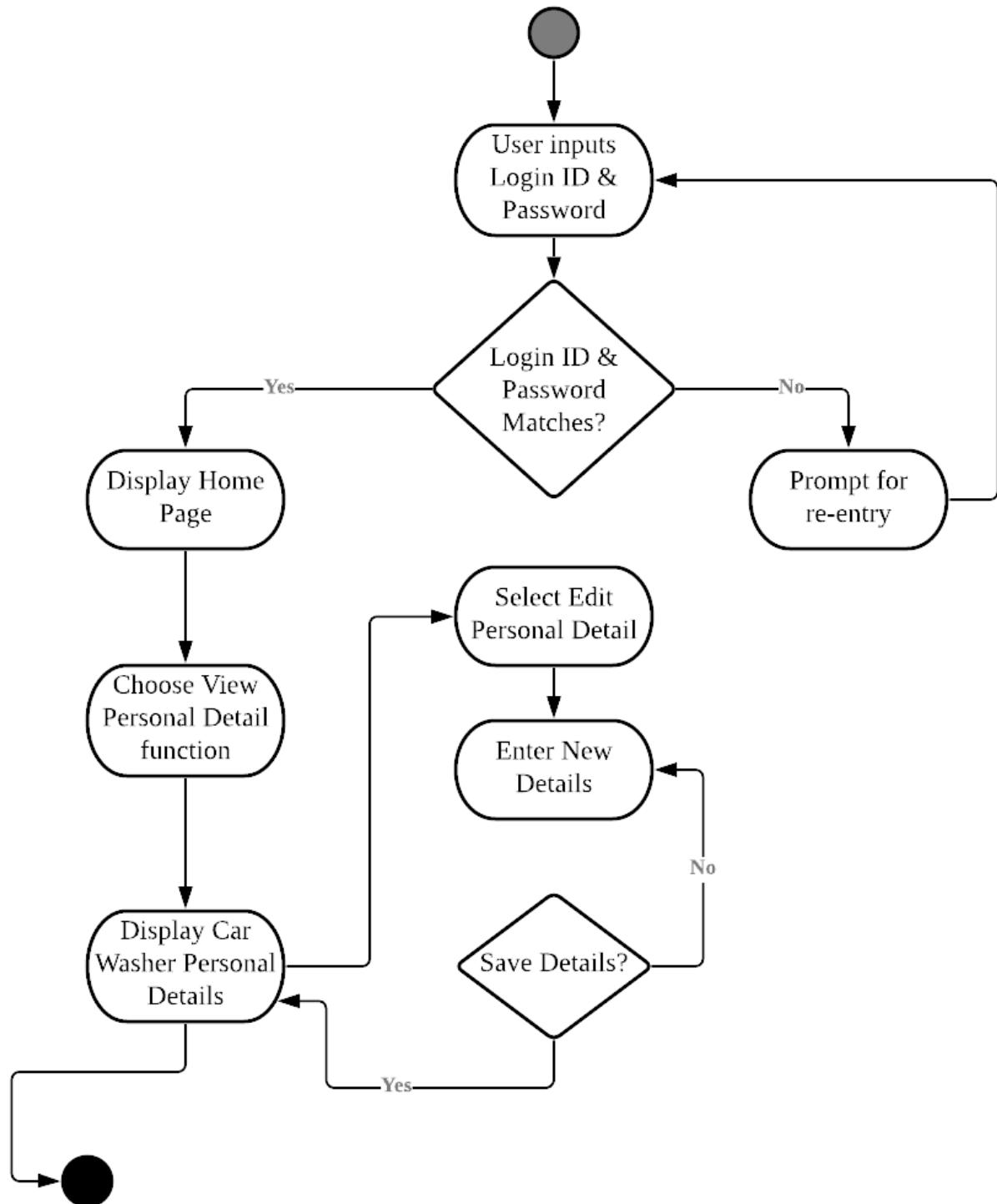


## 3 Basic Requirements

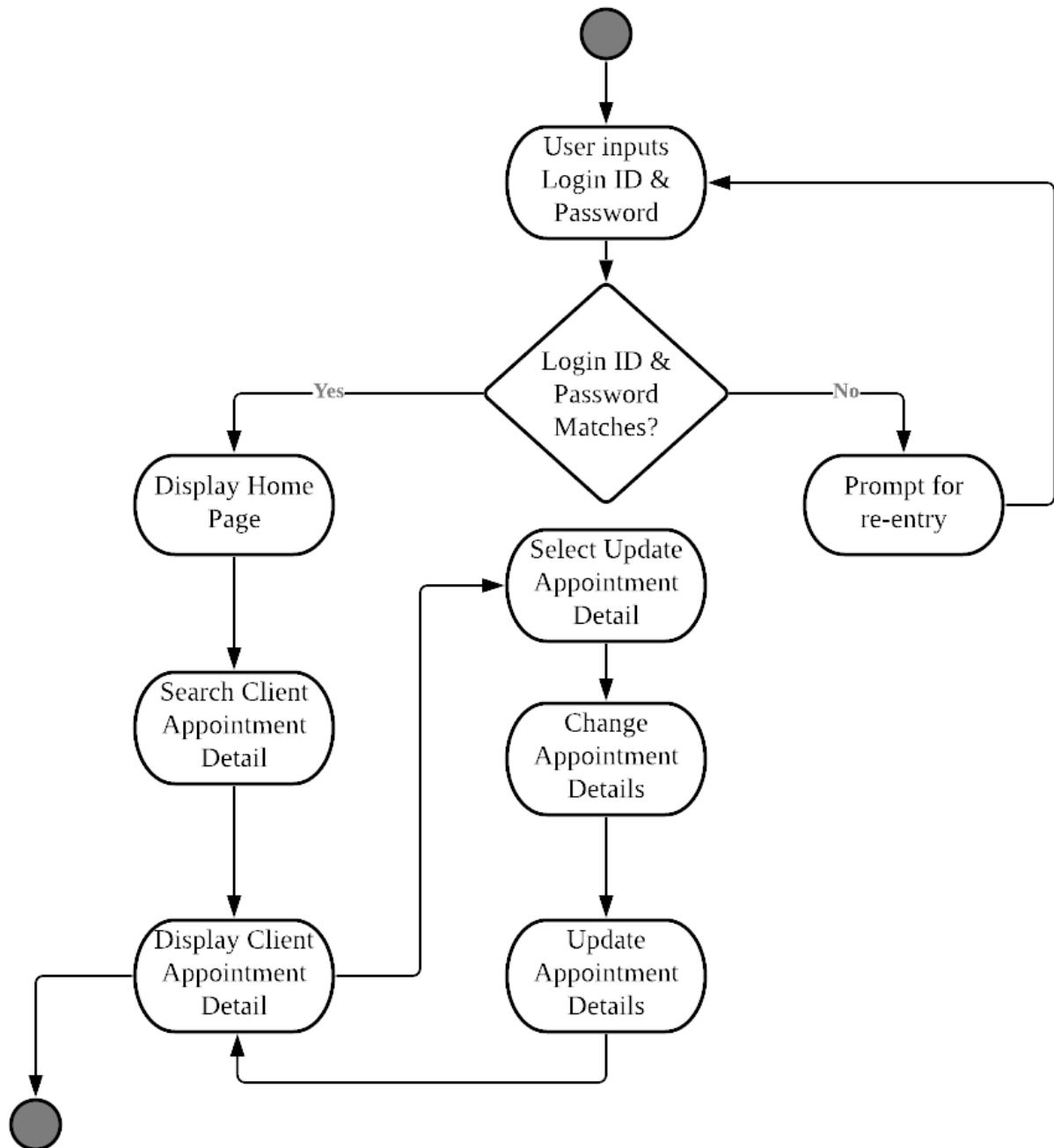
### 3.1 View Personal Details (Car Washer)



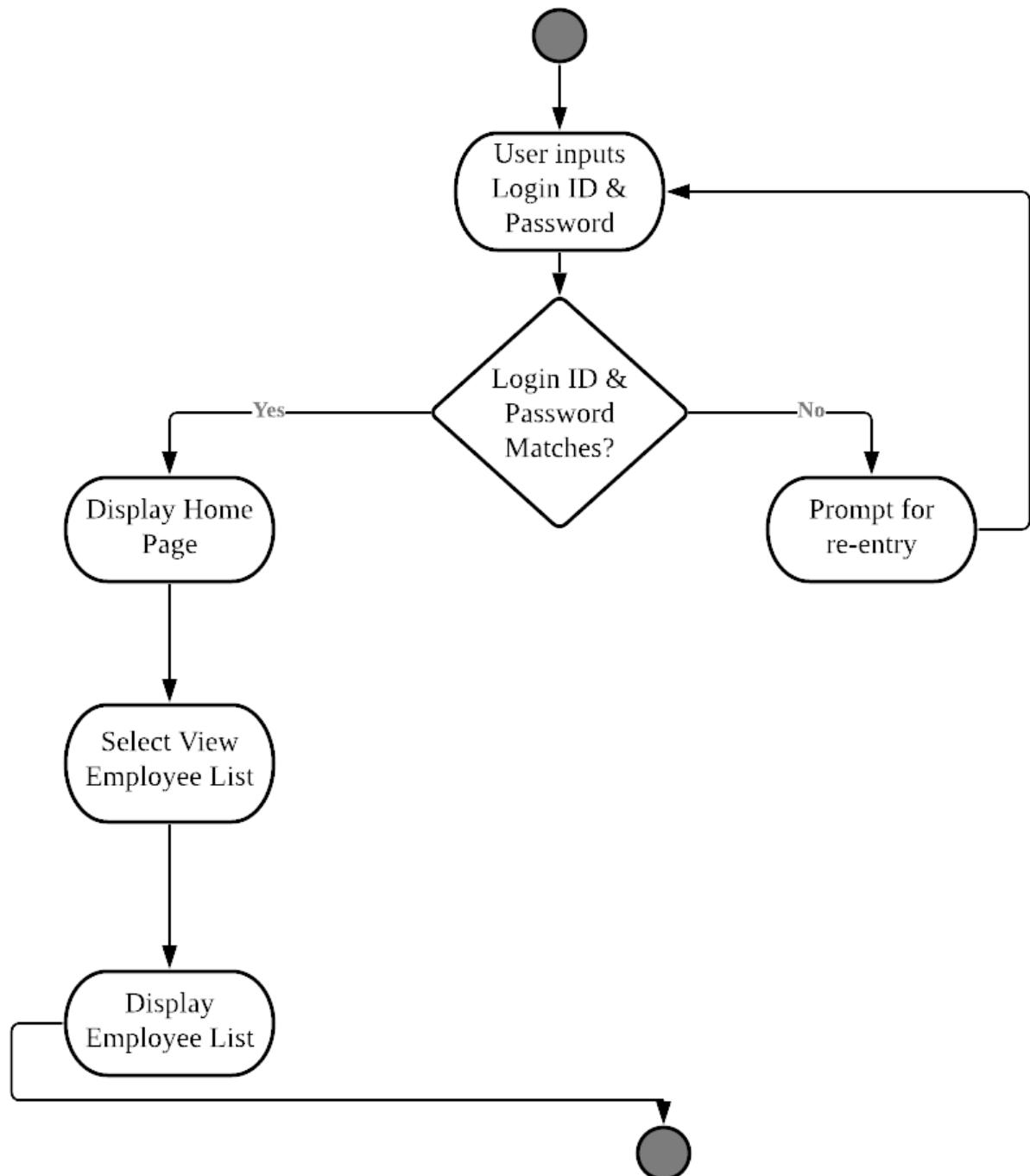
### 3.2 Edit Personal Details (Car Washer)



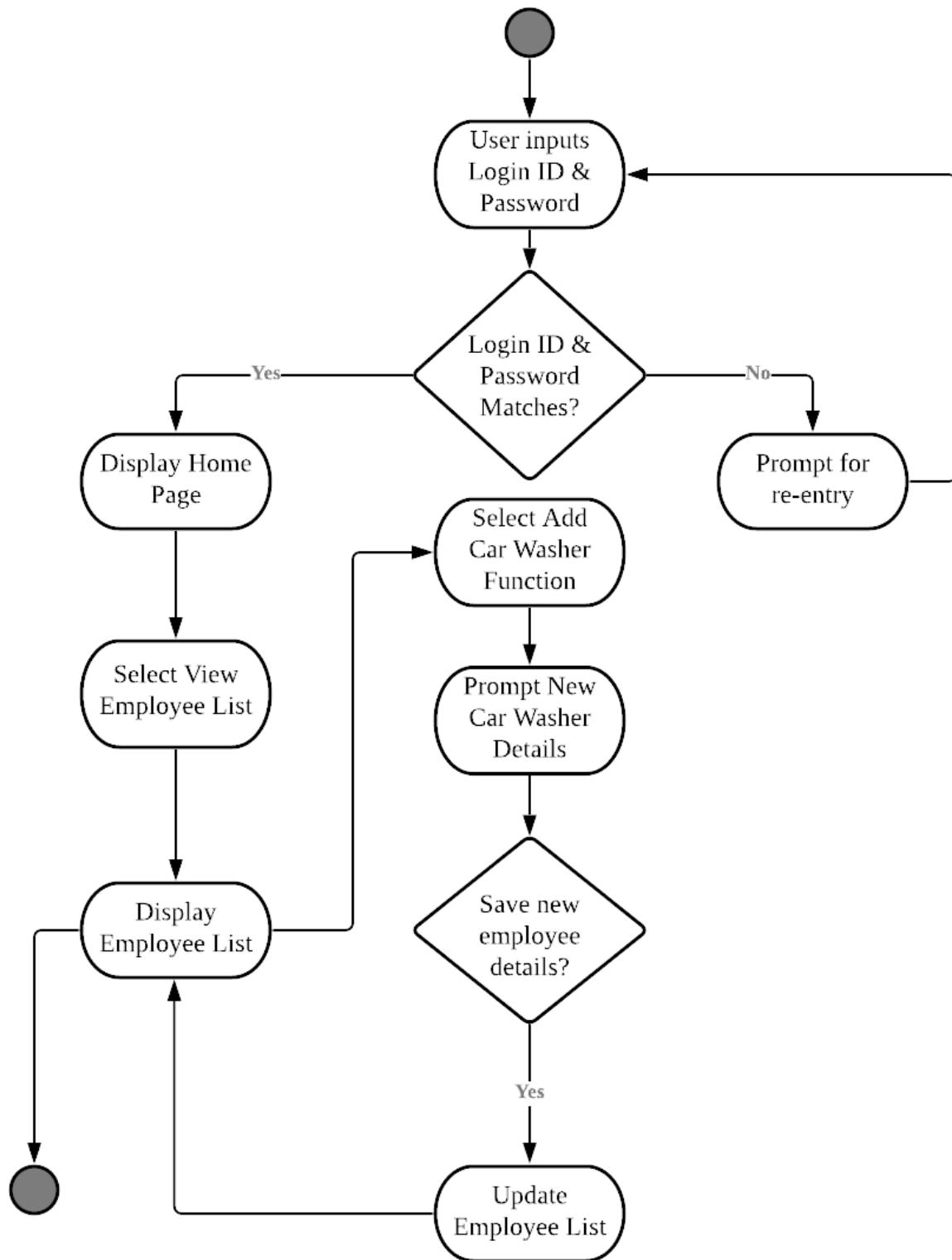
### 3.3 Update Appointment Status (Car Washer)



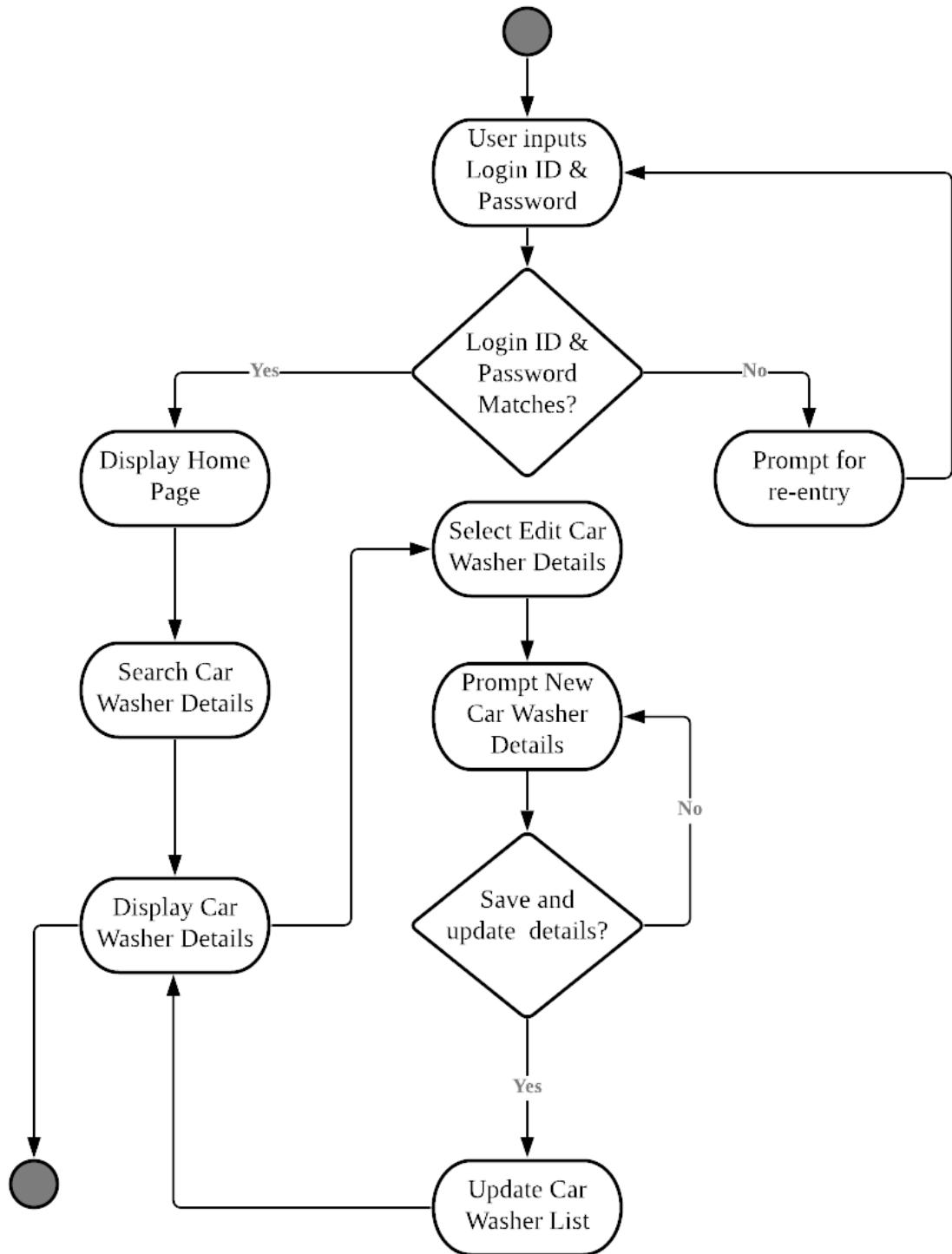
### 3.4 View Employee List (Admin)



### 3.5 Add Car Washer (Admin)

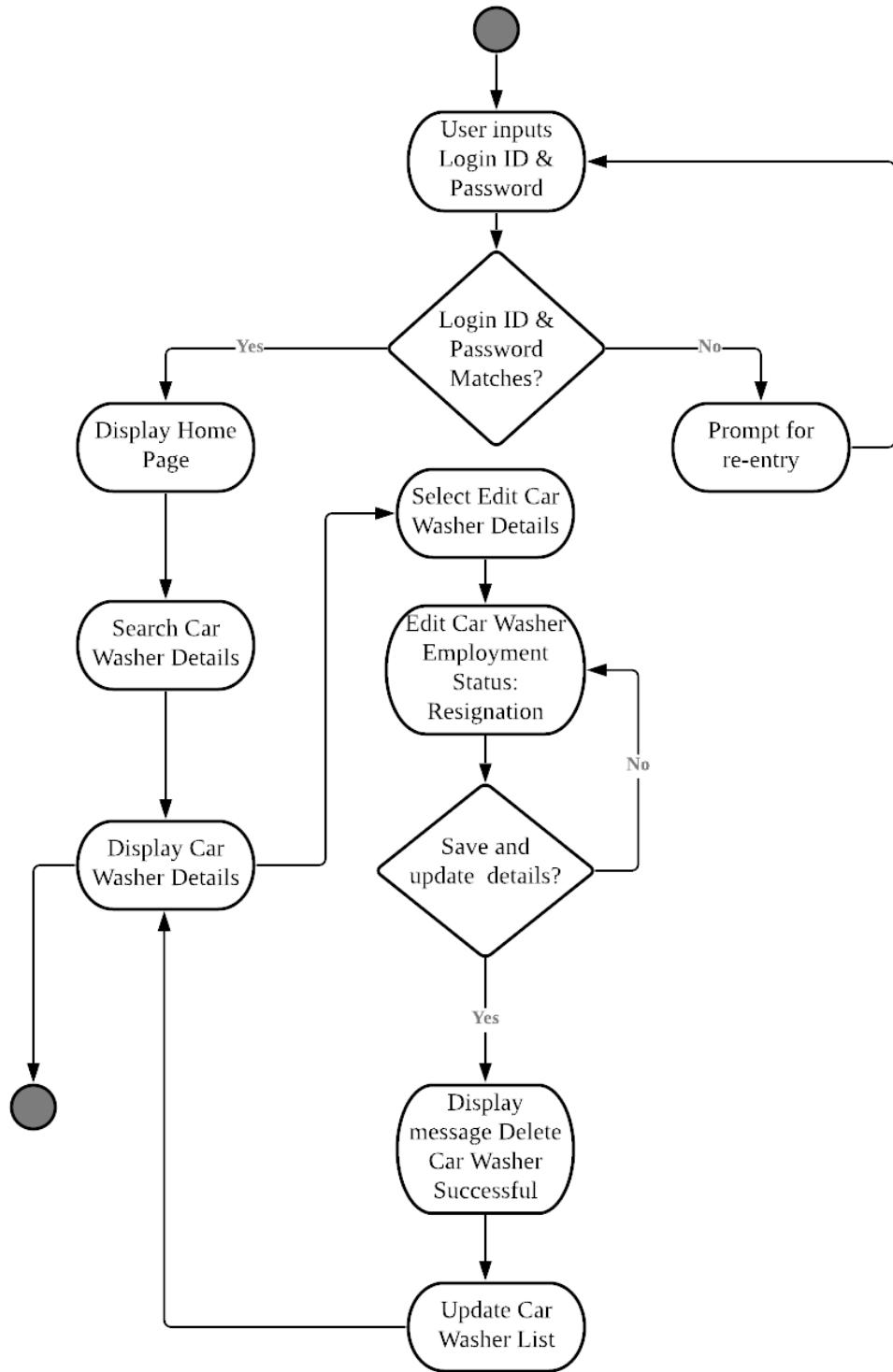


### 3.6 Update Car Washer (Admin)

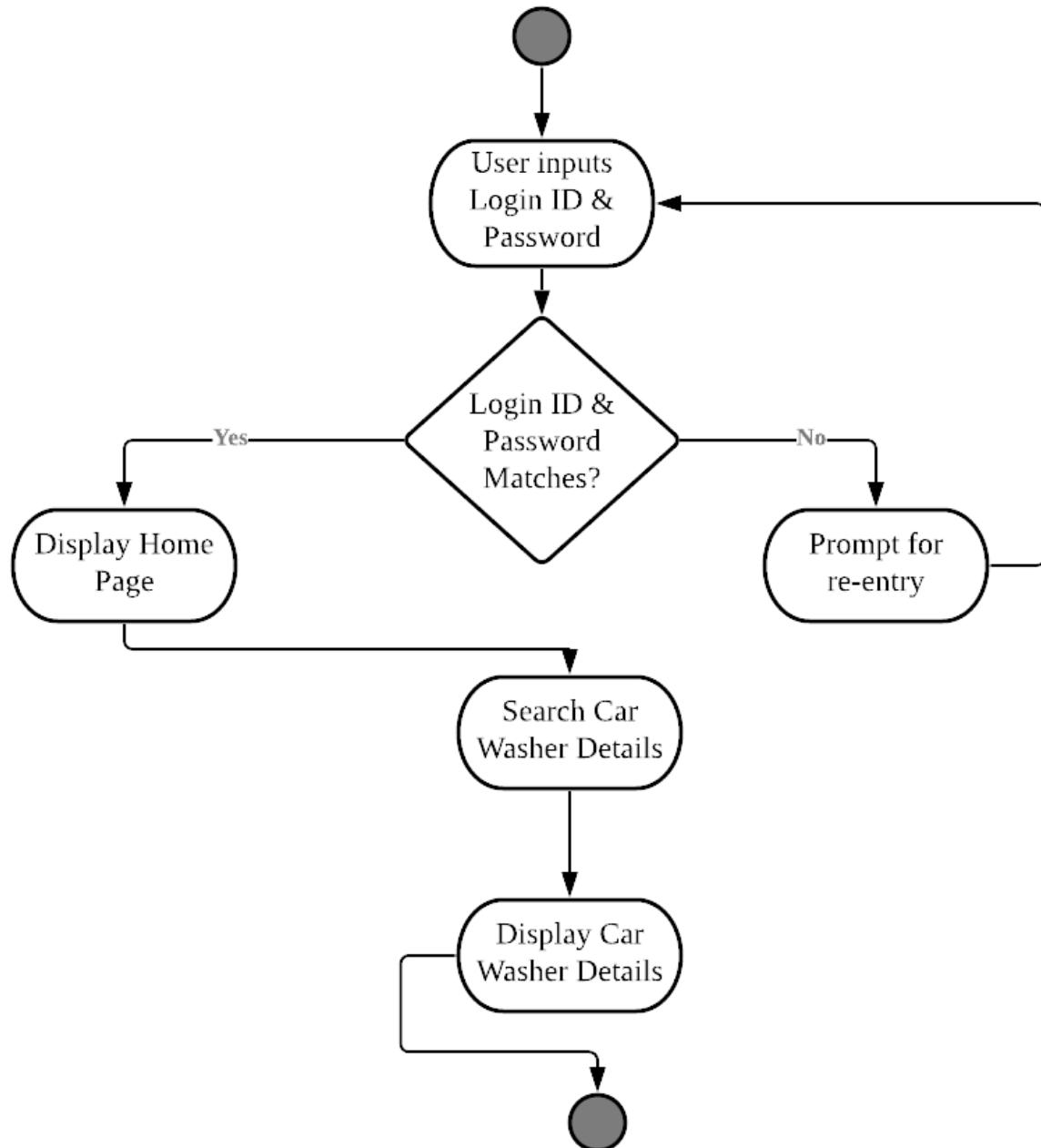


### 3.7 Delete Car Washer (Admin)

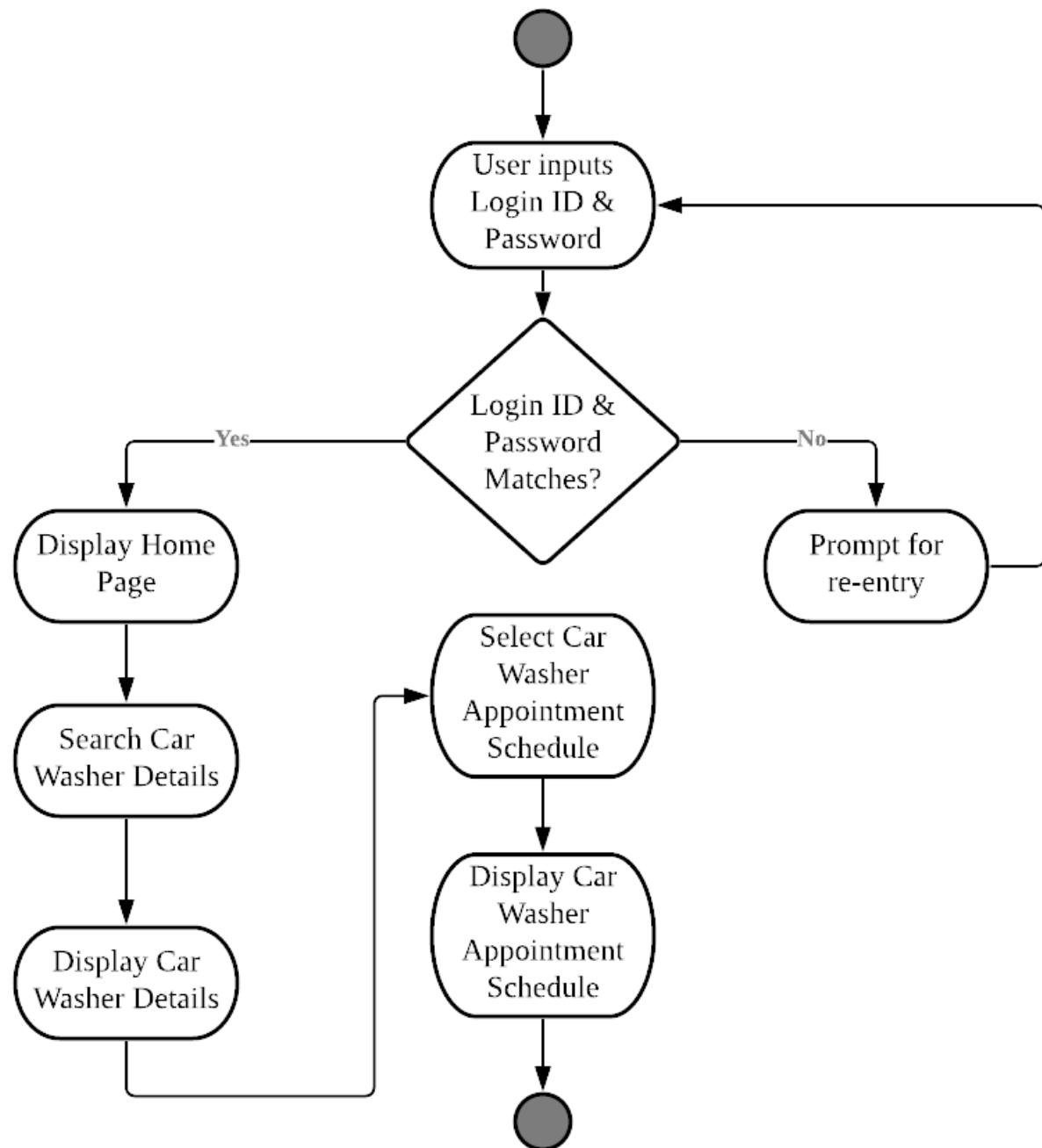
### 3.8 View Car Washer (Admin)



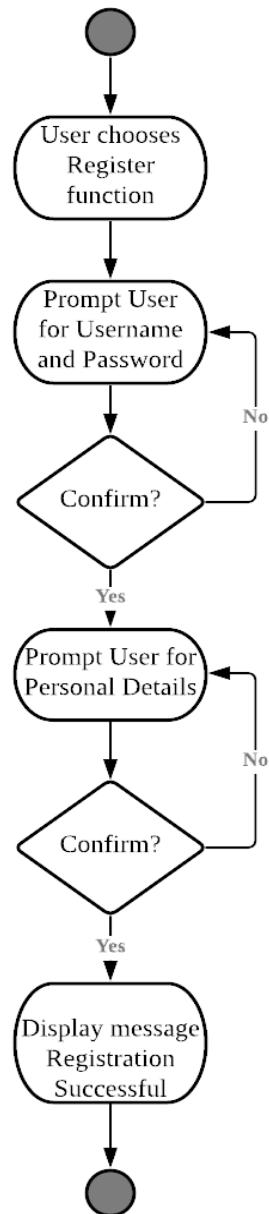
### 3.8 View Car Washer (Admin)



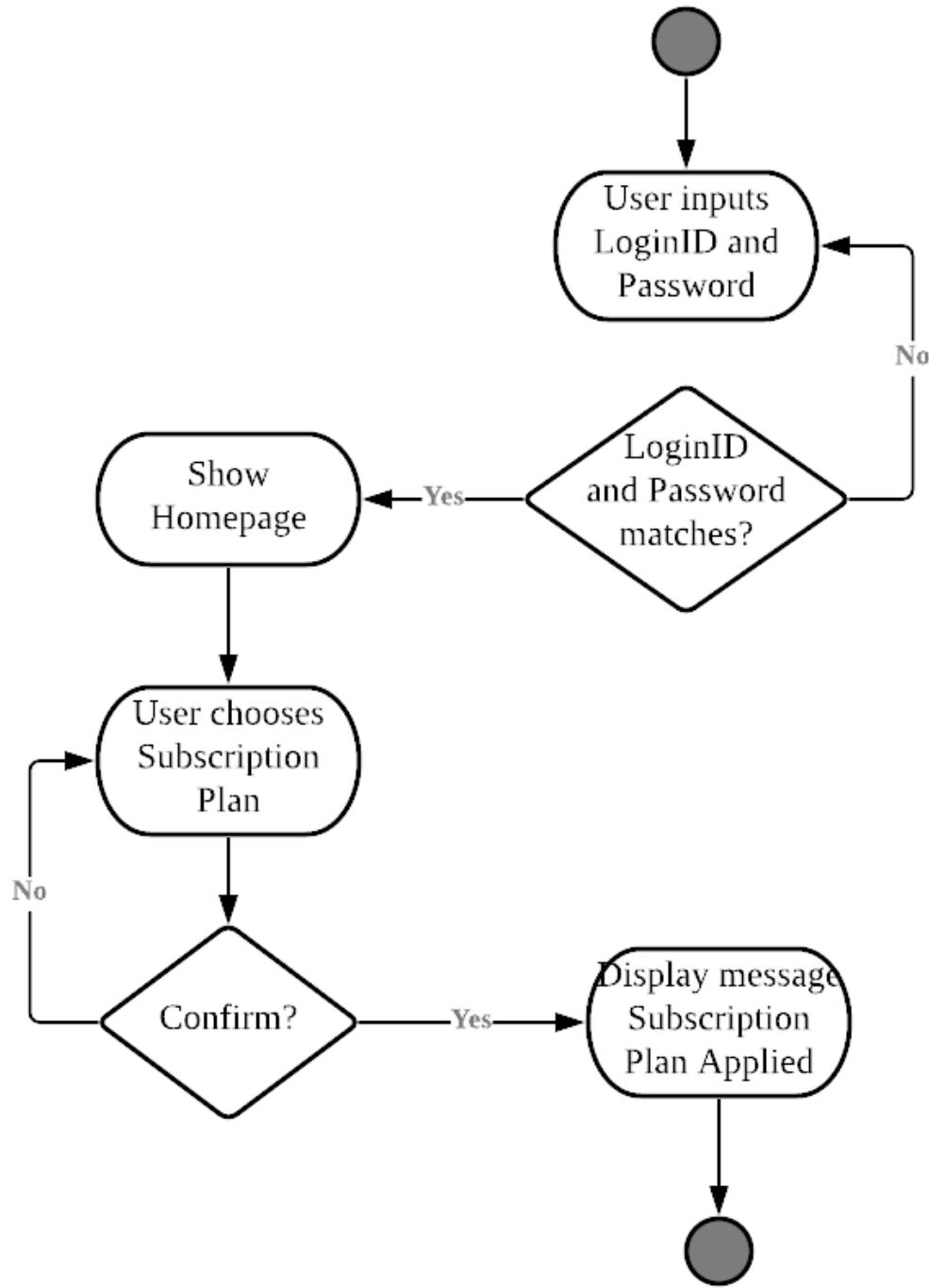
### 3.9 Overview Schedule (Admin)



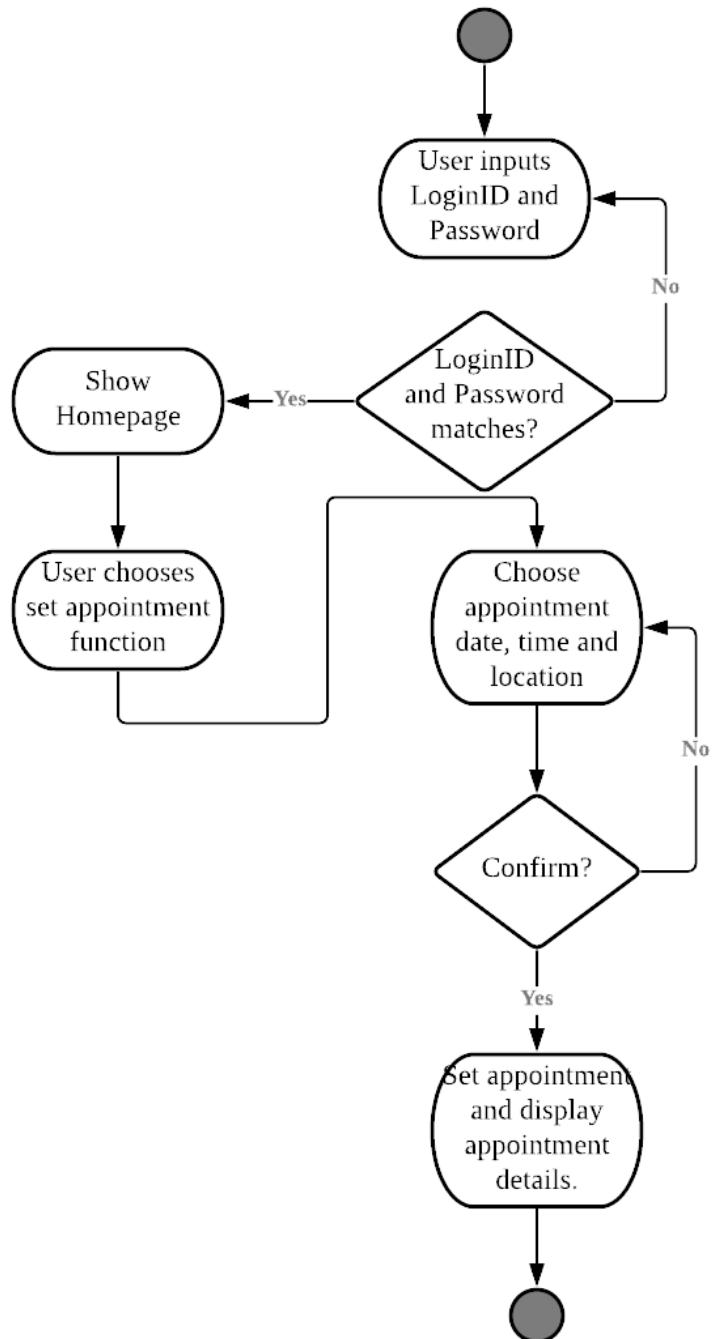
### 3.10 Register (New User)



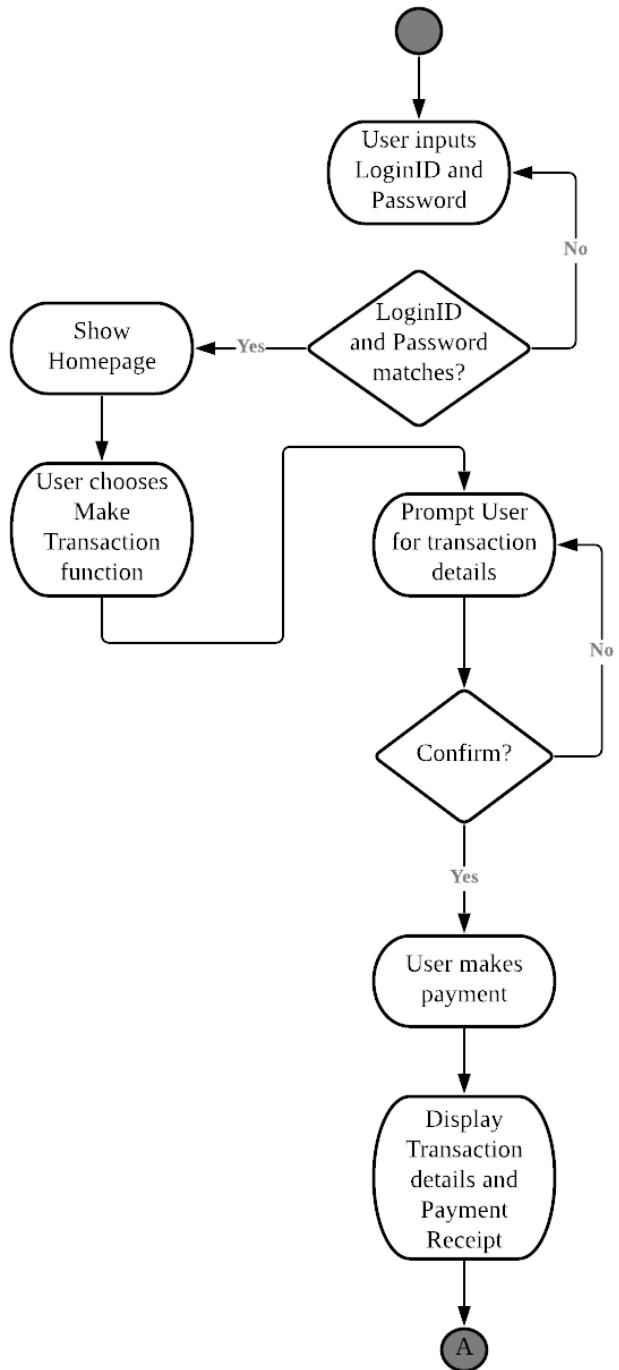
### 3.11 Choose Subscription Plan (New User)



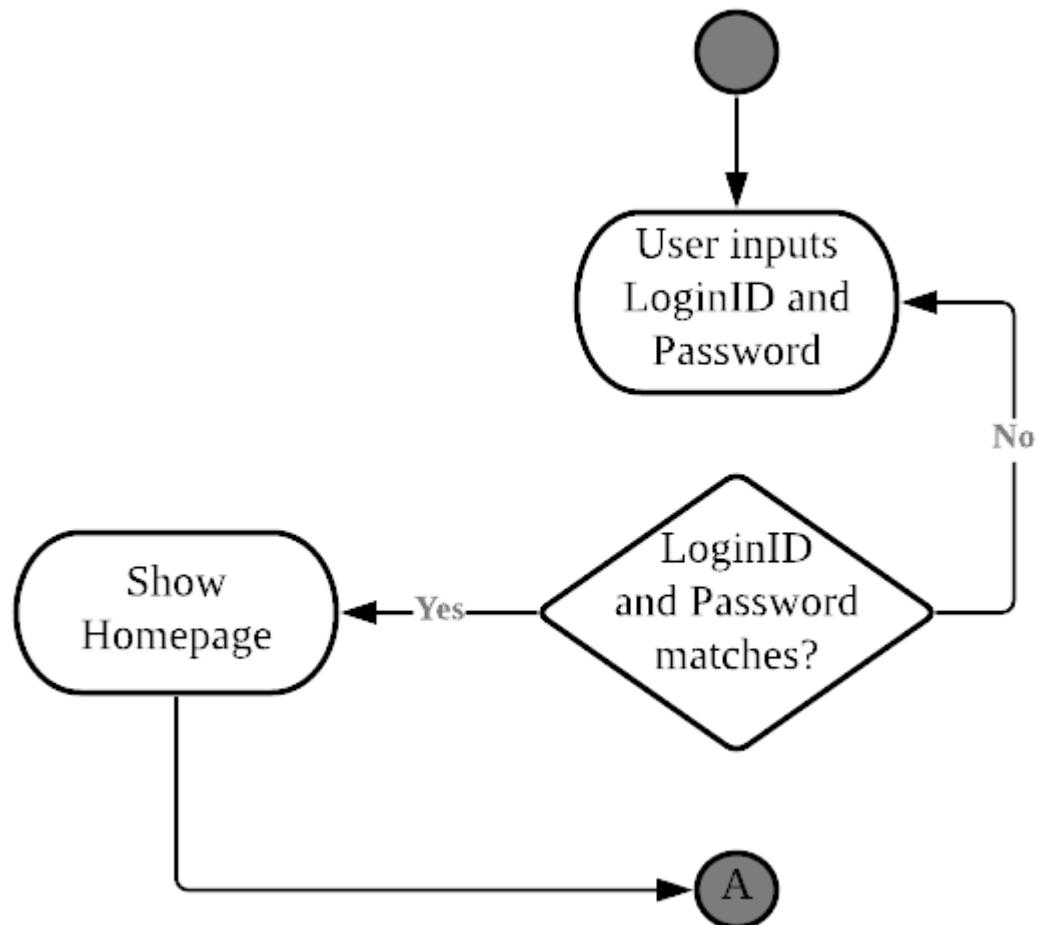
### 3.12 Schedule Appointment (New User)



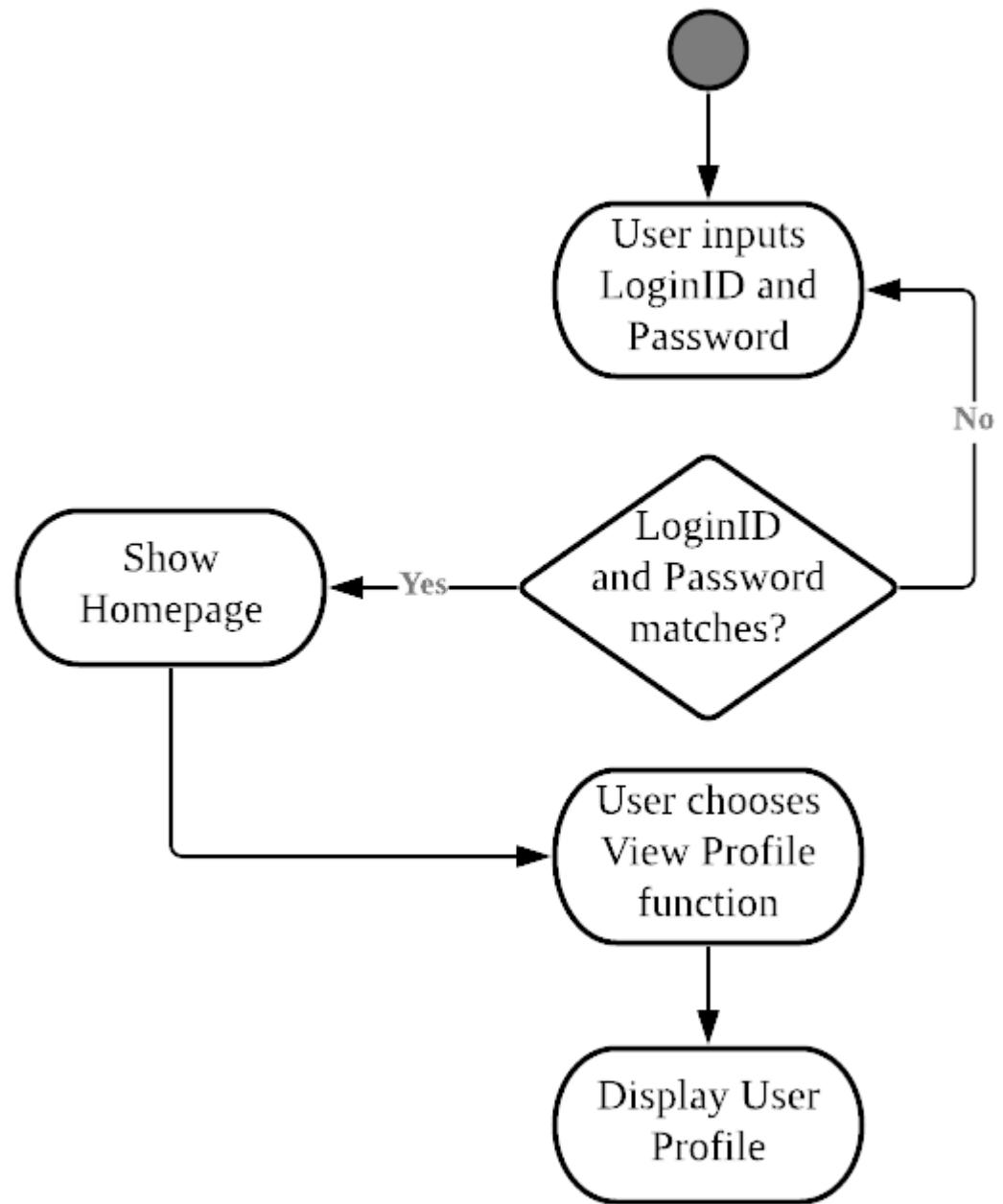
### 3.13 Make Financial Transactions (New User)



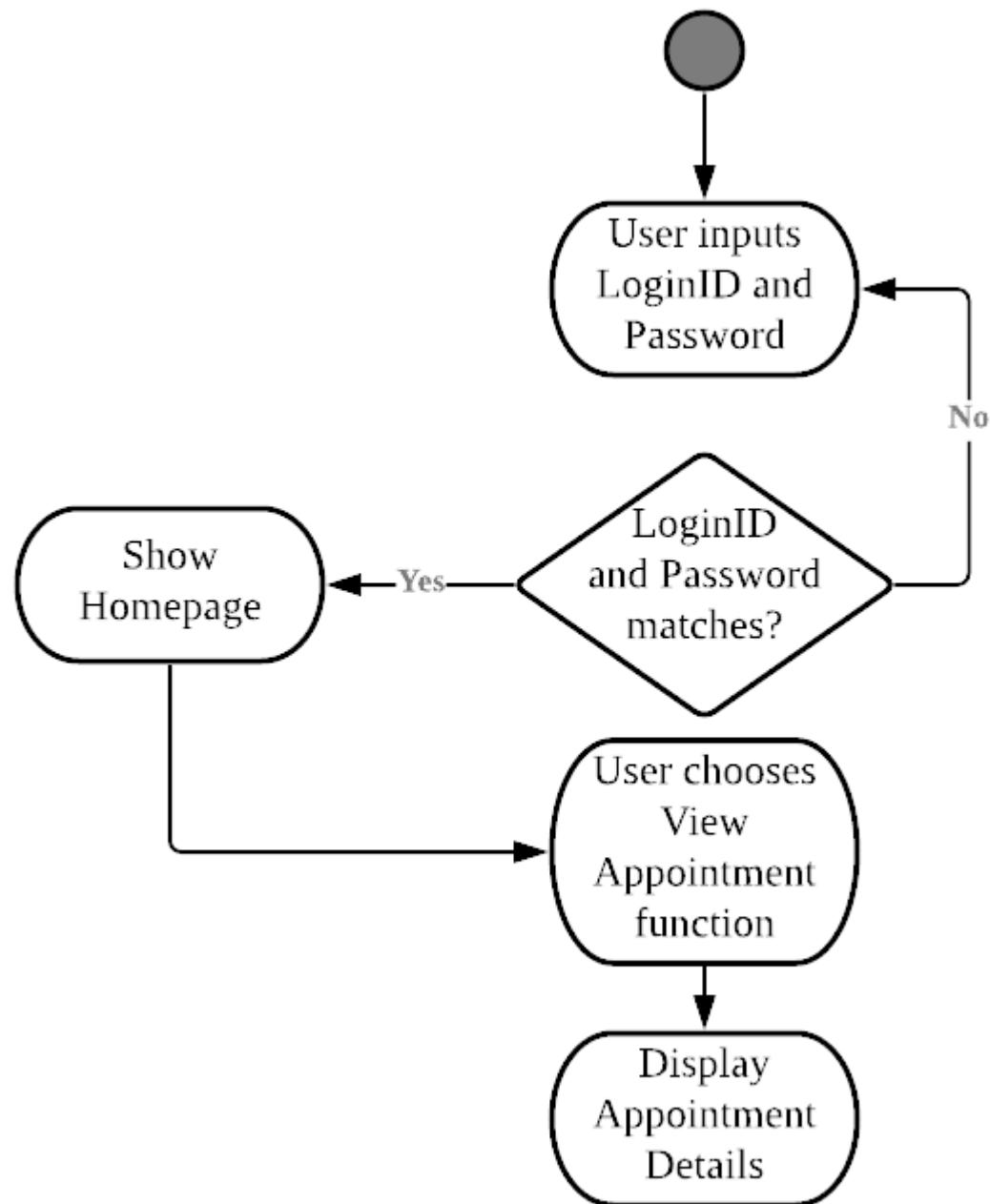
### 3.14 Login (User)



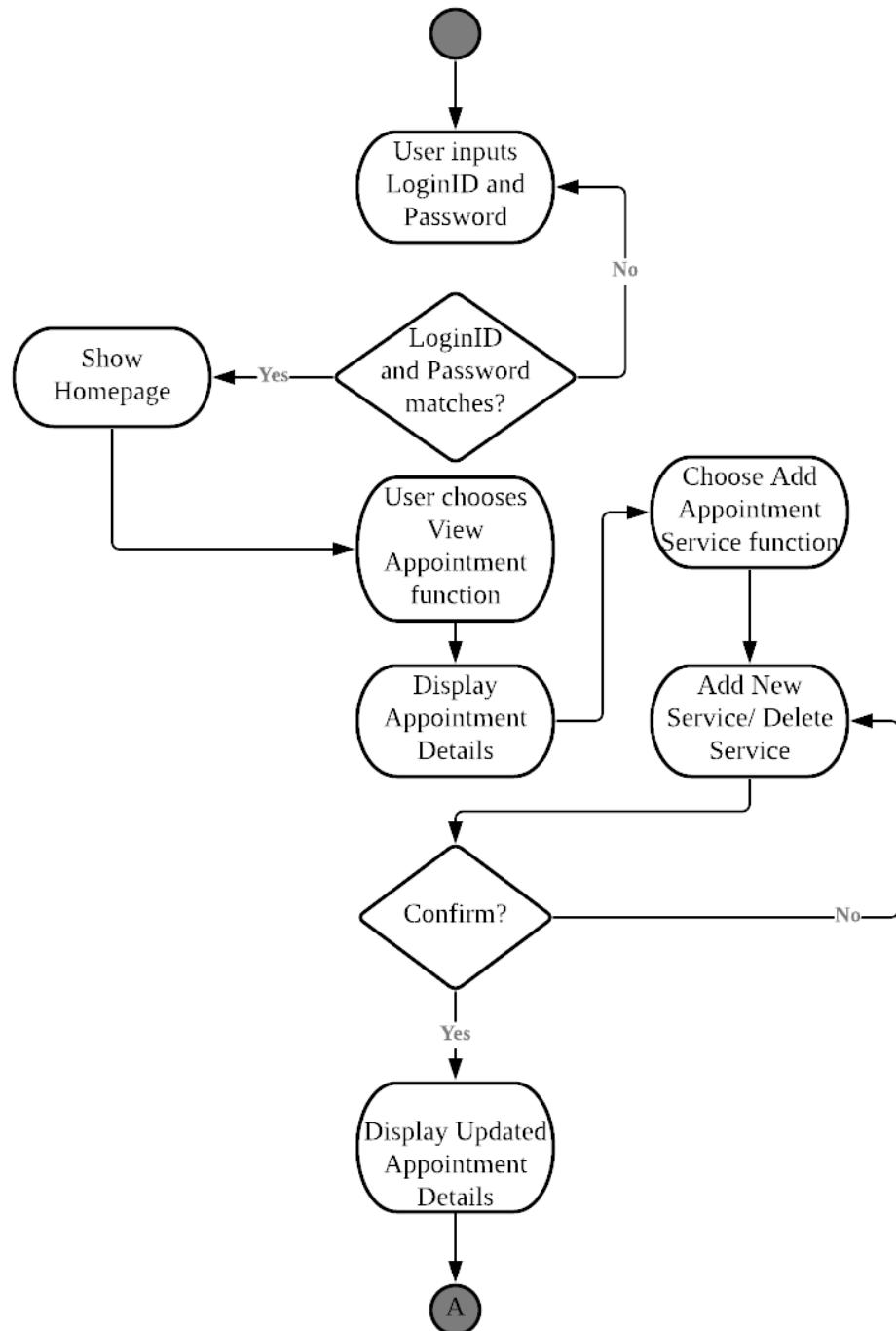
### 3.15 View Profile (User)



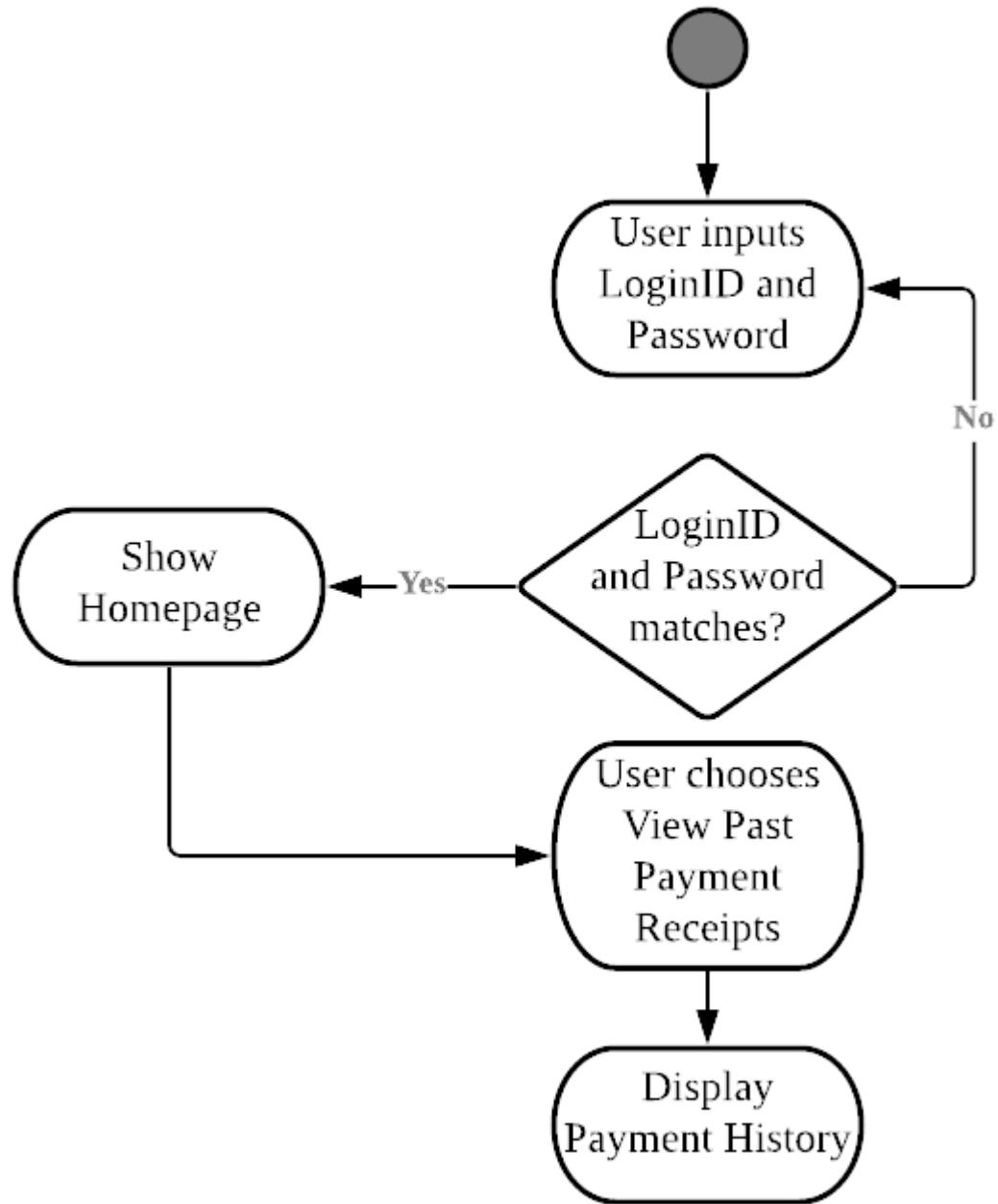
### 3.16 View Appointment (User)



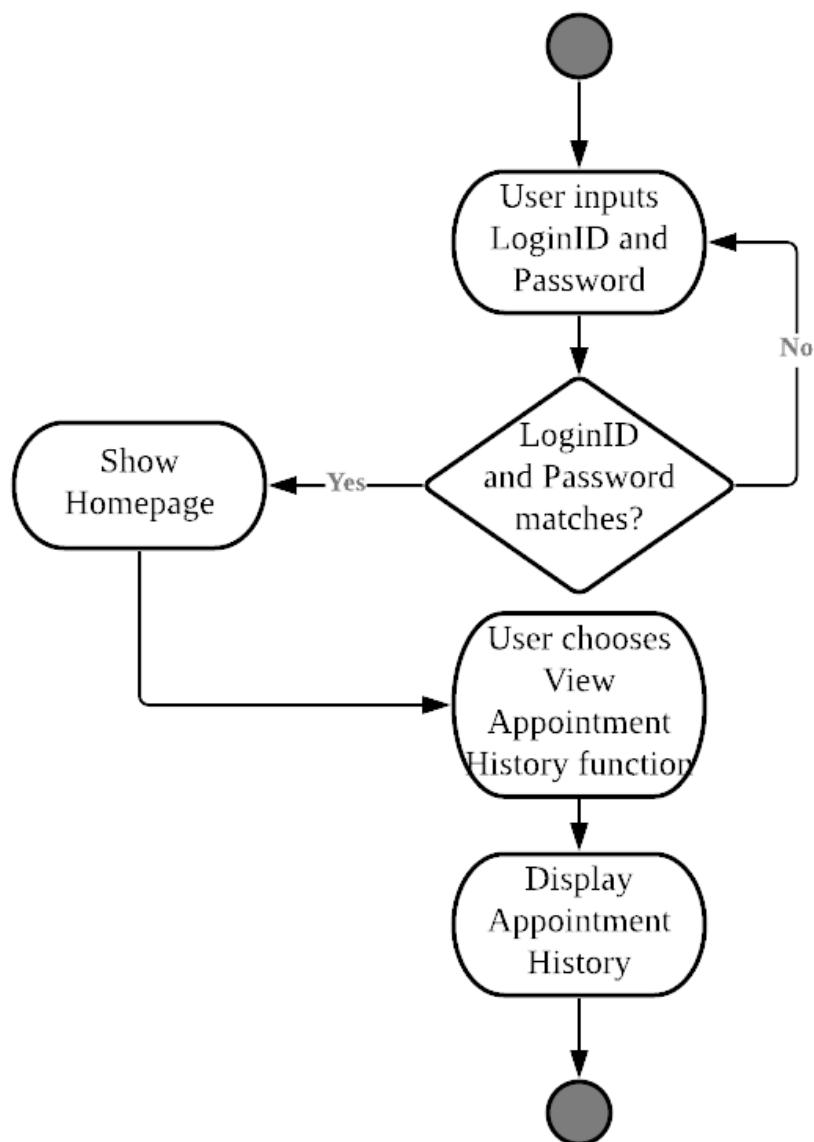
### 3.17 Update Appointment (User)



### 3.18 View Payment History (User)

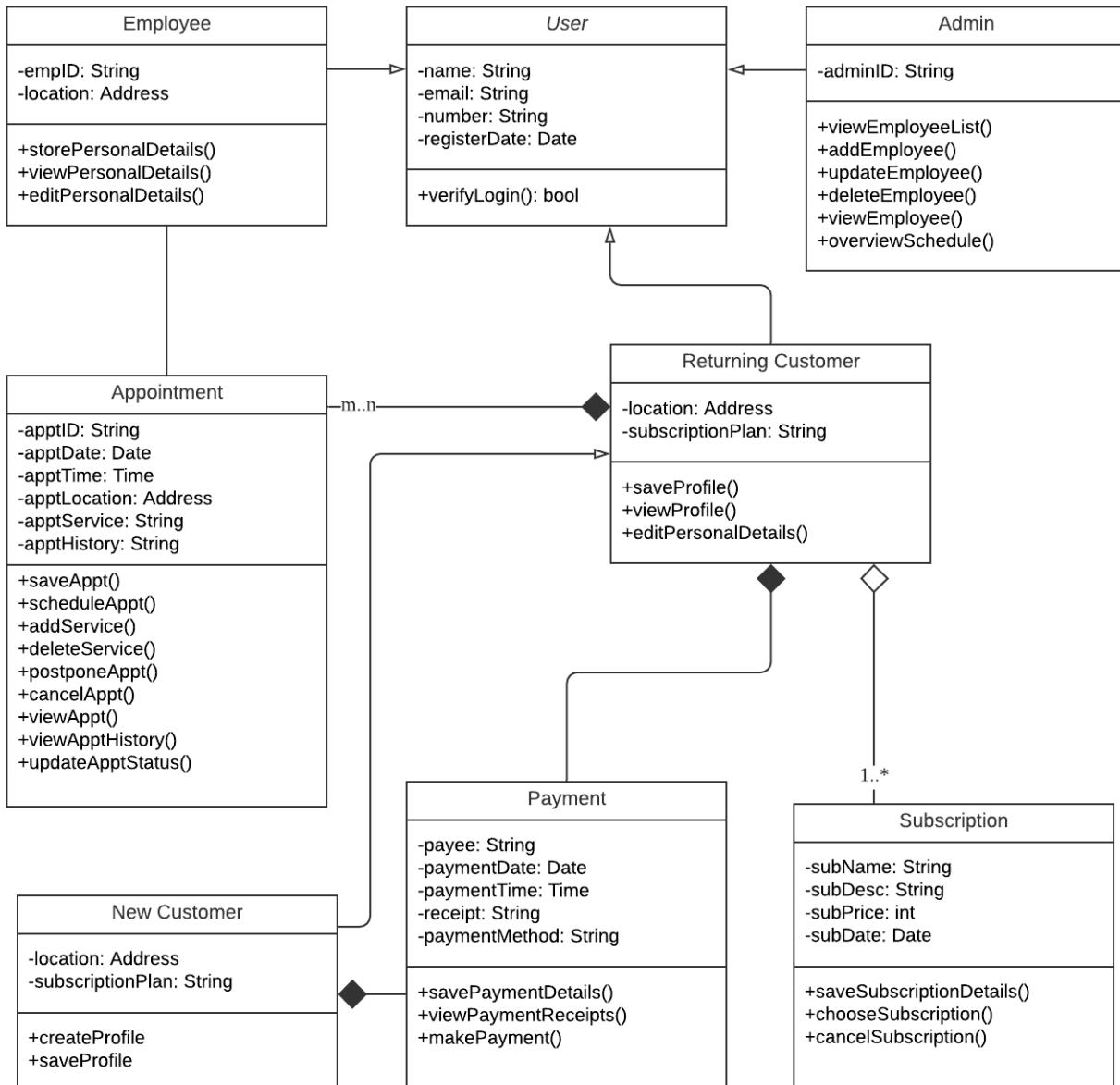


### 3.19 View Appointment History (User)



# 4 Specific Requirements

## 4.1 Class Diagrams



User class is an abstract class which is used to verify login.

Employee class is a subclass of user class and is used to store employee personal details, view employee details, edit employee details.

Admin class is a subclass of user class and is used to view employee list, add employees, update employee, delete employees, view employees and overview schedule.

Returning customer class is a subclass of user class and is used to save profile, view profile and edit personal details.

New customer is a subclass of returning customer and is used to create profile and save profile.

Subscription class is used to save subscription details, choose subscription and cancel subscription.

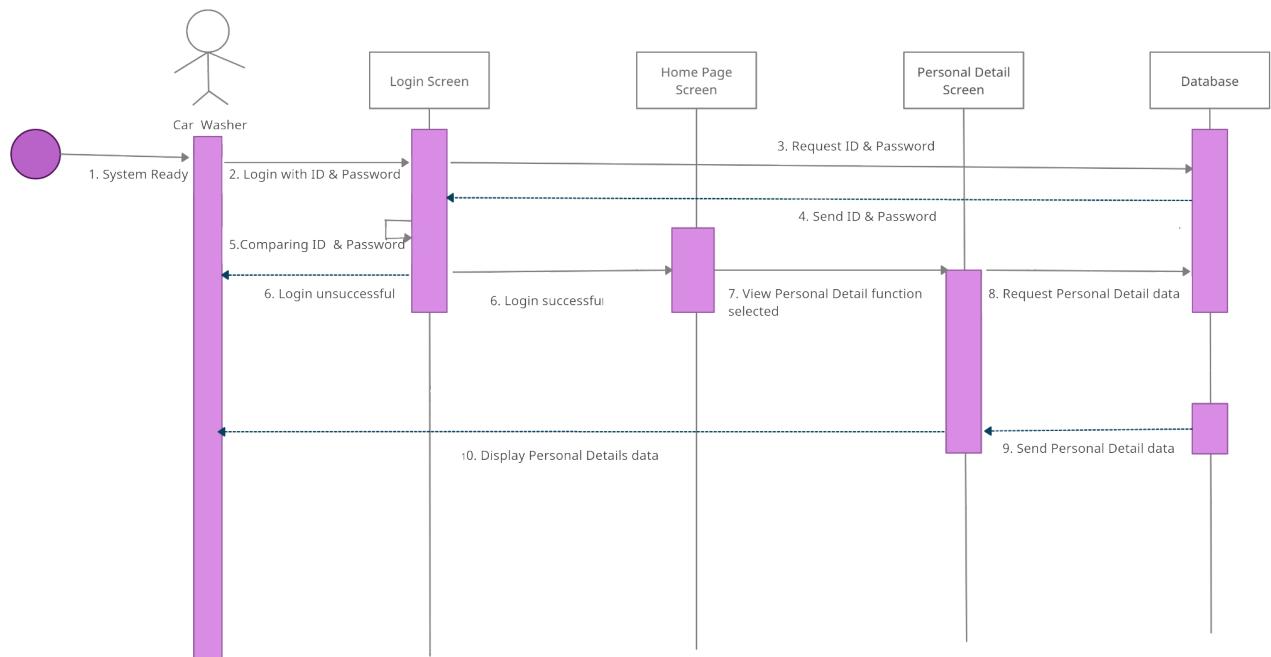
Payment class is used to save payment details, view payment receipts and make payment.

Appointment class is used to save appointments, schedule appointments, add service appointments, delete service appointments, postpone appointments, cancel appointments, view appointments, view appointment history and update appointment status.

## 4.2 Sequence Diagrams

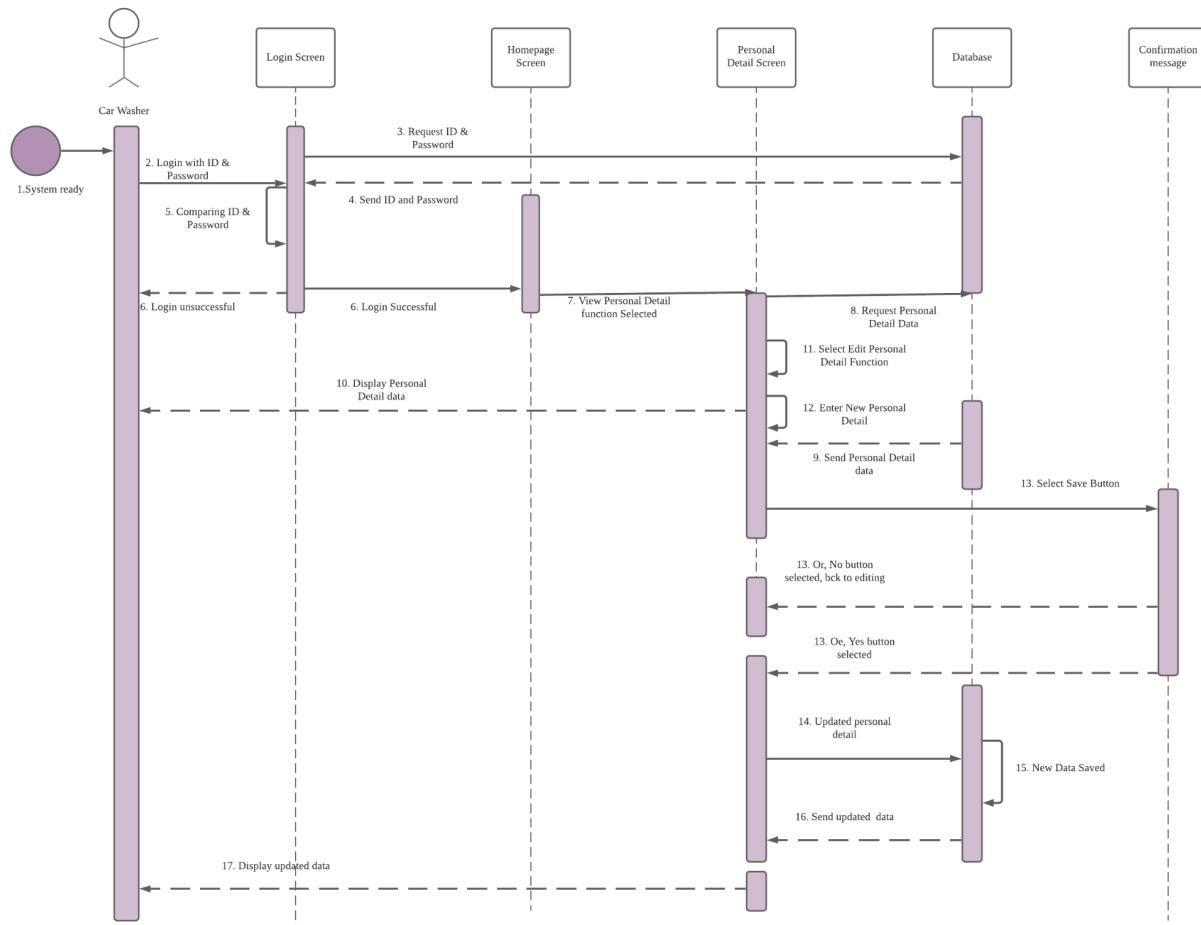
### 4.2.1 View Personal Details (Car washer)

1. Car washer inputs ID and Password in the login screen.
2. The system retrieves and confirms the data input made by the car washer and compares it with the Database.
3. If it is a match, the system displays the home page, otherwise it goes back to displaying the login screen.
4. Car washer chooses to view their personal information.
5. The system fetches data from the database and displays it to the car washer.



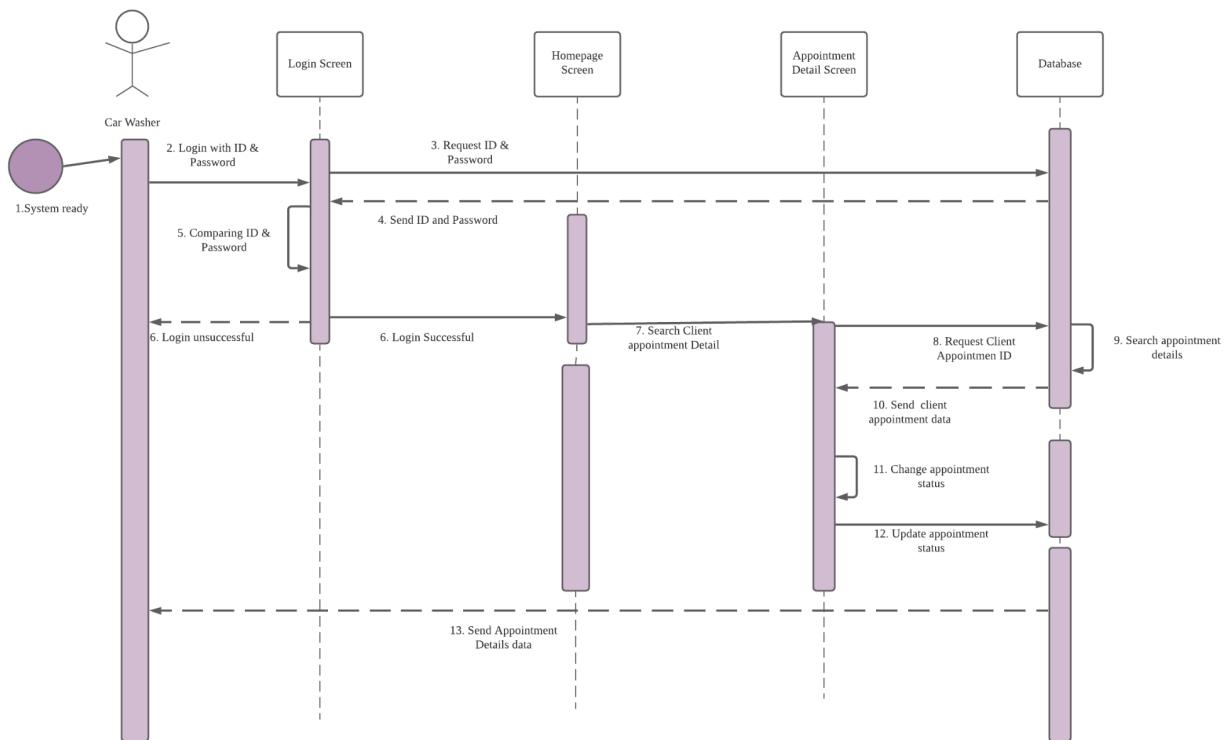
#### 4.2.2 Edit Personal Details (Car washer)

1. Car washer inputs ID and Password in the login screen.
2. The system retrieves and confirms the data input made by the car washer and compares it with the Database.
3. If it's a match, the system displays the home page, otherwise it goes back to displaying the login screen.
4. Car washer chooses to view their personal information.
5. The system fetches data from the database and displays it to the car washer.
6. Car washers can also choose to edit their Personal Details.
7. Car washer can enter new details and click the save button.
8. The system will ask the car washer to confirm new changes, and the car washer can either select yes or no.
9. If the car washer chooses yes, the system will update the data and display them accordingly.
10. If the car washer chooses no, the system will revert back to the last data.



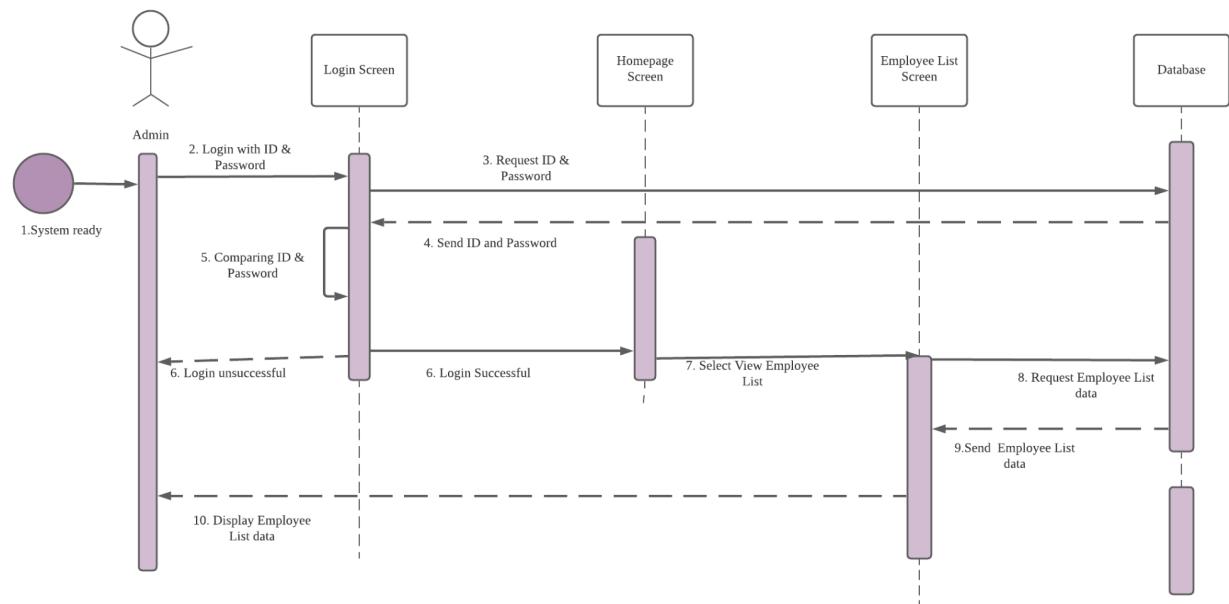
### 4.2.3 Update Appointment Status (Car washer)

1. Car washer inputs ID and Password in the login screen.
2. The system retrieves and confirms the data input made by the car washer and compares it with the Database.
3. If it's a match, the system displays the home page, otherwise it goes back to displaying the login screen.
4. Car washer chooses to view client appointment details to update appointment status.
5. System fetches client appointment details from the database and shows it to the car washer.
6. Car washer uses Change Appointment Status to update appointment status. For eg: Completed/Cancelled.
7. The updated status gets stored in the database.



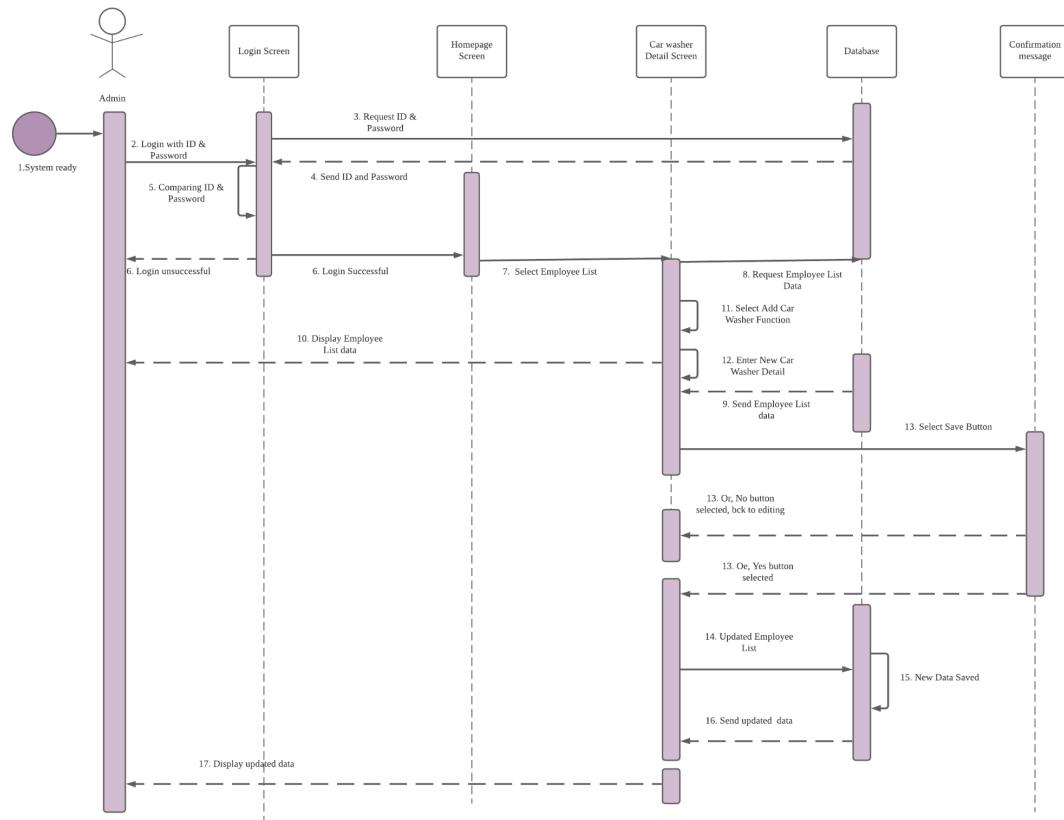
#### 4.2.4 View employee List (Admin)

1. Admin inputs ID and Password in the login screen.
2. The system retrieves and confirms the data input made by the Admin and compares it with the Database.
3. If it's a match, the system displays the home page, otherwise it goes back to displaying the login screen.
4. Admin chooses to select View Employee List from the homepage.
5. The system retrieves Employee List data from the database.
6. The Admin can view the Employee List.



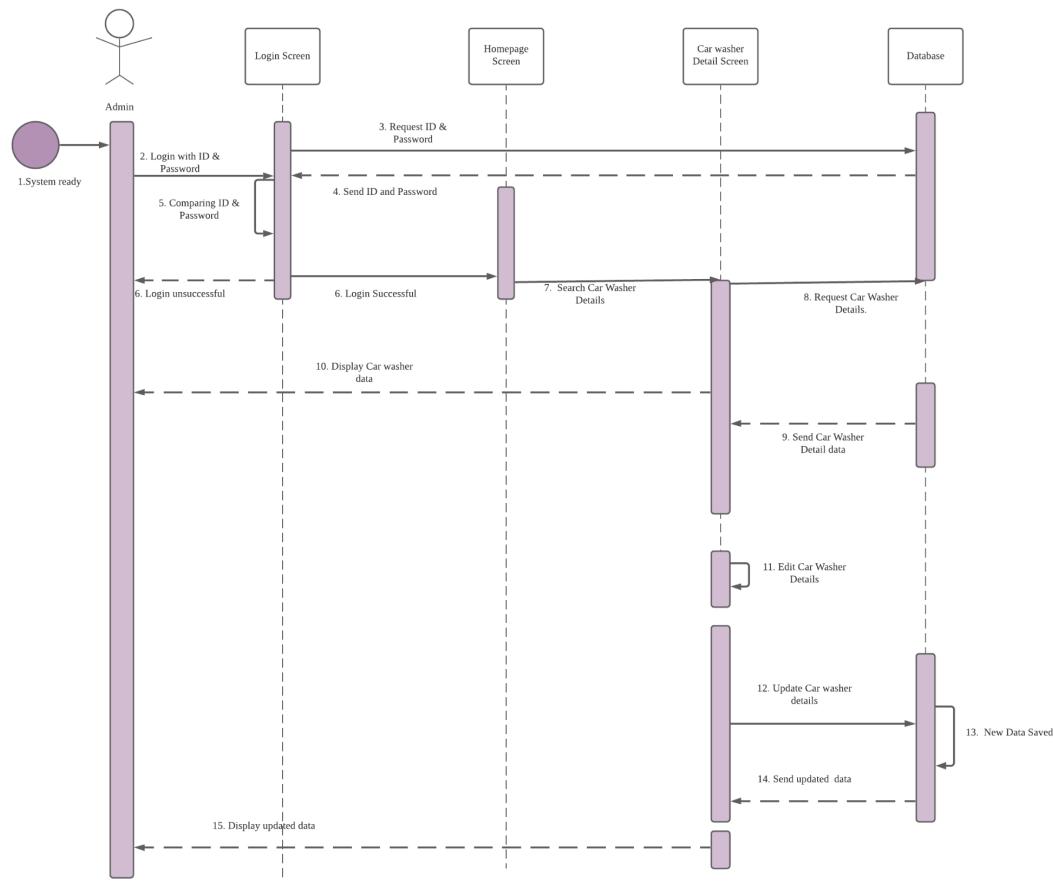
#### 4.2.5 Add car washer (Admin)

1. Admin inputs ID and Password in the login screen.
2. The system retrieves and confirms the data input made by the Admin and compares it with the Database.
3. If it's a match, the system displays the home page, otherwise it goes back to displaying the login screen.
4. Admin chooses to select View Employee List from the homepage.
5. The system retrieves Employee List data from the database.
6. The Admin can view the Employee List.
7. Admin can choose the Add Car Washer function to add a new car washer.
8. Then, Admin can proceed to put in details for the new Car Washer.
9. The database will update the Employee List and a new car washer will be added to the database.
10. The admin can now view the updated Employee List and view the new Car washer profile.



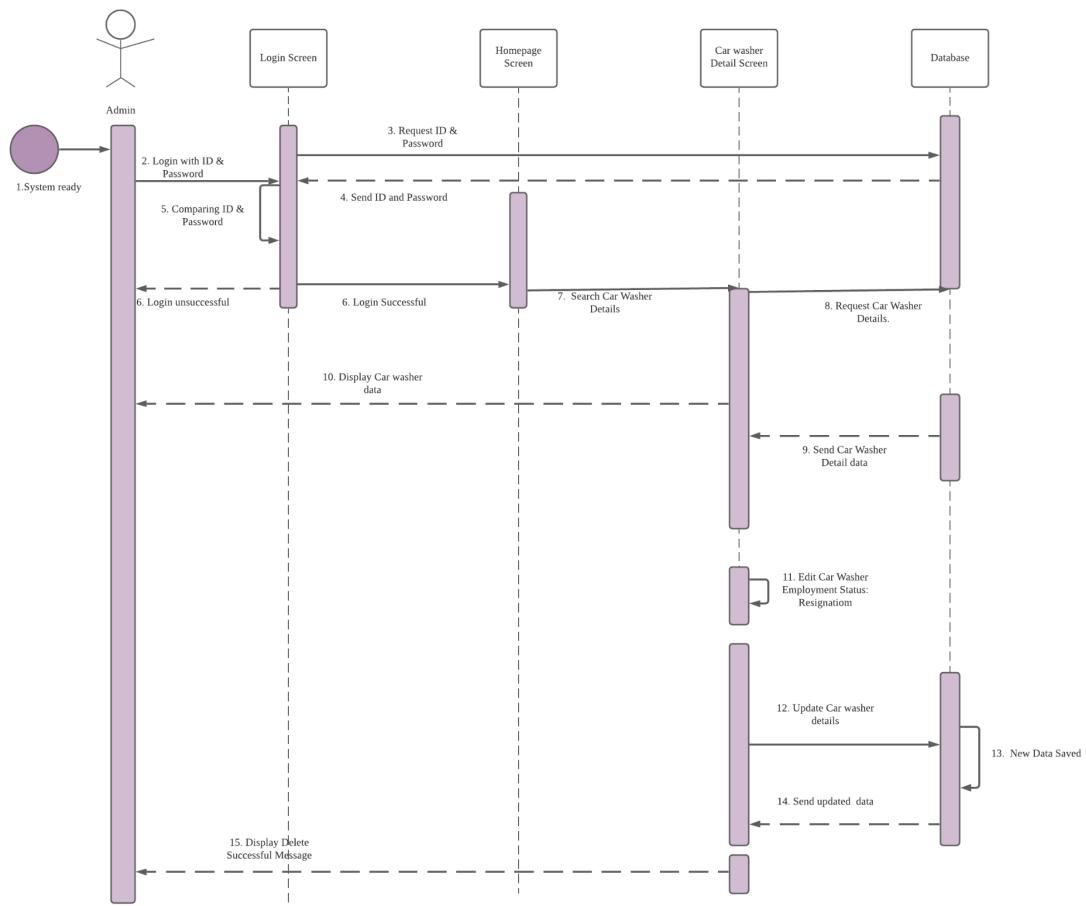
#### 4.2.6 Update Car Washer Details (Admin)

1. Admin inputs ID and Password in the login screen.
2. The system retrieves and confirms the data input made by the Admin and compares it with the Database.
3. If it's a match, the system displays the home page, otherwise it goes back to displaying the login screen.
4. Admin chooses to search a specific car washer detail from the car washer detail screen.
5. The system then displays the details of that specific car washer, retrieved from the database.
6. Admin can choose the Edit Car washer Details function.
7. Admin can update the details when he is satisfied with the input, and the database stores it.
8. The system displays the updated car washer details to the Admin



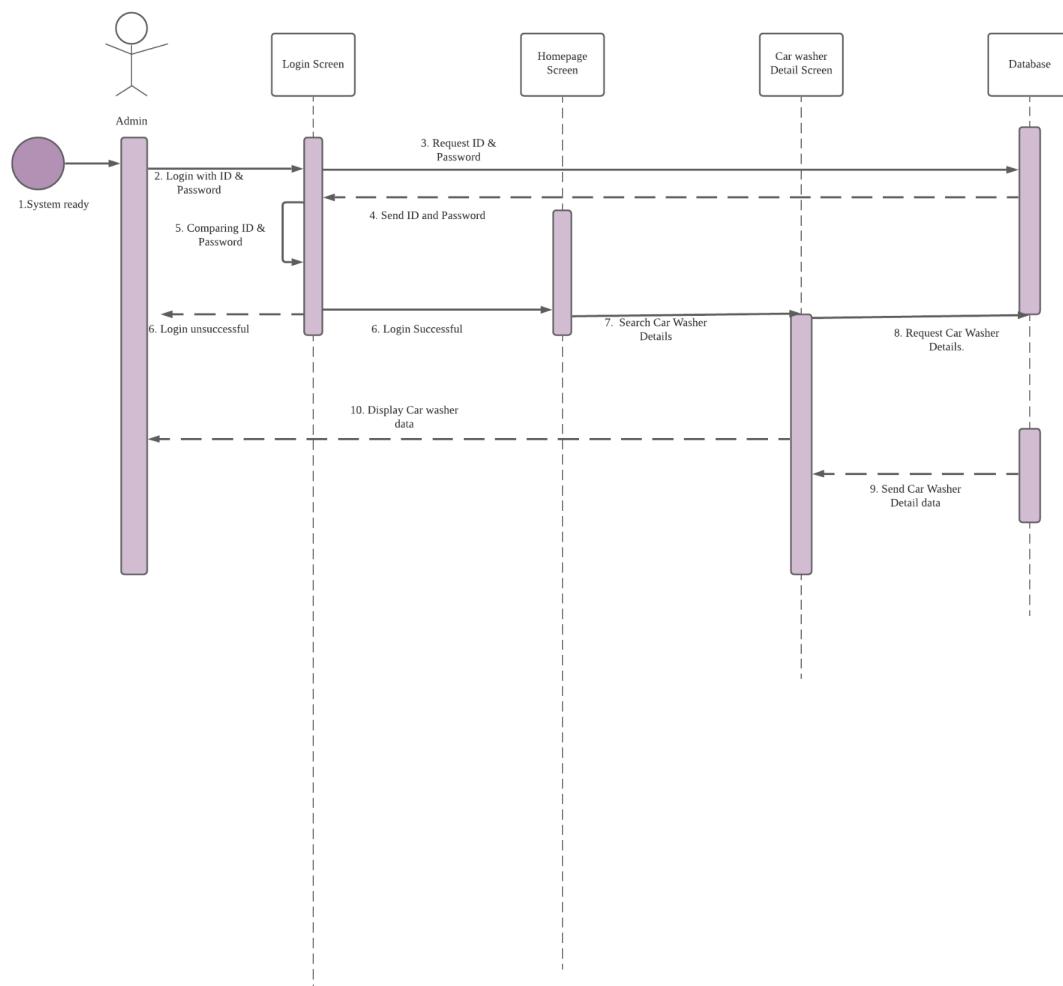
#### 4.2.7 Delete Car Washer (Admin)

1. Admin inputs ID and Password in the login screen.
2. The system retrieves and confirms the data input made by the Admin and compares it with the Database.
3. If it's a match, the system displays the home page, otherwise it goes back to displaying the login screen.
4. Admin chooses to search a specific car washer detail from the car washer detail screen.
5. The system then displays the details of that specific car washer, retrieved from the database.
6. Admin can choose the Edit Car washer Details function.
7. Admin can update the Car washer Employment Status to Resignation.
8. The Database will save the data and display the message Delete Successful.



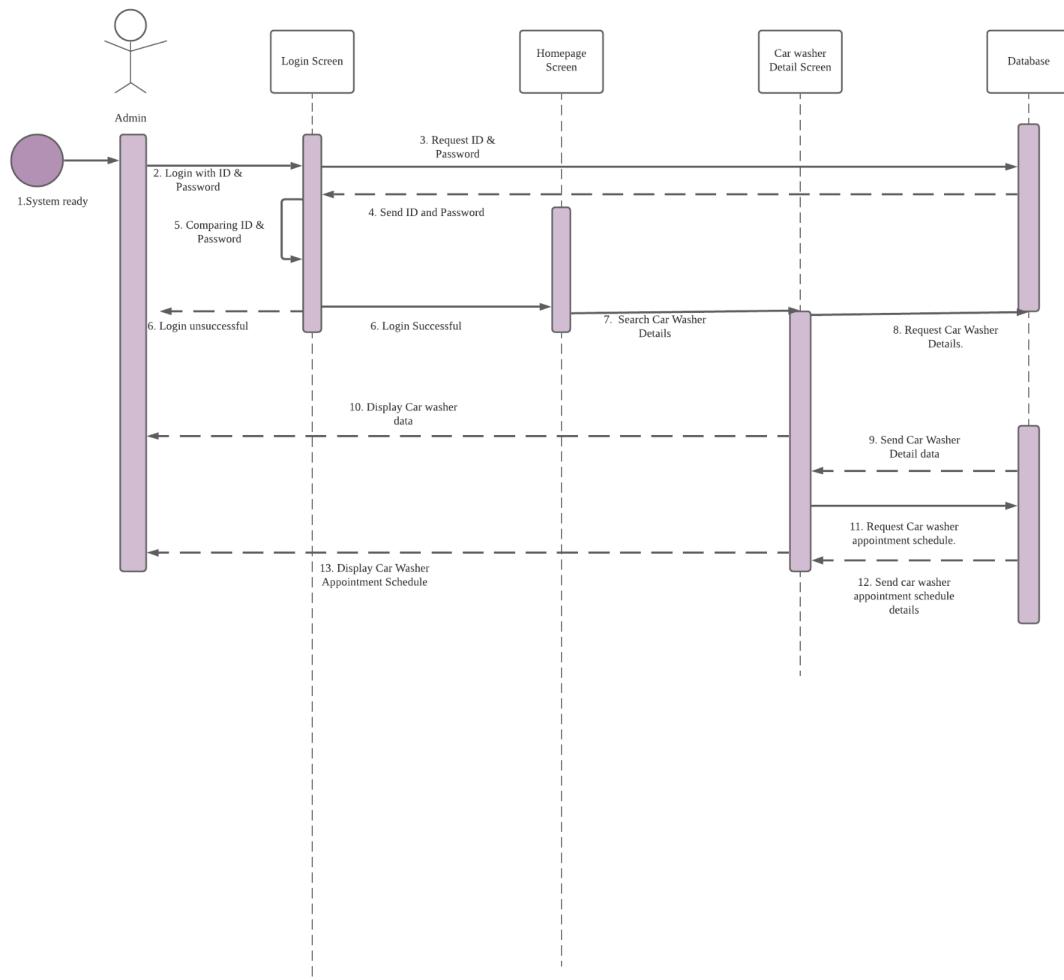
#### 4.2.8 View Car Washer Details (Admin)

1. Admin inputs ID and Password in the login screen.
2. The system retrieves and confirms the data input made by the Admin and compares it with the Database.
3. Admin chooses to search a specific car washer detail from the car washer detail screen.
4. The system retrieve the data of the car washer from the database
5. The system displays the car washer details to the Admin.



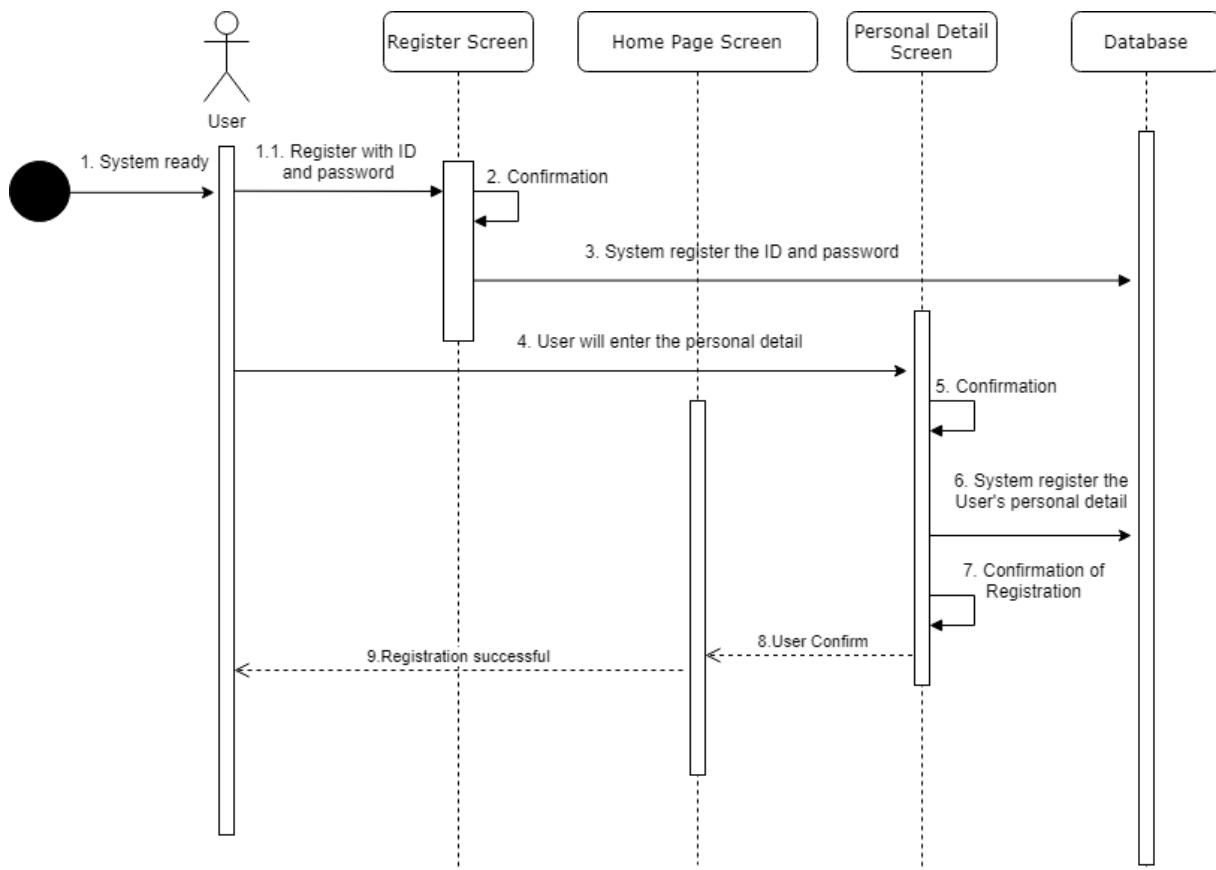
#### 4.2.9 Overview Schedule (Admin)

1. Admin inputs ID and Password in the login screen.
2. The system retrieves and confirms the data input made by the Admin and compares it with the Database.
3. Admin chooses to search a specific car washer detail from the car washer detail screen.
4. The system retrieves the data of the car washer from the database.
5. The system displays the car washer details to the Admin.
6. Admin can next choose to see a Car Washer's appointment Schedule.
7. The system retrieves the Appointment Schedule details and displays it to the Admin.



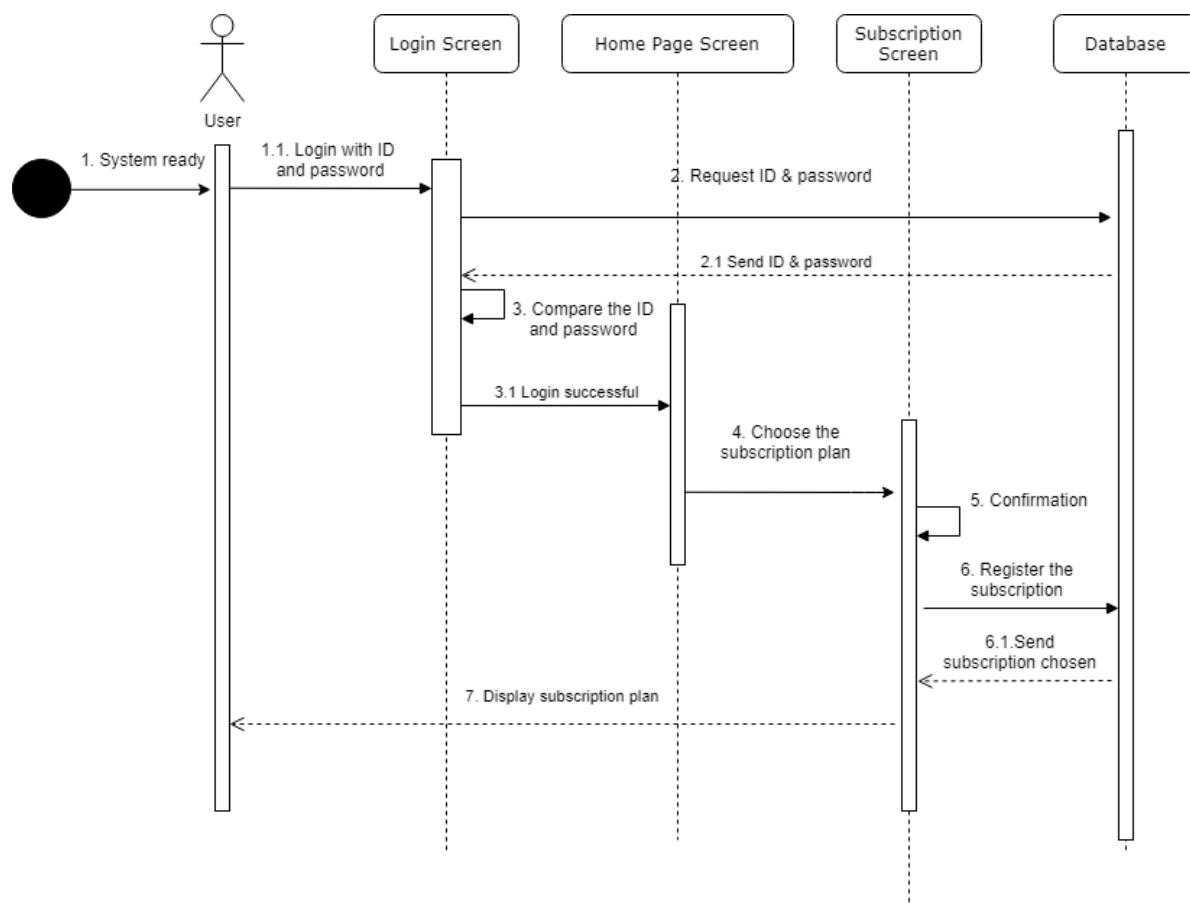
#### 4.2.10 Register (New User)

1. The new User inputs the ID and Password in the Register screen
2. The system prompts the confirmation to the user.
3. If the User confirms the ID and Password, it will be registered into the Database.
4. If the User does not confirm, the User will be prompted back to the Register Screen.
5. The system register the ID and Password into the Database
6. The new User enter the personal detail in the Personal Detail screen
7. The system register the personal detail into the Database
8. The system prompts the confirmation.
9. If the User confirm the User, the User has successfully register into the system
10. If the User do not confirm, the User will be prompt back to the Personal Detail Screen
11. The system fetches the data from the database and displays it to the User at the home page.



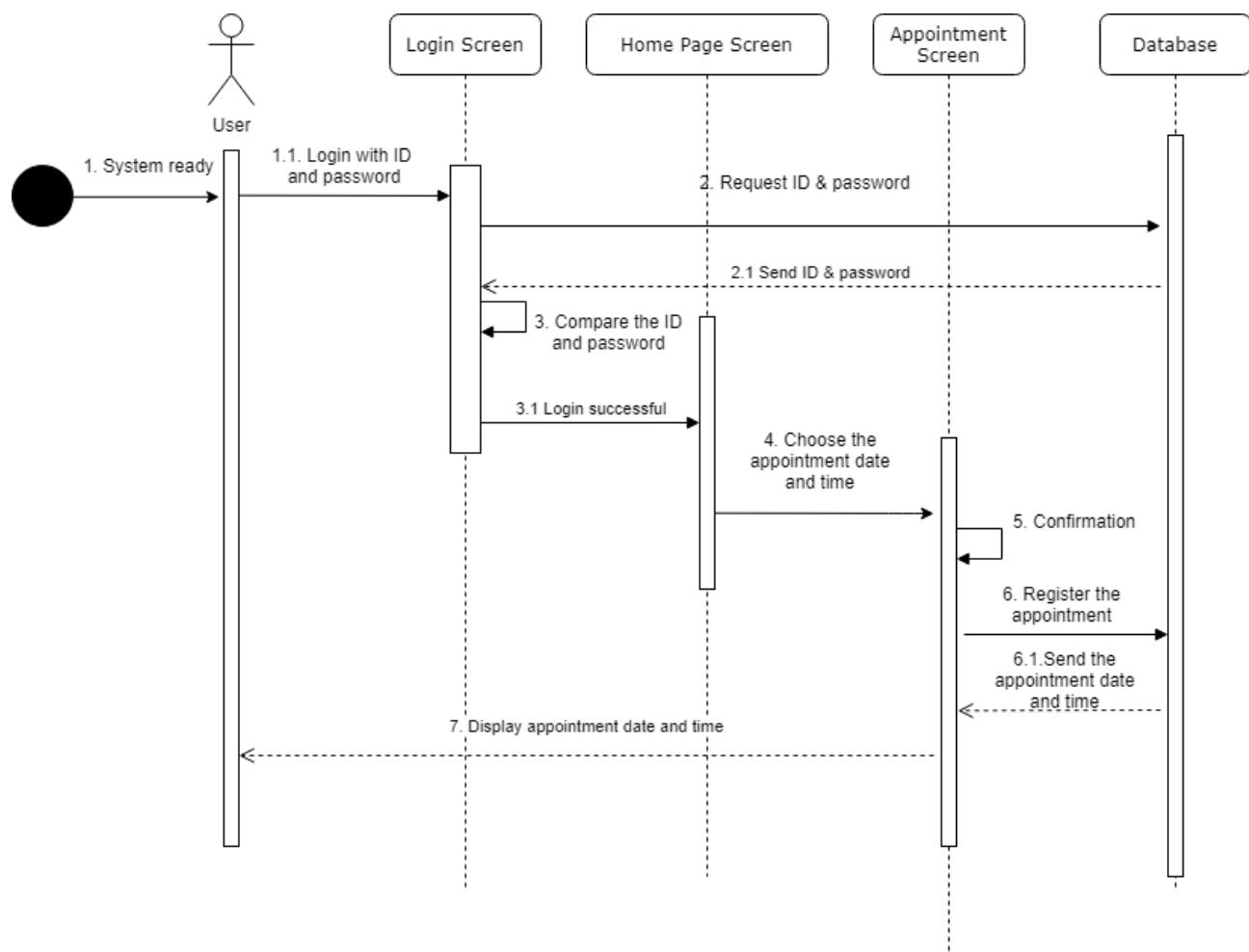
#### **4.2.11 Choose Subscription Plan (New User)**

1. The new User inputs the ID and Password in the Login screen.
2. The system retrieves and confirms the data input made by the user by comparing with the Database.
3. If it matches, the system displays the home page, otherwise it goes back to display the login screen.
4. The User chooses the subscription in the Subscription screen.
5. The system will prompt confirmation to the User after the selection has been made.
6. If the User confirms the subscription will be registered into the Database, otherwise it goes back to the Subscription screen.
7. The system registers the subscription chosen by the user into the database.
8. The system fetches data from Database and displays it to the User.



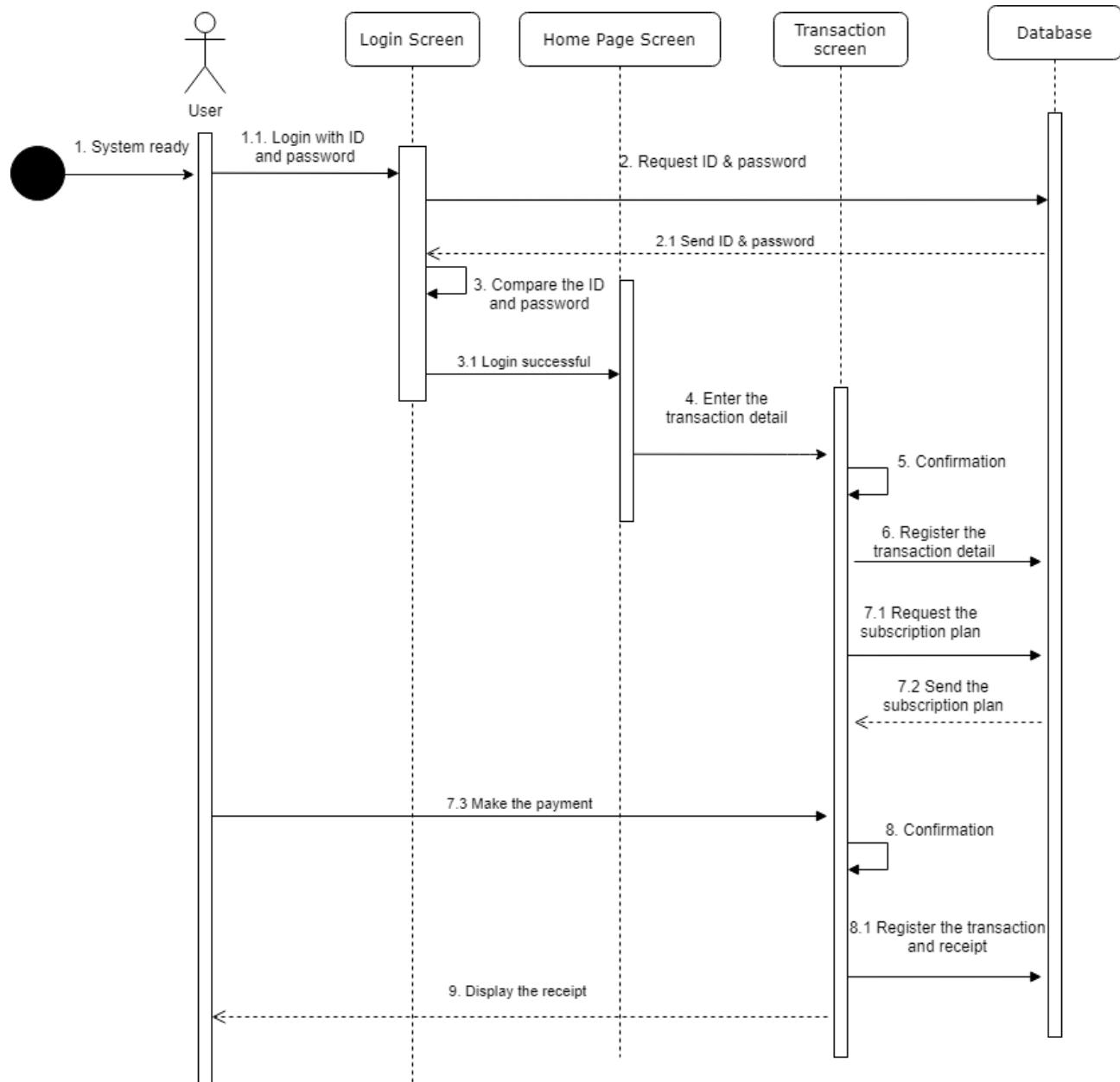
#### **4.2.12 Schedule Appointment (New User)**

1. The new User inputs the ID and Password in the Login screen.
2. The system retrieves and confirms the data input made by the user by comparing with the Database.
3. If it matches, the system displays the home page, otherwise it goes back to display the login screen.
4. The User chooses the appointment in the Appointment screen
5. The system will prompt confirmation to the User after the selection has been made.
6. If the User confirms the appointment, it will be registered into the Database, otherwise it goes back to the Appointment screen.
7. The system registers the appointment chosen by the user into the database.
8. The system fetches data from Database and displays it to the User.



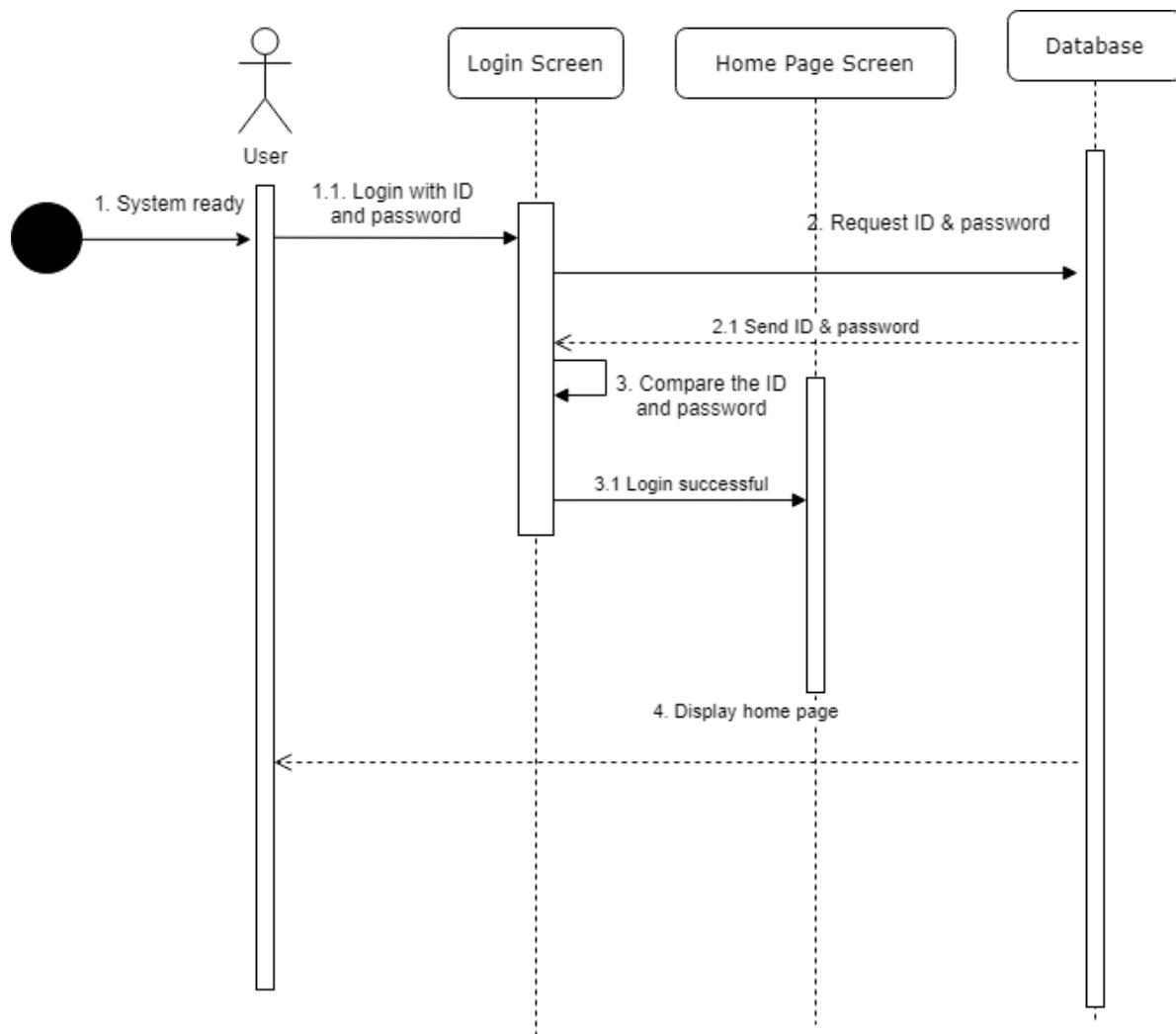
#### **4.2.13 Make Financial Transactions (New User)**

1. The new User inputs the ID and Password in the Login screen.
2. The system retrieves and confirms the data input made by the user by comparing with the Database.
3. If it matches, the system displays the home page, otherwise it goes back to display the login screen.
4. The User chooses the Transaction screen and enters the transaction detail.
5. The system will prompt confirmation to the User.
6. If the User confirms, the transaction detail will be registered into the Database, otherwise it goes back to the transaction screen.
7. The user will make payment based on the subscription plan chosen.
8. The system will prompt confirmation to the user.
9. If the User confirms, the transaction will be made, otherwise it goes back to the transaction screen.
10. The system will display the receipt to the user after the transaction has been successfully made.



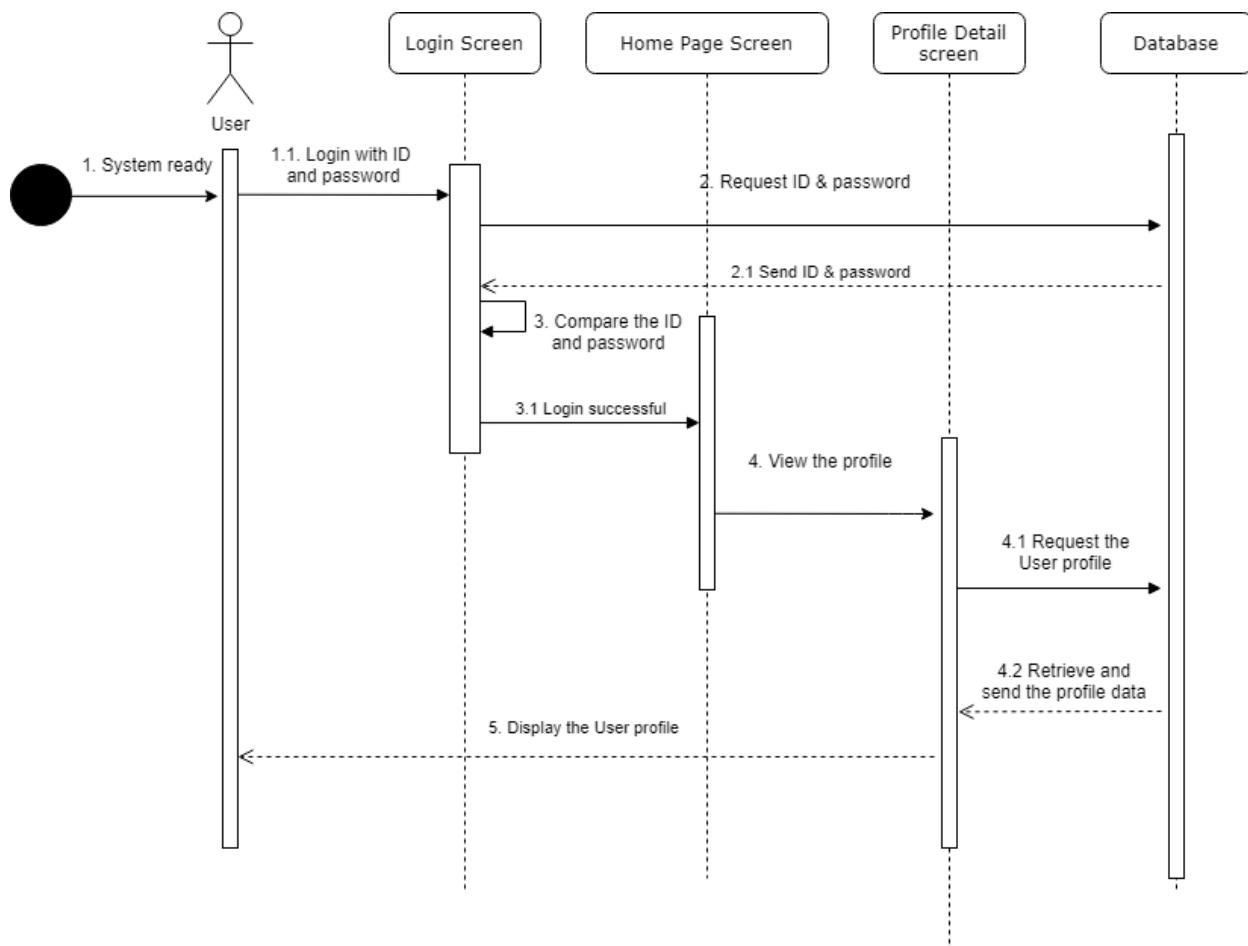
#### 4.2.14 Login(User)

1. The User inputs the ID and Password in the Login screen.
2. The system retrieves and confirms the data input made by the user by comparing with the Database.
3. If it matches, the system displays the home page, otherwise it goes back to display the login screen.
4. The system will display the home page to the User.



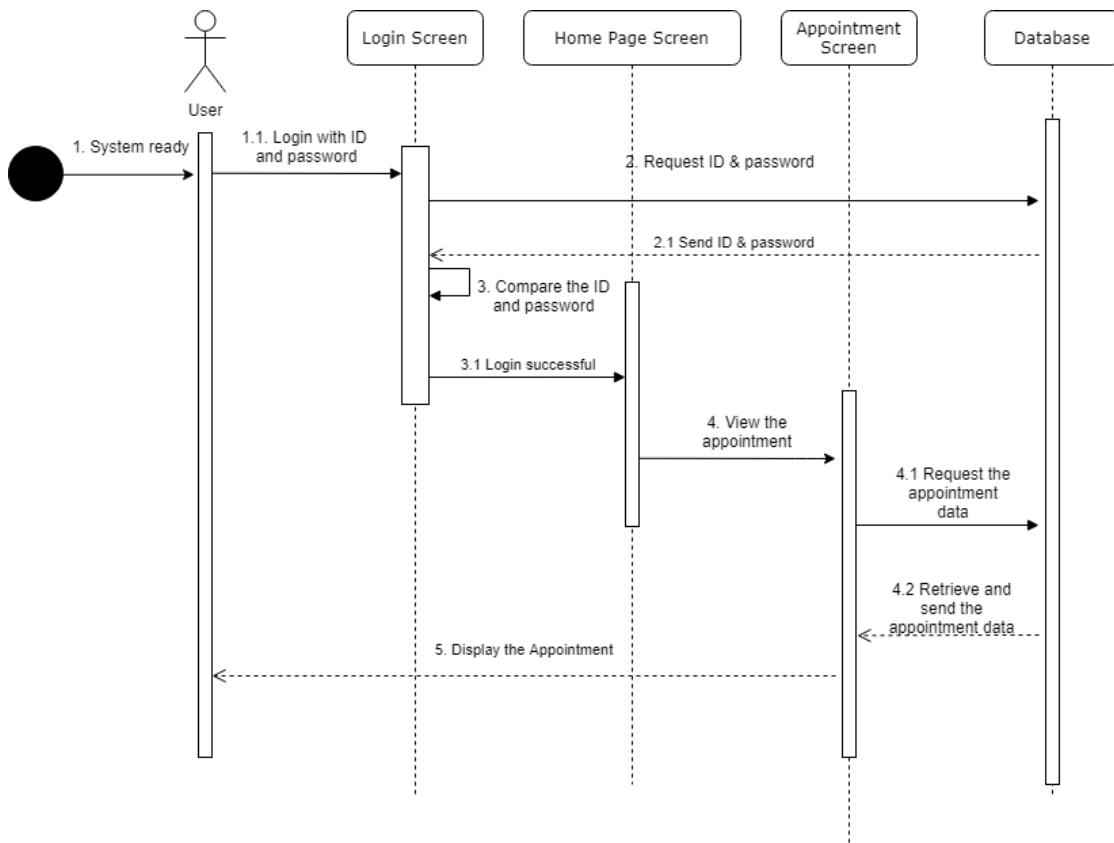
#### 4.2.15 View Profile (User)

1. The User inputs the ID and Password in the Login screen.
2. The system retrieves and confirms the data input made by the user by comparing with the Database.
3. If it matches, the system displays the home page, otherwise it goes back to display the login screen.
4. The user chooses to view the profile detail.
5. The system fetches data from the database and displays it to the user.



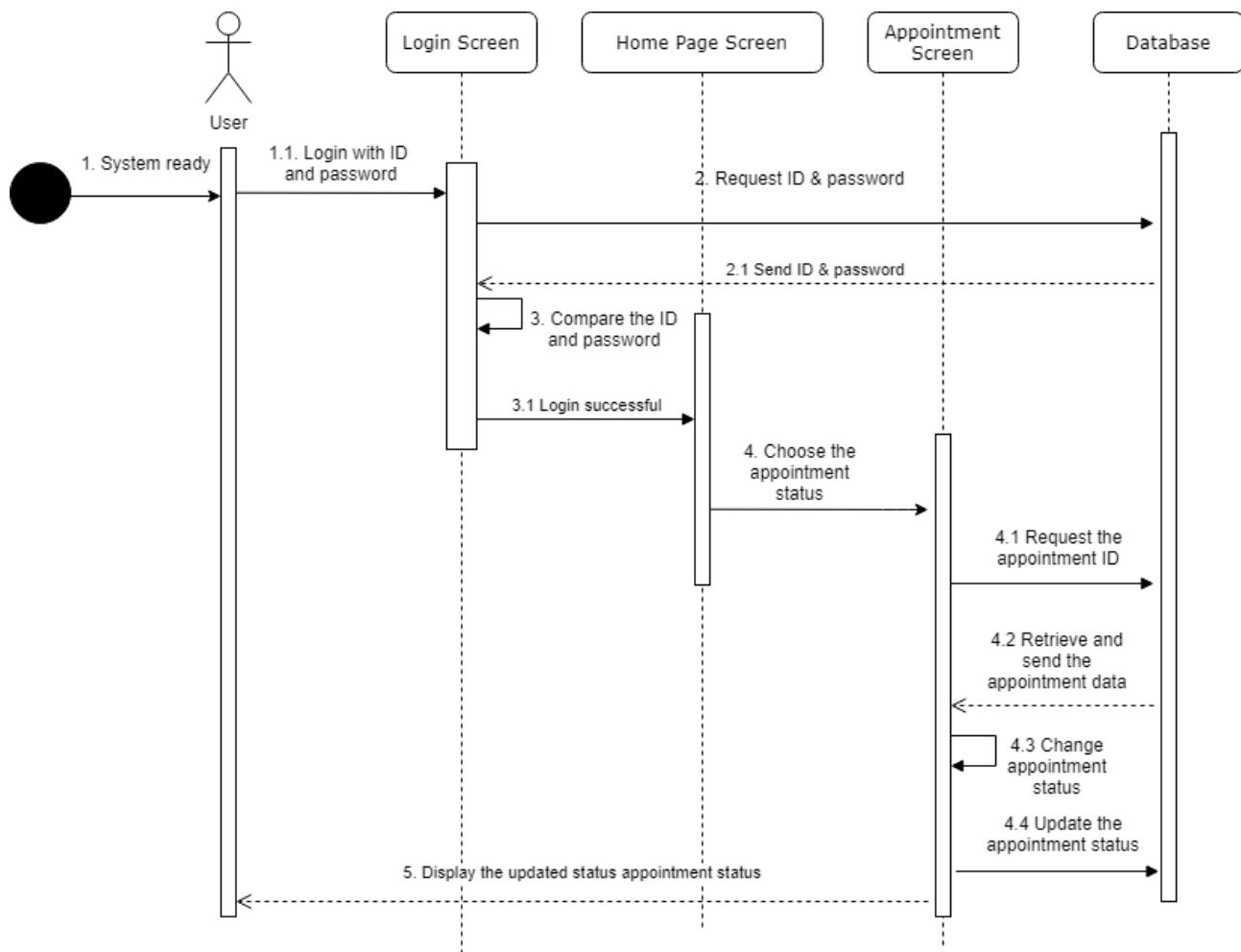
#### 4.2.16 View Appointment (User)

1. The User inputs the ID and Password in the Login screen.
2. The system retrieves and confirms the data input made by the user by comparing with the Database.
3. If it matches, the system displays the home page, otherwise it goes back to display the login screen.
4. The user chooses to view the appointment.
5. The system fetches data from the database and display to the user.



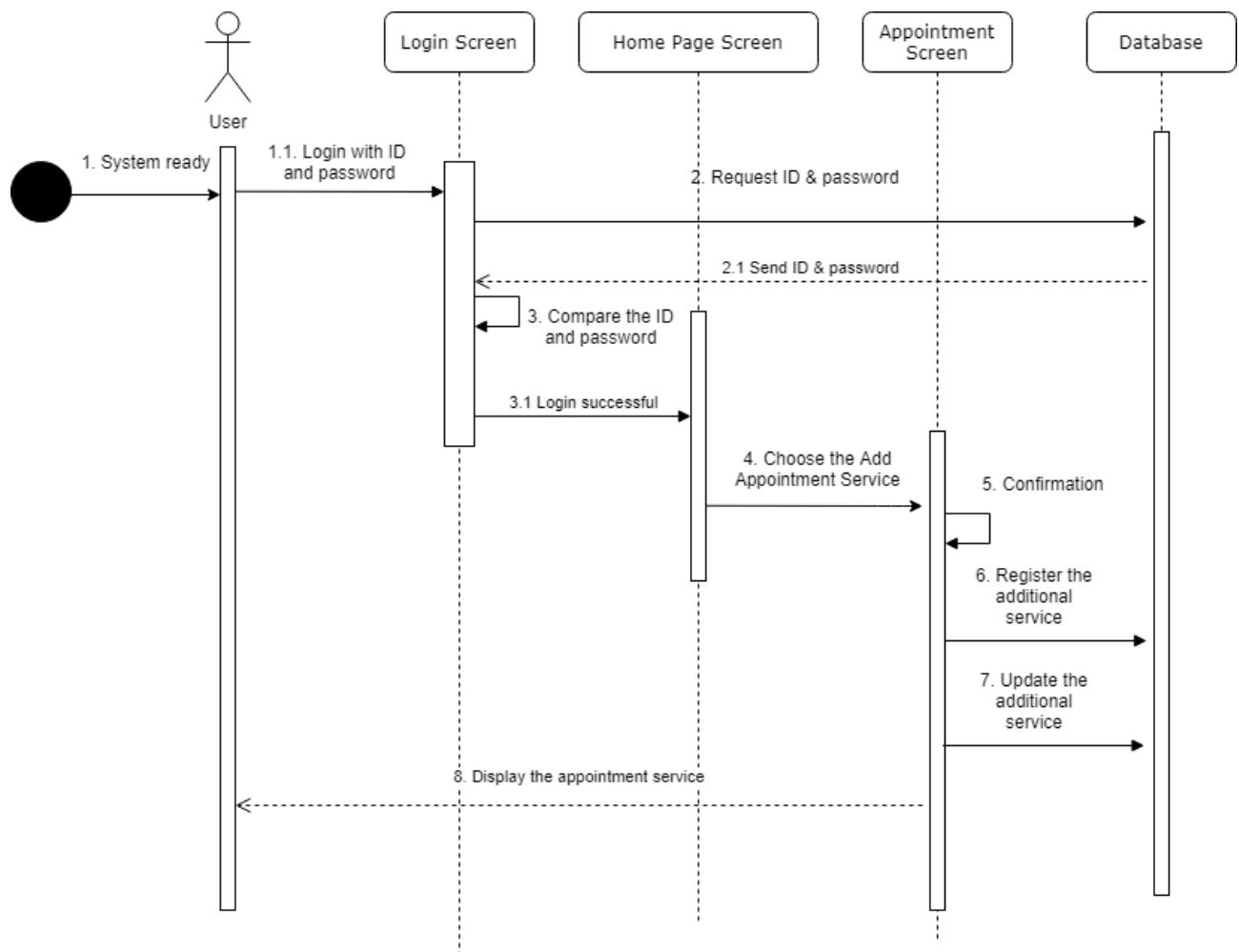
#### 4.2.17 Update Appointment (User)

1. The User inputs the ID and Password in the Login screen.
2. The system retrieves and confirms the data input made by the user by comparing with the Database.
3. If it matches, the system displays the home page, otherwise it goes back to display the login screen.
4. The user chooses the appointment screen to update the appointment status.
5. The user uses the Change Appointment Status to update the appointment status. As an example: Postpone/ Cancel.
6. The system fetches data from the database and displays it to the user.



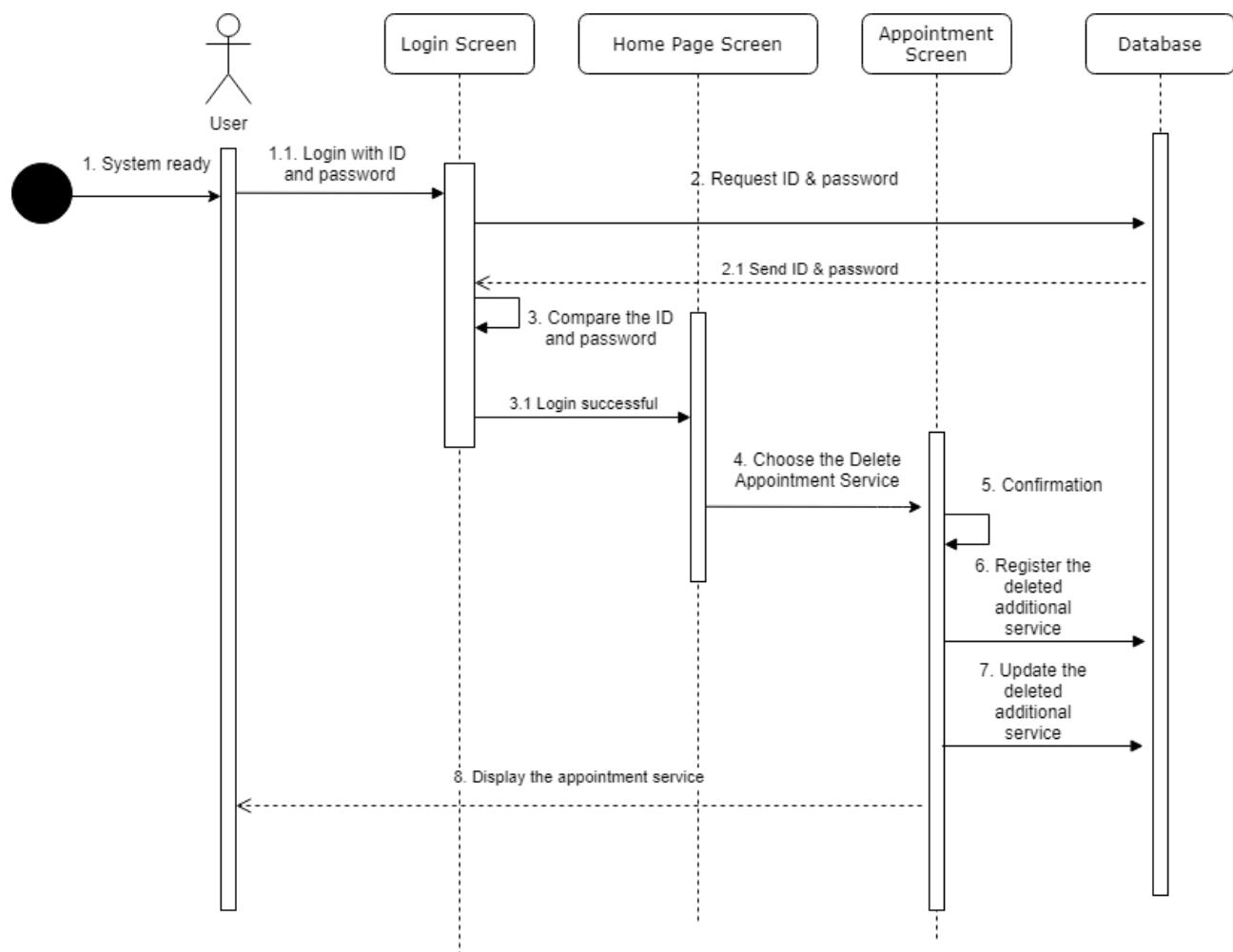
#### **4.2.18 Add Appointment Service(User)**

1. The User inputs the ID and Password in the Login screen.
2. The system retrieves and confirms the data input made by the user by comparing with the Database.
3. If it matches, the system displays the home page, otherwise it goes back to display the login screen.
4. The user chooses the appointment screen to update the appointment status.
5. The user uses the Add Appointment Service to add additional service. As an example:Steam Cleaning/ Car Waxing.
6. The system will prompt confirmation to the User after the selection has been made.
7. If the User confirms to add the additional service, it will be registered into the Database, otherwise it goes back to the Appointment screen.
8. The system registers the additional service chosen by the user into the database.
9. The system fetches data from the database and displays it to the user.



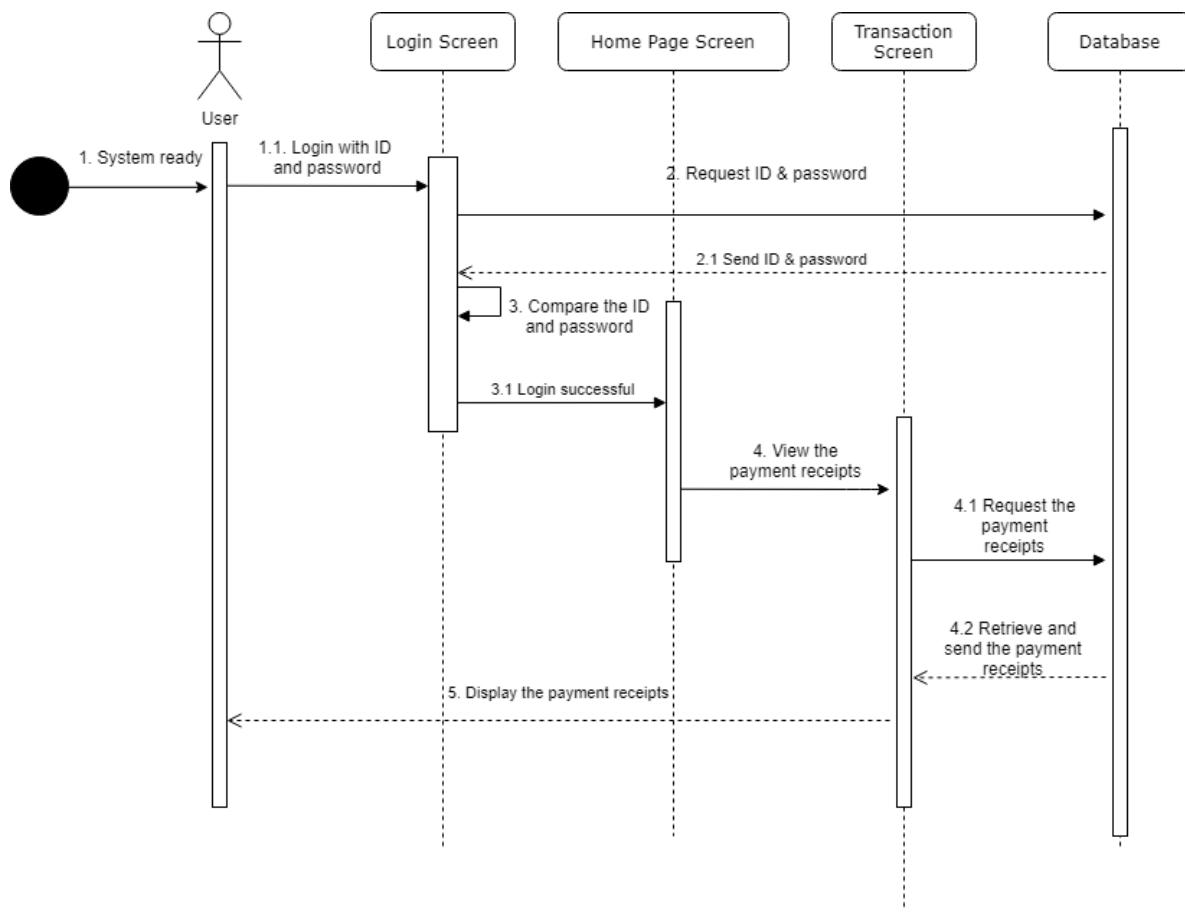
#### **4.2.19 Delete Appointment Service(User)**

1. The User inputs the ID and Password in the Login screen.
2. The system retrieves and confirms the data input made by the user by comparing with the Database.
3. If it matches, the system displays the home page, otherwise it goes back to display the login screen.
4. The user chooses the appointment screen to update the appointment status.
5. The user uses the Delete Appointment Service to delete the additional service.
6. The system will prompt confirmation to the User after the selection has been made.
7. If the User confirms to delete the additional service, it will be registered into the Database, otherwise it goes back to the Appointment screen.
8. The system registers the deleted additional service chosen by the user into the database.
9. The system fetches data from the database and displays it to the user.



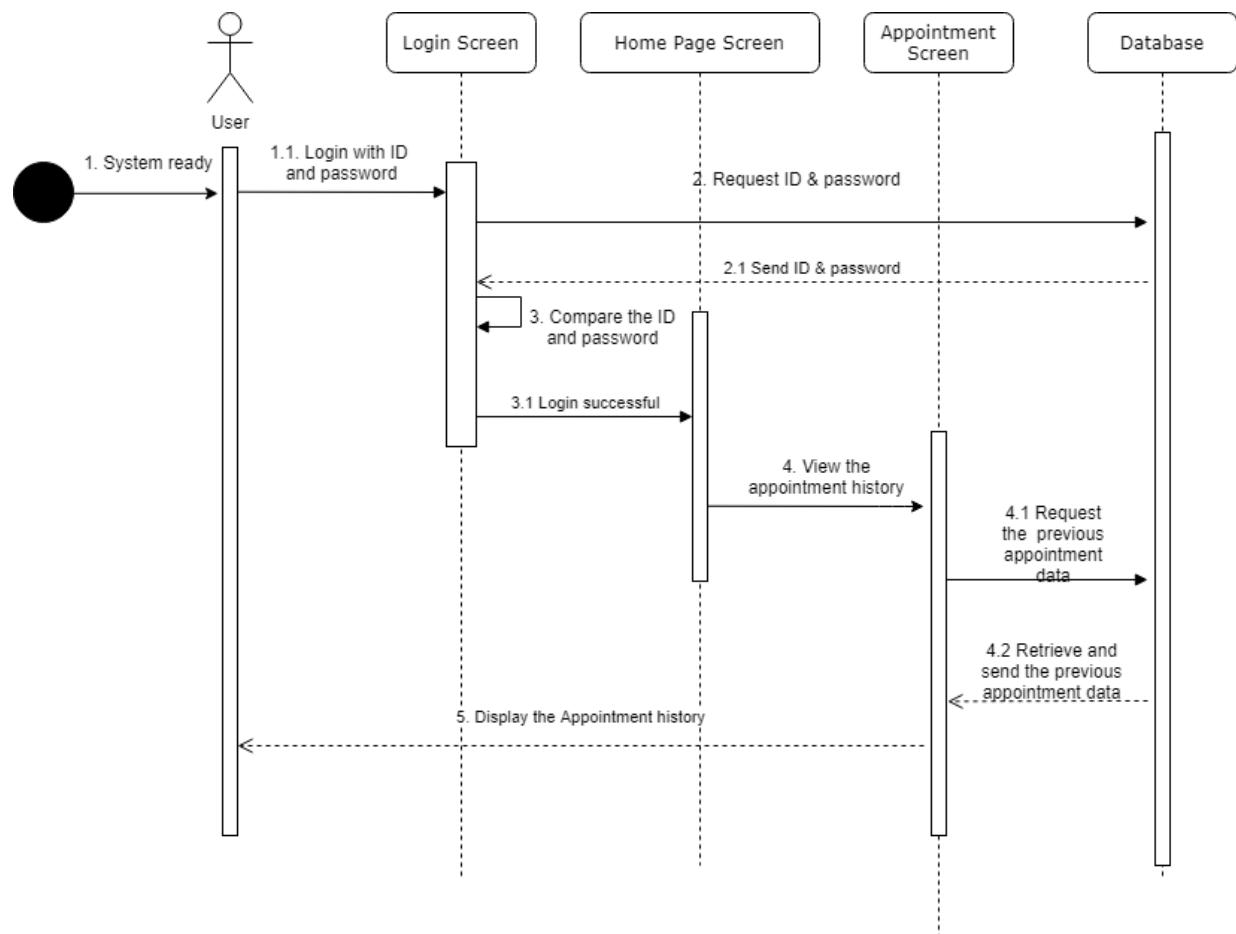
#### 4.2.20 View Payment Receipts (User)

1. The User inputs the ID and Password in the Login screen.
2. The system retrieves and confirms the data input made by the user by comparing with the Database.
3. If it matches, the system displays the home page, otherwise it goes back to display the login screen.
4. The user chooses to view the payment receipts.
5. The system fetches data from the database and displays it to the user.



#### 4.2.21 View Appointment History (User)

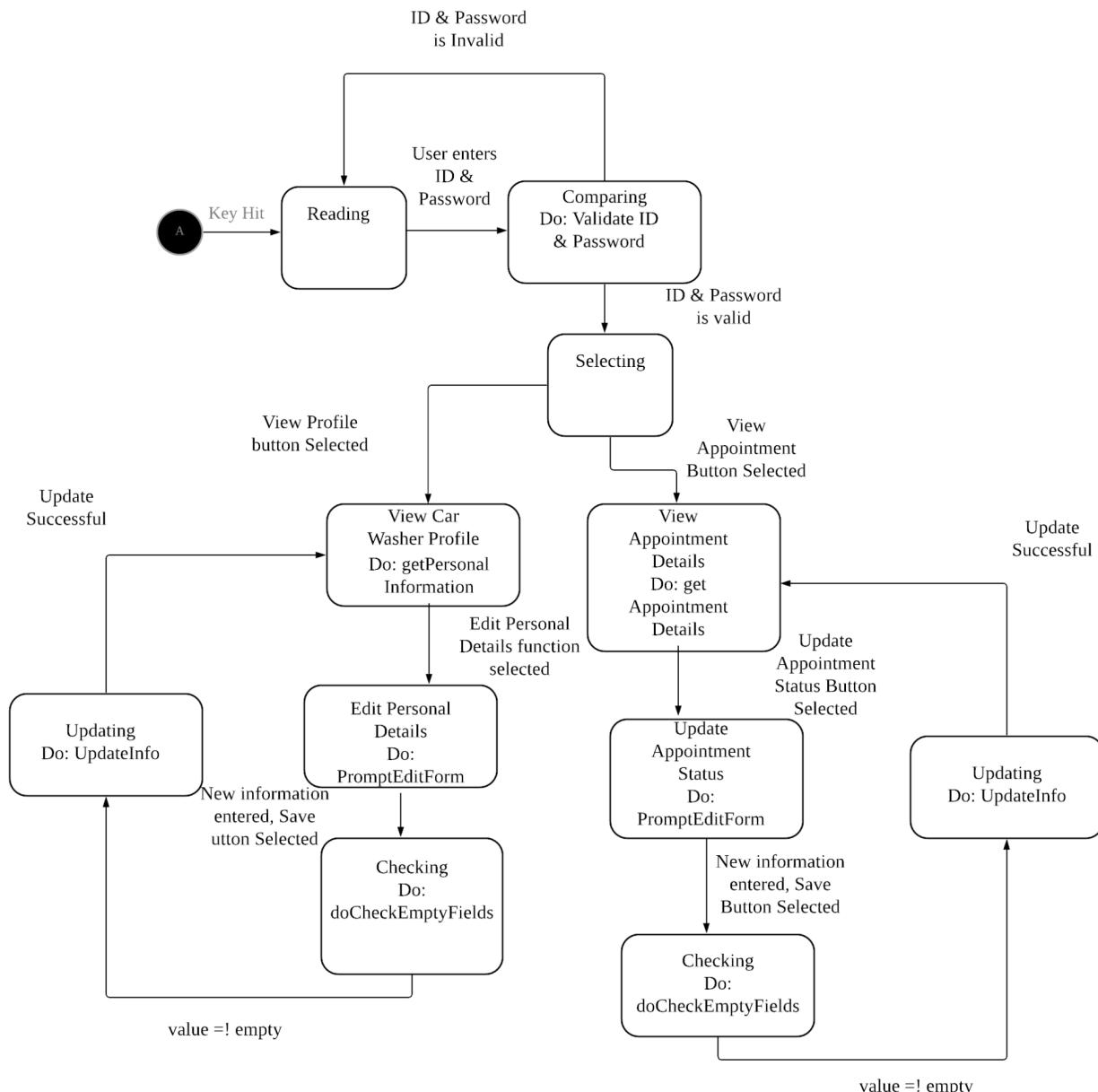
1. The User inputs the ID and Password in the Login screen.
2. The system retrieves and confirms the data input made by the user by comparing with the Database.
3. If it matches, the system displays the home page, otherwise it goes back to display the login screen.
4. The user chooses to view the appointment history.
5. The system fetches data from the database and displays it to the user.



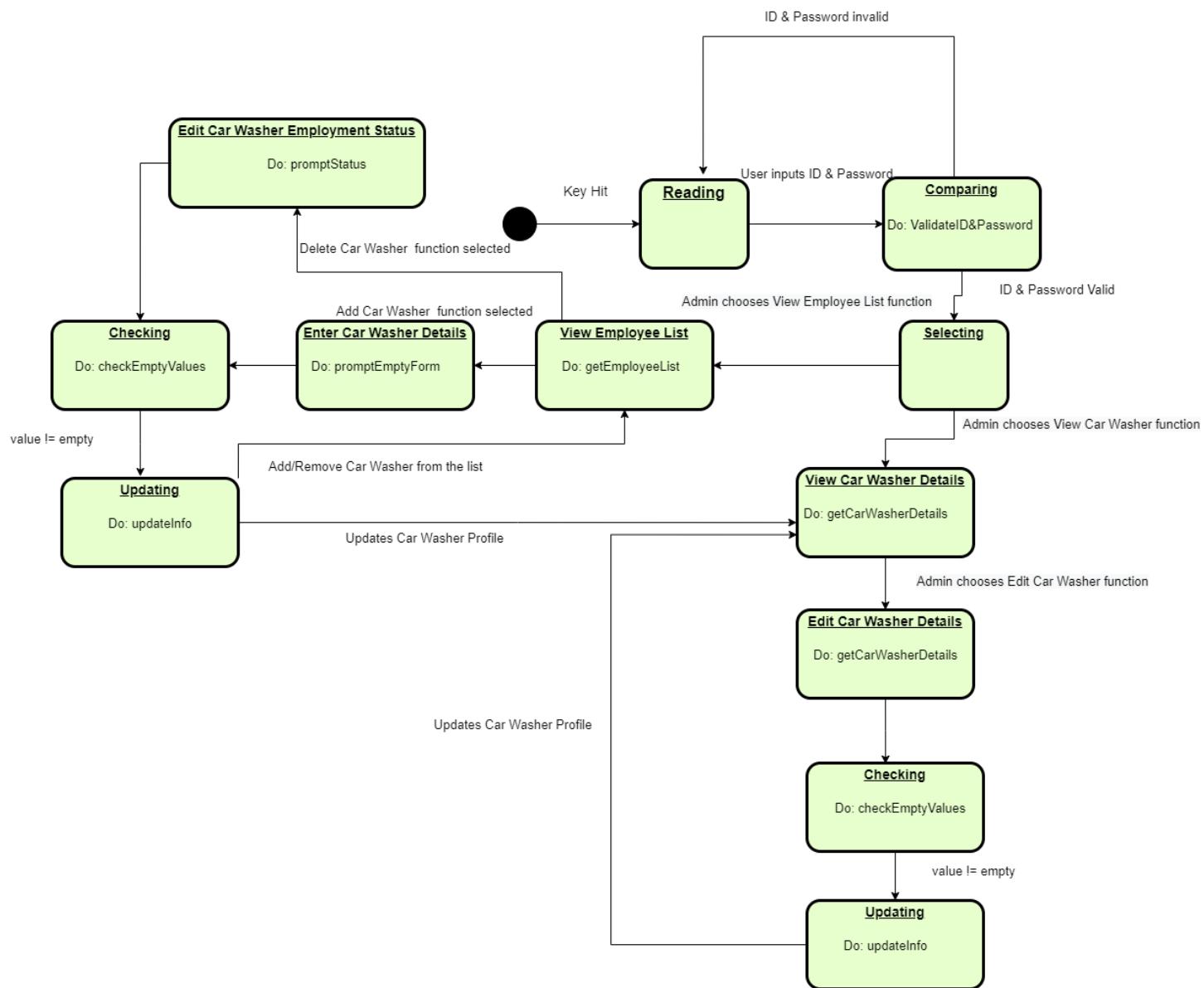
# 5 Behavioural Requirements

## 5.1 State Diagrams

### Car Washer

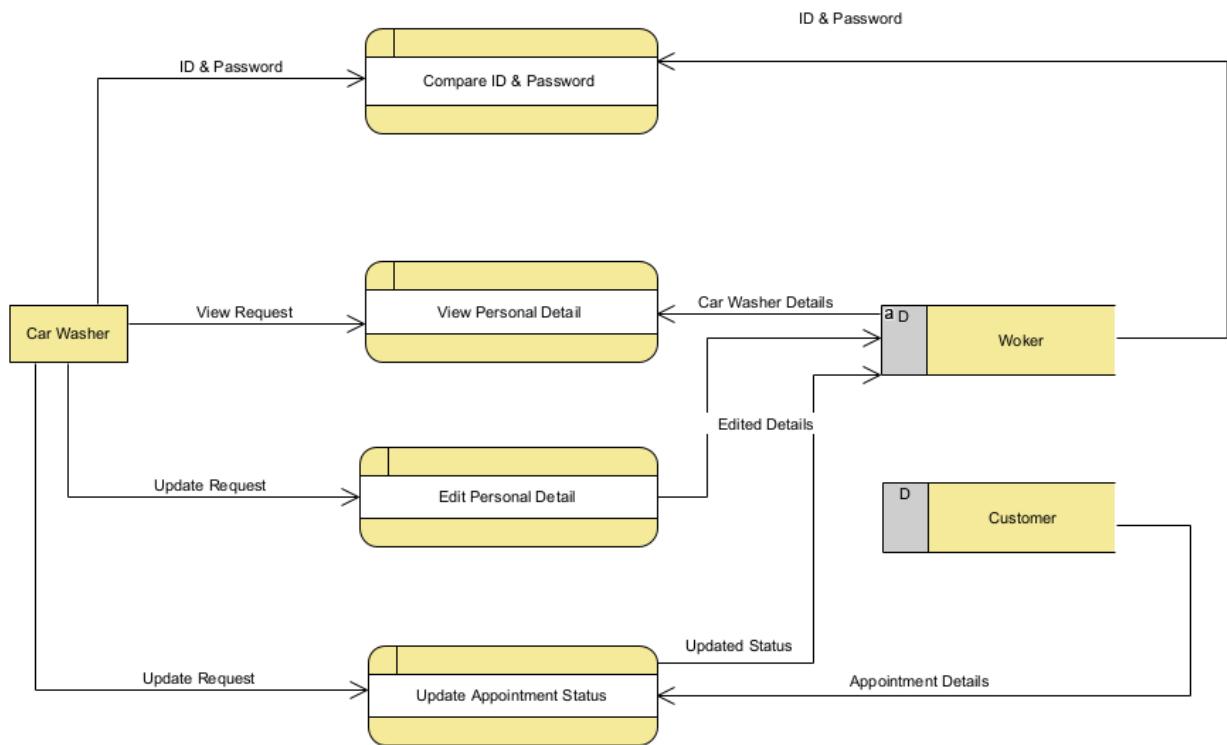


## Admin

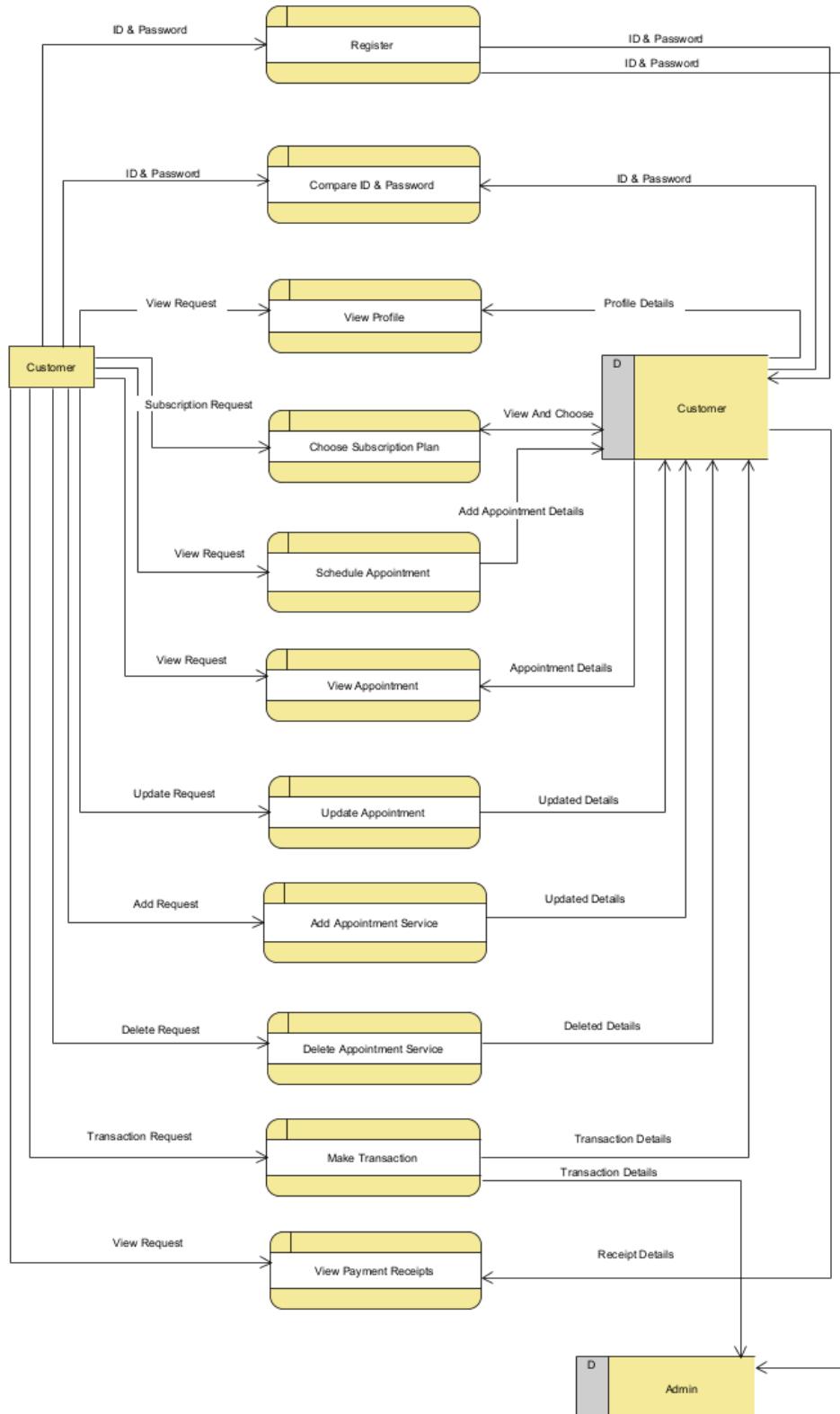


## 5.2 Data Flow Diagrams

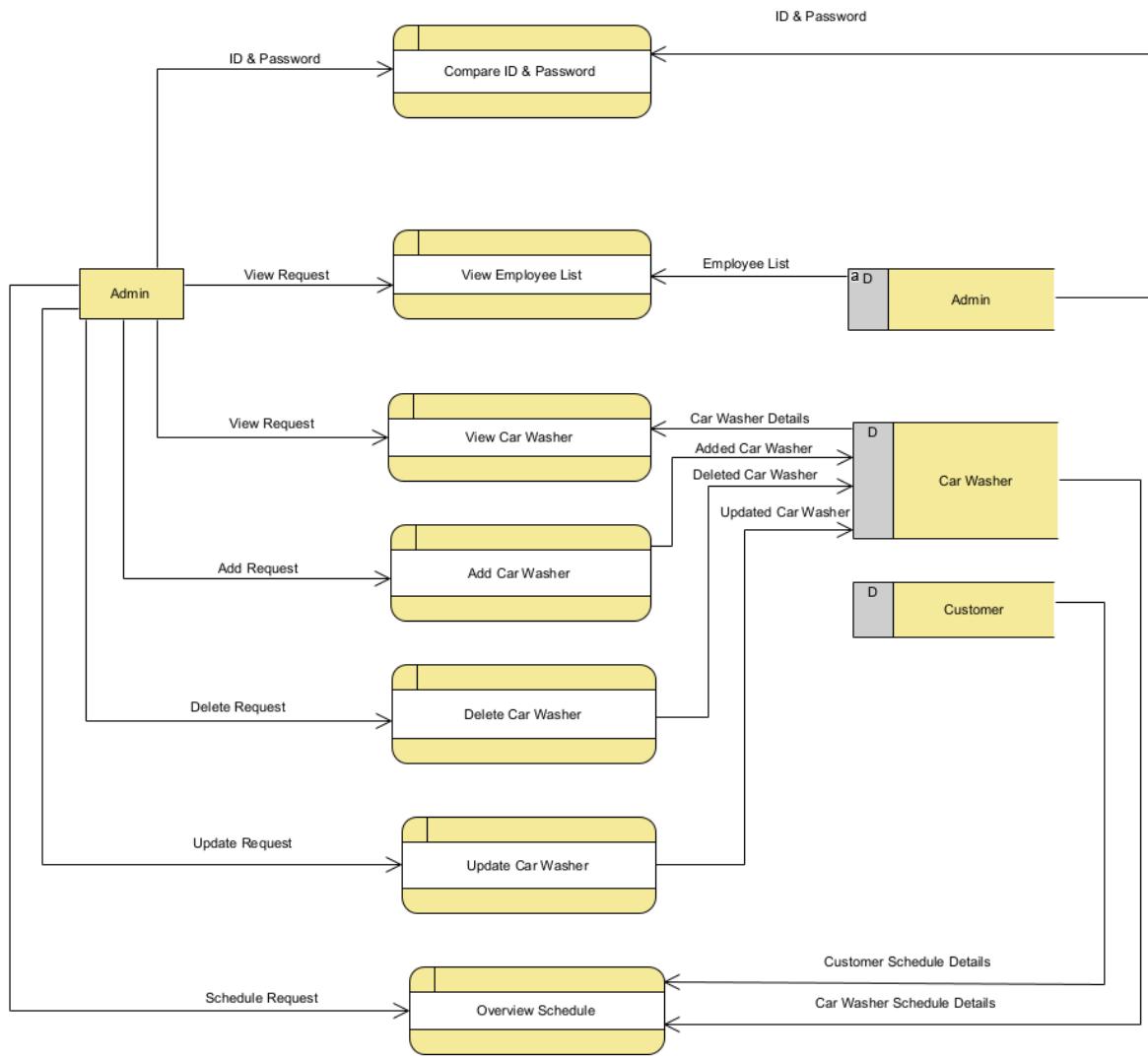
### Worker (Level 0)



## Customer(Level 0)



## Admin(Level 0)



## 6 Other Requirements

*null*

# 7 Data Design

## 7.1 Data Dictionary

### Login Table

Field Name	Data Type	Length	Null	Description
User ID	Long Text	255	Not Null	Primary key,username for login purpose
User password	Short Text	255	-	login password
User role	Short Text	255	-	Employer/Employees/Customers
User status	Number		-	1 for active , 0 for not active

Table 2

### Car Washer / EmployeeTable

Field Name	Data Type	Length	Null	Description
WorkerNo	Number		Not Null	keeps count of workers
Worker ID	Short Text	255	-	Worker's id that used for work related accesses
Worker name	Long Text	>255	-	Worker's Full name
DoB	Long Text	>255	-	Format(dd, MM, YYYY)
Address	Long Text	>255		Full address
Phone	Long Text	>255	-	Format(number only)
Email	Long Text	>255	-	Personal email
Status	Number		-	Worker status (1 for active /0 for not active)
Nationality	Long Text	>255	-	Worker's nationality
Gender	Long Text	>255	-	Worker's gender

Table 3

## **Employer / Admin Table**

<b>Field Name</b>	<b>Data Type</b>	<b>Length</b>	<b>Null</b>	<b>Description</b>
Admin No	Short Text	255	Not Null	admin no represents no of admin and ranking together
Admin ID	Long Text	>255	-	Admin id that used for accessing everything
Admin Name	Long Text	>255	-	Admin Full name
Phone	Long Text	>255	-	Format (number only)
Email	Long Text	>255	-	Work email
Gender	Long Text	>255	-	Admin gendee
Status	Short Text	255	-	Admin status (1 for active , 0 for absent )

*Table 4*

## **Customer Table**

<b>Field Name</b>	<b>Data Type</b>	<b>Length</b>	<b>Null</b>	<b>Description</b>
Customer No	Short Text	255	Not Null	customer no represents total counts of customer
Customer ID	Long Text	>255	-	Customer id that used for every access
Customer Name	Long Text	>255	-	Customer Full name
Customer Vec.No	Long Text	>255	-	Vehicle registration no
Customer Subscription	Long Text	>255	-	Customer's subscription details
Phone	Long Text	>255	-	Customer's contact number
Customer Account.Status	Short Text	255	-	Transaction/Bank status (1 for active , 0 for not active)
Email	Long Text	>255	-	Customer's email

*Table 5*

## 7.2 Data Structures

### Login

Login	
PK	User ID User password User role User status

### Car Washer / Employee

Car Washer / Employee	
PK	Worker ID WorkerNo DoB Address Phone Email Nationality Gender

## **Employer / Admin**

Employer / Admin	
PK	Admin ID Admin No Admin Name Phone Email Gender Status

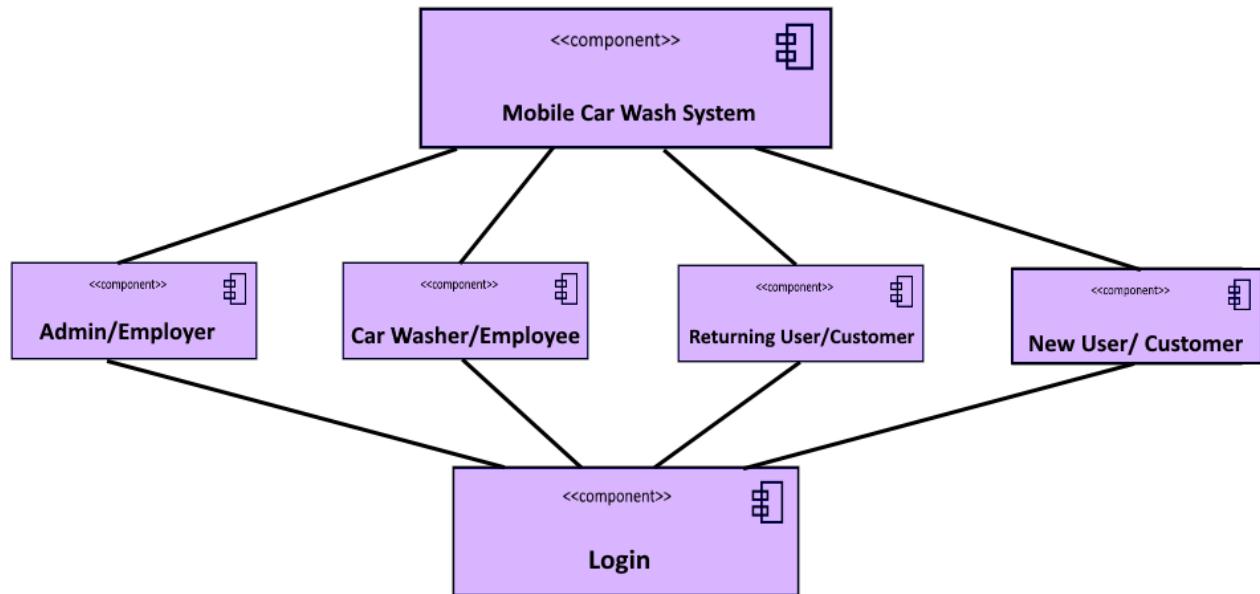
## **Customer**

Customer	
PK	Customer ID Customer No Customer Name Customer Vec.No Customer Subscription Customer Phone Customer Account.Status Customer Email

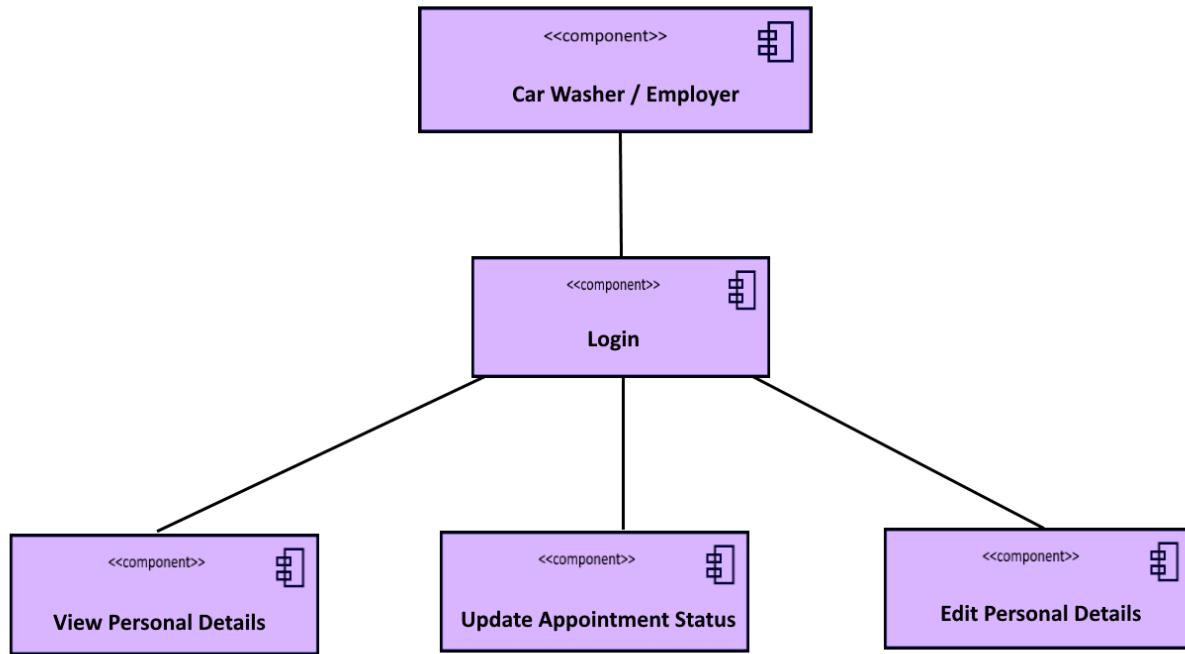
# 8 Architecture Design

## 8.1 Software Architecture

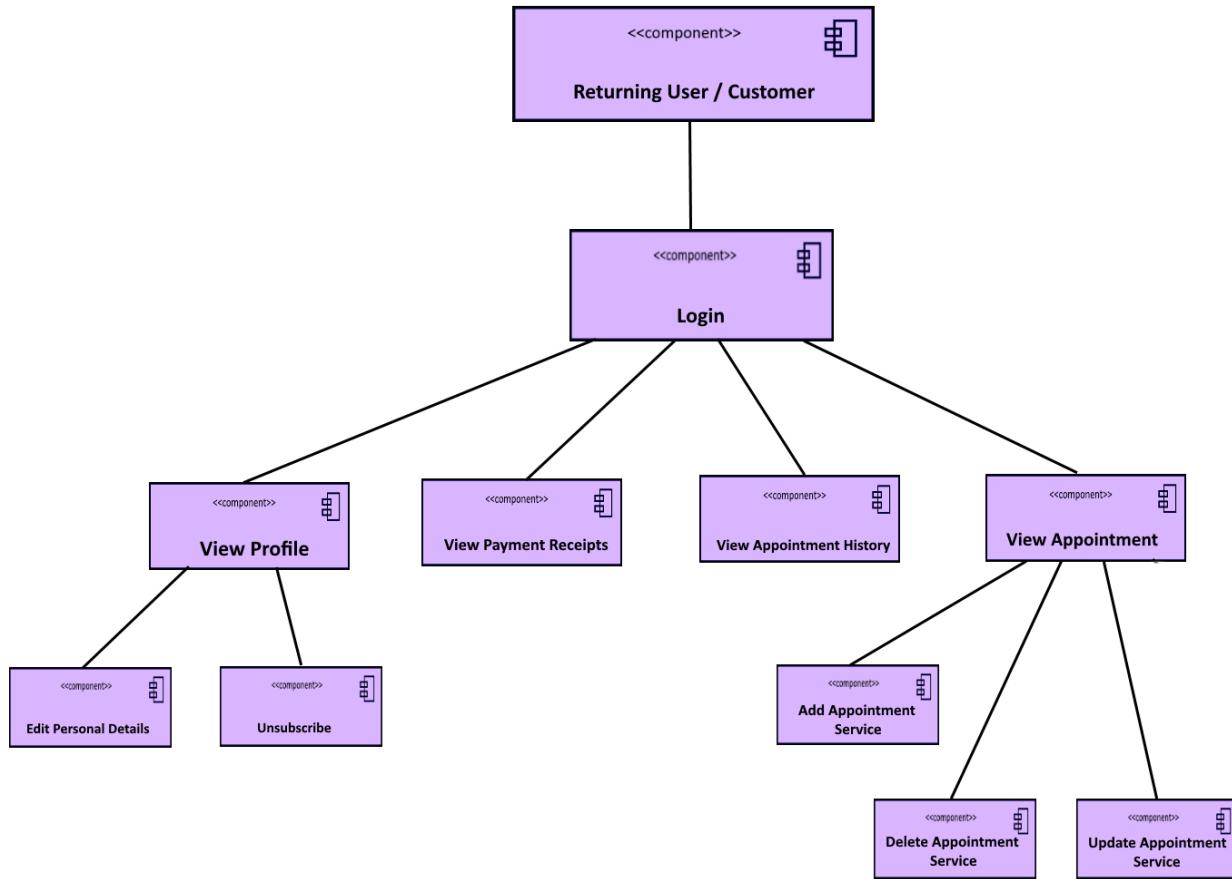
The software architecture of a computing system is the set of the structures needed to reason about the system which comprise software elements, relations among them and the properties of both.



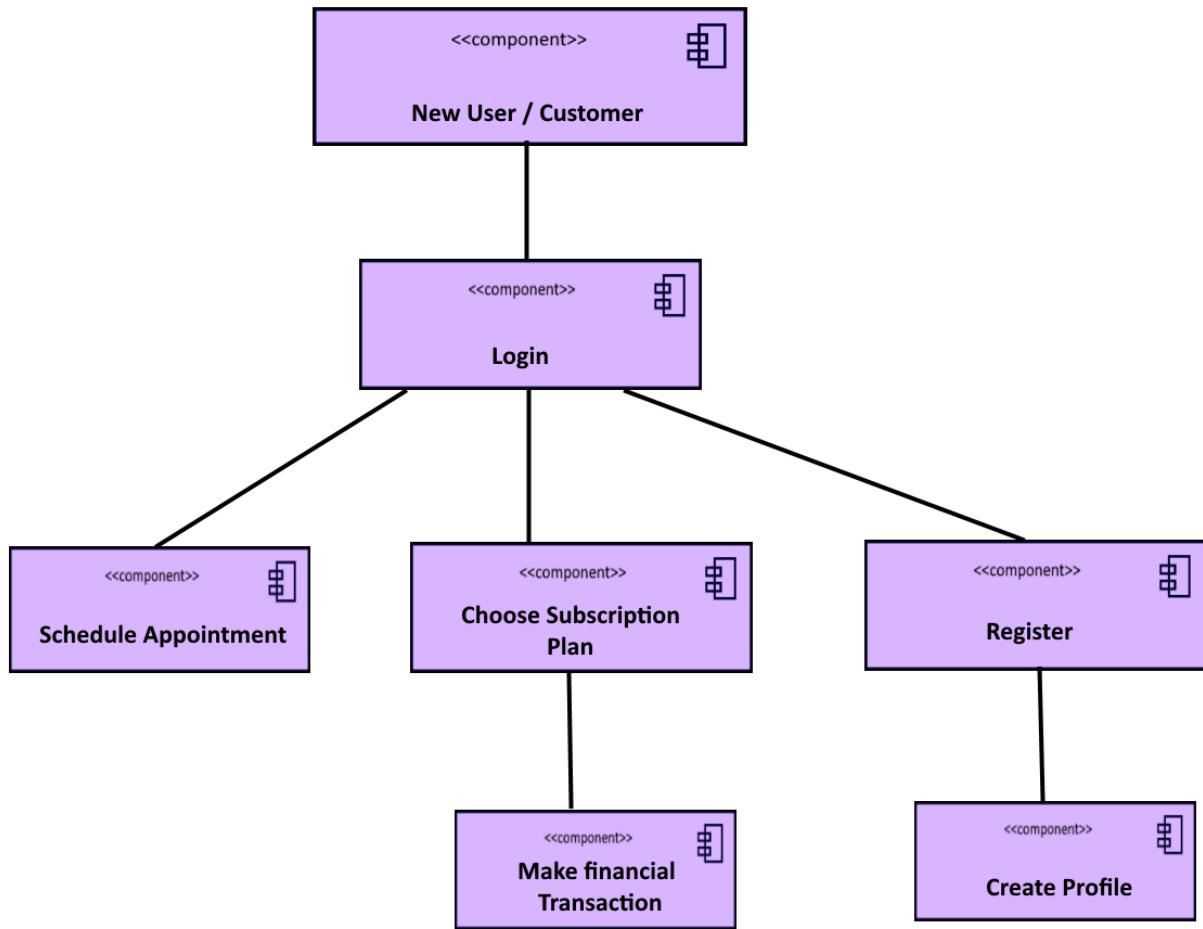
### 8.1.1 Subsystem 1 (Car Washer)



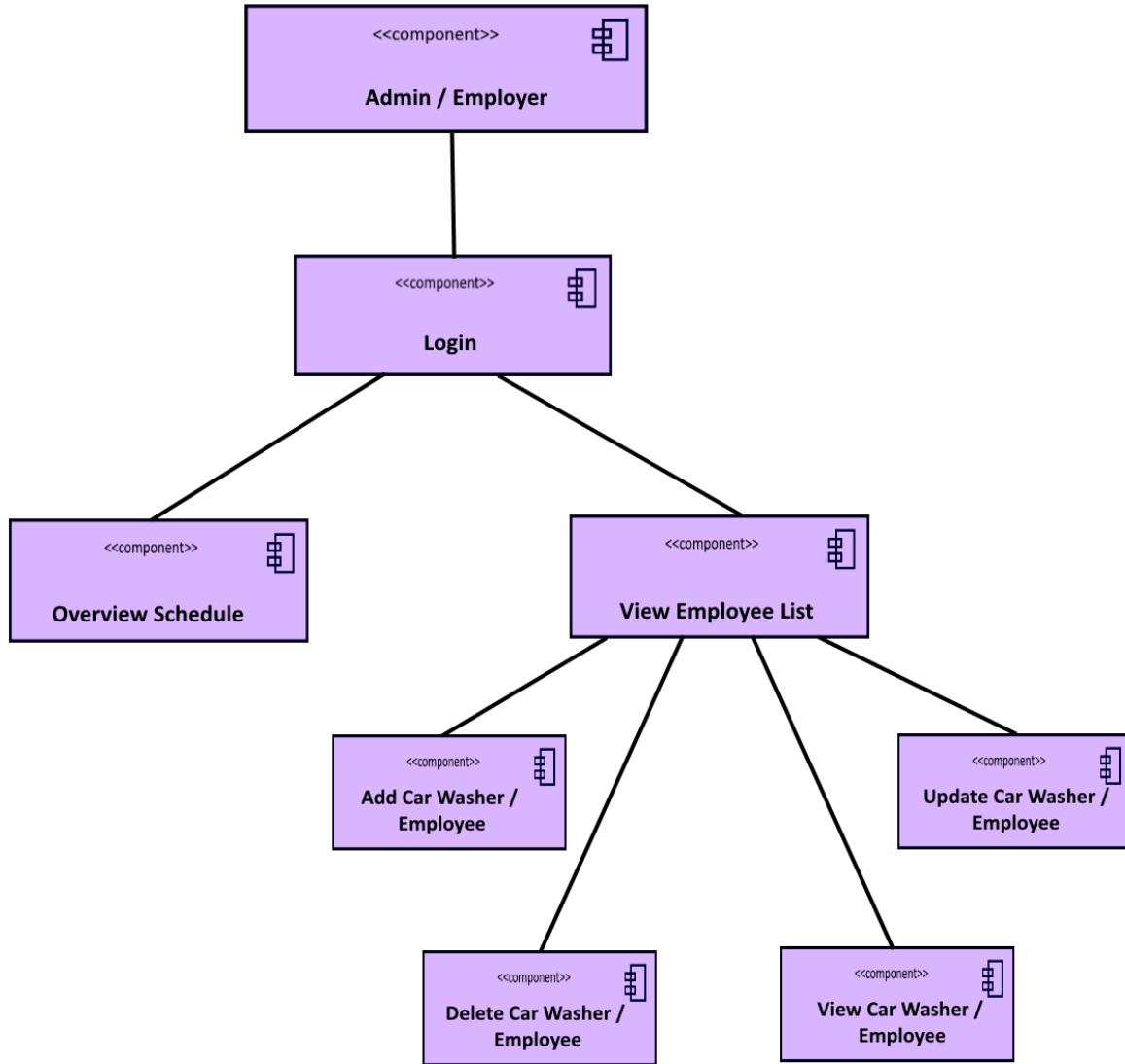
### 8.1.2 Subsystem 2(User)



### 8.1.3 Subsystem 3 (User)

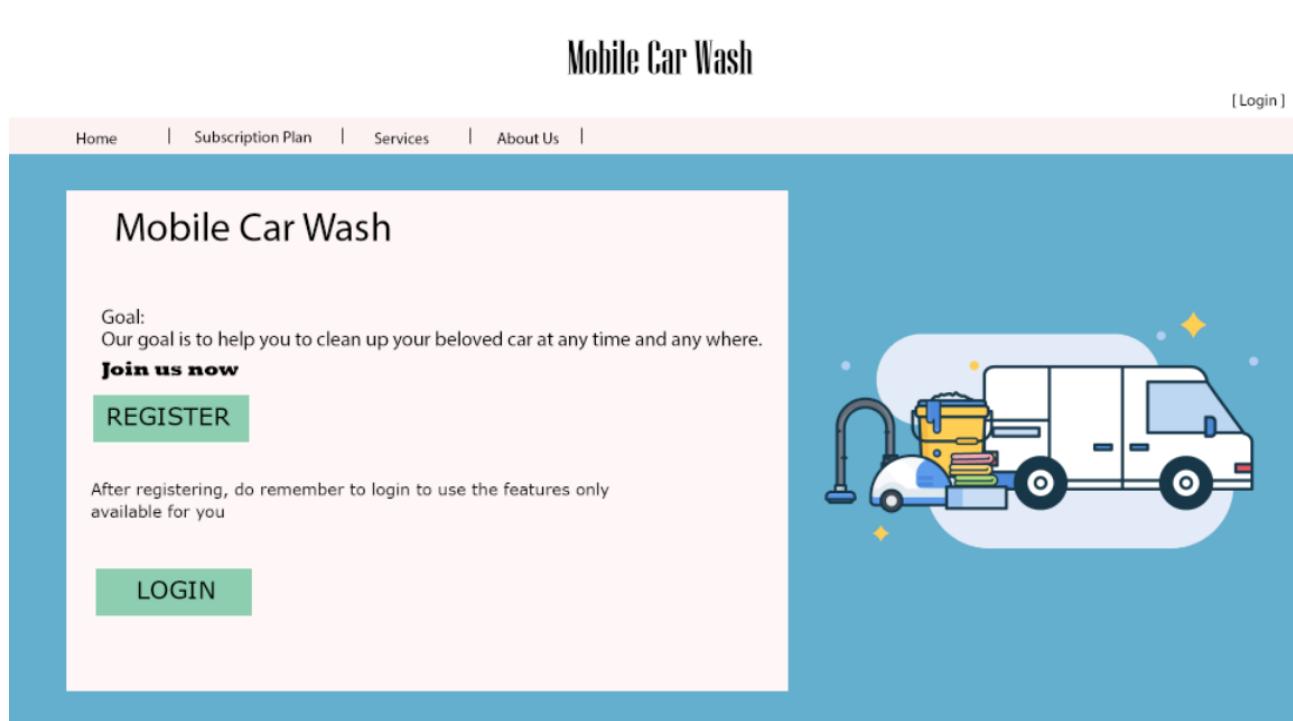


#### 8.1.4 Subsystem 4(Admin)



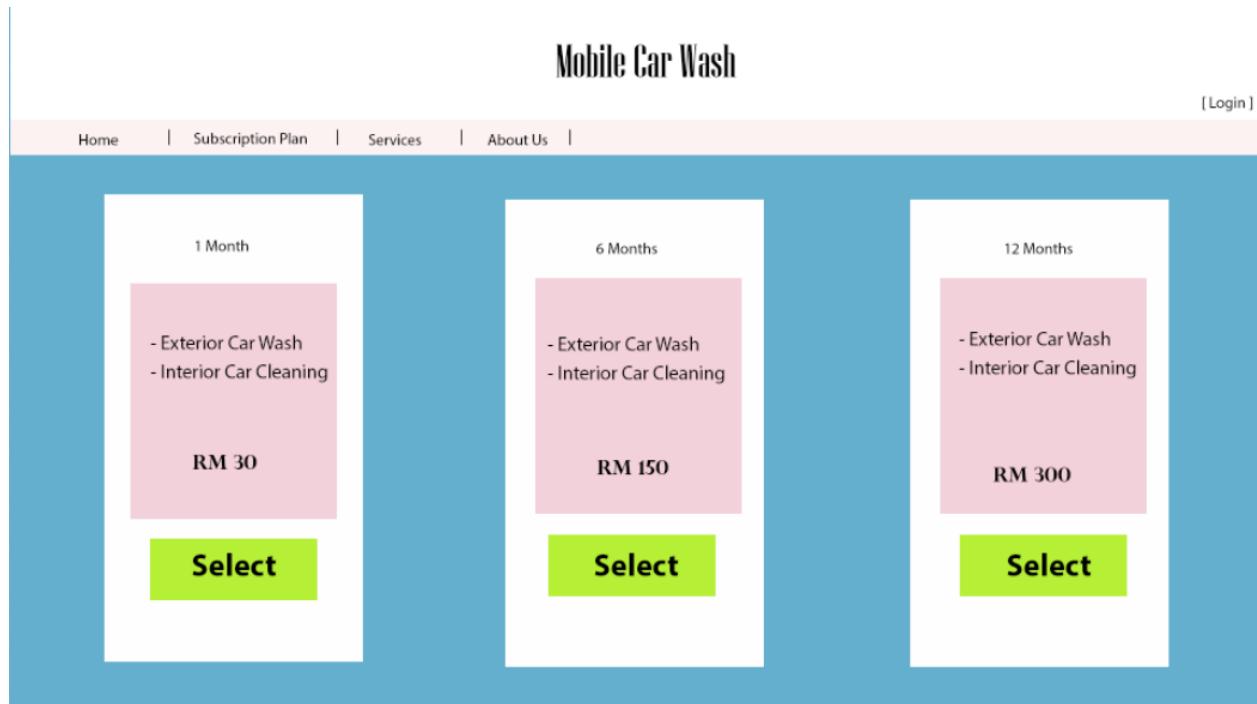
# 9 Interface Design

## 9.1 Main Screen



## 9.2 Subscription Plan Screen

In the Subscription Plan page, the user can view what subscription plan is currently available and select a plan by clicking 'Select'. The user will be directed to the Login screen to login and update their subscription plan in order to use the subscription plan



## 9.3 Services Screen

In the Services page, the user can choose from the services available such as car waxing and car steam cleaning.

The screenshot shows a web page titled "Mobile Car Wash". At the top right is a "[ Login ]" button. Below the title is a navigation bar with links: "Home", "Subscription Plan", "Services", and "About Us". A message box contains the text: "Other than the Exterior Cleaning and Interior Cleaning, we do provide other types of additional cleaning services for your beloved car." Below this message are two service sections: "Car Waxing Services" with an icon of a car being waxed, and "Car Steam Cleaning" with an image showing steam being applied to a car's interior seats.

## 9.4 About Us Screen

In the About Us page, the user can have a brief idea on what our mobile car wash service is about.

The screenshot shows the 'About Us' section of the Mobile Car Wash website. At the top, there is a navigation bar with links for Home, Subscription Plan, Services, About Us, and a Login button. The main content area has a blue background and features a white box containing the 'About Us' heading and a descriptive paragraph. Below this box, there is contact information including a link to 'Contact us' and an email address.

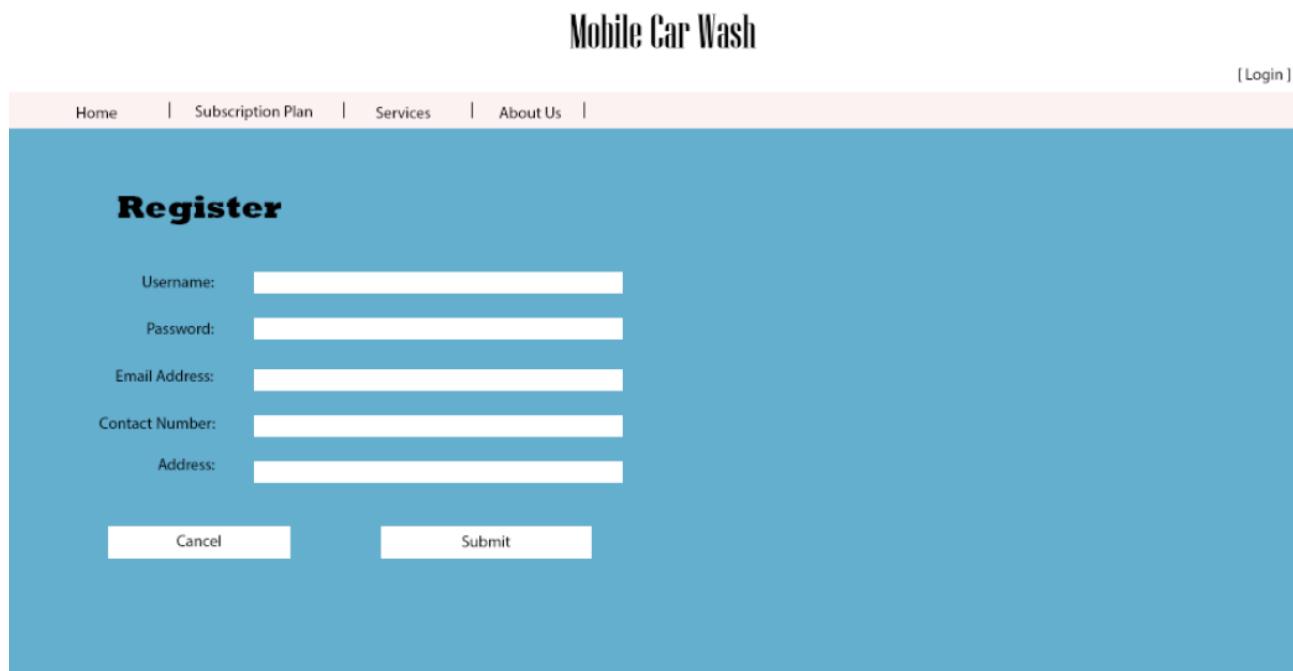
**About Us**

We are a startup company founded in October 2021. We are professional in car cleaning as we promised to bring an uncompromised car cleaning experience to every of our customers, from anywhere at anytime in Malaysia.

**Contact us**  
**mobilecarwash@gmail.com**

## 9.5 Register Screen

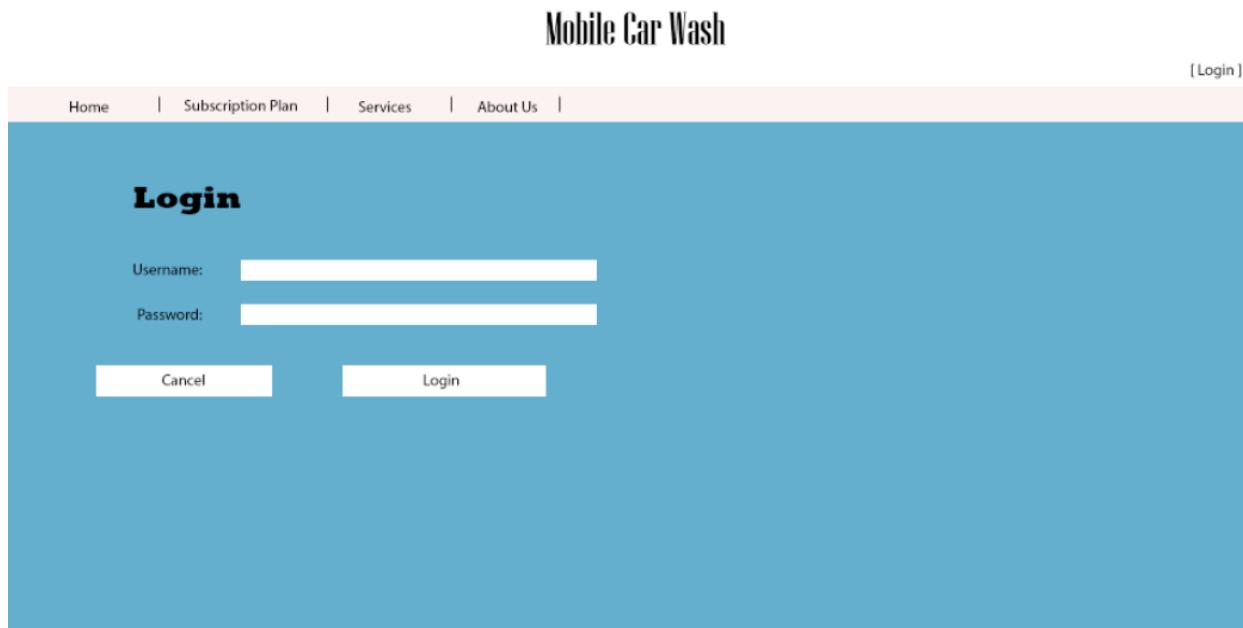
For new users, it is required to register their personal information like the user name, password, email address, contact number and address. After inserting the details, they have to click ‘Submit’ to submit and the system will bring them back to the login screen to login.



The image shows a web-based registration form titled "Register" for a "Mobile Car Wash" service. The header features the "Mobile Car Wash" logo and a "[ Login ]" button. Below the header is a navigation bar with links for "Home", "Subscription Plan", "Services", and "About Us". The main content area is titled "Register" and contains five input fields: "Username", "Password", "Email Address", "Contact Number", and "Address", each with a corresponding text input box. At the bottom of the form are two buttons: "Cancel" and "Submit".

## 9.6 Login Screen

After clicking ‘Login’ from the main screen, the car washers, the admin, or the users have to login with their username and password. Click “Login” to login into the system.



The screenshot shows the 'Mobile Car Wash' login interface. At the top, there is a navigation bar with links for Home, Subscription Plan, Services, and About Us. On the far right of the bar is a '[ Login ]' button. The main area has a light blue background and features a large bold 'Login' heading. Below it are two input fields: one for 'Username' and one for 'Password'. At the bottom of the form are two buttons: 'Cancel' on the left and 'Login' on the right.

## 9.7 Car Washer Screen



The screenshot shows the 'Mobile Car Wash' welcome screen for a user named 'CarWasher1'. At the top, there is a navigation bar with links for Home, Personal Detail, Appointment, and a 'Logout' link. The main area has a light blue background and displays a large bold 'Welcome CarWasher1' message.

## 9.8 Car Washer Personal Detail Screen

In the Personal Detail tab, the car washer can view and edit the personal details.

The screenshot shows the 'Personal Detail' section of the mobile car wash application. At the top, there's a navigation bar with 'Home', 'Personal Detail', 'Appointment', and a user welcome message 'Welcome CarWasher1 [Logout]'. Below the navigation, the title 'Welcome CarWasher1' is displayed in bold black font. Underneath it, the heading 'Personal Detail' is shown in bold black font. A table displays the following personal information:

Name	CarWasher1
Password	CarWasher1
Email Address	carwasher1@gmail.com
Contact	0123456789
Address	No 1 Jalan 2 Mont Kiara 52100 Kuala Lumpur

A blue 'Edit' button is located below the table.

## 9.9 Car Washer Appointment Screen 1

In the Appointment page, the car washer can view and update the appointment assigned.

The screenshot shows the 'Appointment' section of the mobile car wash application. At the top, there's a navigation bar with 'Home', 'Personal Detail', 'Appointment', and a user welcome message 'Welcome CarWasher1 [Logout]'. Below the navigation, the title 'Welcome CarWasher1' is displayed in bold black font. Underneath it, the heading 'Appointment' is shown in bold black font. A table displays the following appointment details:

Date	User	Time	Status	Address	Additional notes
1/10/2021	User1	0900-1000	Completed	No 2 Jalan 2 Mont Kiara 52100 Kuala Lumpur	
2/10/2021	User2	1300-1500	Pending	No 3 Jalan 3 Mont Kiara 52100 Kuala Lumpur	-Car Waxing

A blue 'Update' button is located below the table.

## 9.10 Admin Screen



The screenshot shows the 'Mobile Car Wash' application's admin interface. At the top, there is a navigation bar with links for Home, Employee, Car Washers, Schedule, and a sign-out link 'Welcome Admin [Logout]'. The main content area has a blue background and displays the message 'Welcome Admin'.

## 9.11 Admin Employee Screen

In the Employee page, the admin can view the employee list working for the company.



The screenshot shows the 'Mobile Car Wash' application's employee list screen. At the top, there is a navigation bar with links for Home, Employee, Car Washers, Schedule, and a sign-out link 'Welcome Admin [Logout]'. The main content area has a blue background and displays the message 'Welcome Admin'. Below this, it says 'Employee List' and shows a table with the following data:

No	Employee Name
1	Secretary1
2	Treasurer1
3	CarWasher1
4	CarWasher2
5	Manager1

## 9.12 Admin Car Washers Screen

In the Car Washers page, the admin can view the car washer list in the company, and the admin can add, update and delete the car washers.

The screenshot shows the 'Car Washers' section of the application. At the top, there is a navigation bar with links for Home, Employee, Car Washers, Schedule, and a Welcome Admin [Logout] button. Below the navigation bar, the title 'Welcome Admin' is displayed. Underneath it, the heading 'Car Washers' is shown. A table lists two entries: '1 CarWasher1' and '2 CarWasher2'. Below the table are three buttons: 'Add', 'Update', and 'Delete'.

No	Car Washers
1	CarWasher1
2	CarWasher2

## 9.13 Admin Schedule Screen

In the Schedule page, the admin can have an overview of the schedule with the details and will be able to update it.

The screenshot shows the 'Schedule' section of the application. At the top, there is a navigation bar with links for Home, Employee, Car Washers, Schedule, and a Welcome Admin [Logout] button. Below the navigation bar, the title 'Welcome Admin' is displayed. Underneath it, the heading 'Schedule' is shown. A table lists four scheduled tasks with columns for Date, User, Car Washers, Status, Address, and Additional notes. The status for all tasks is 'Pending' except for the first one which is 'Completed'. Below the table is an 'Update' button.

Date	User	Car Washers	Status	Address	Additional notes
1/10/2021	User1	CarWasher1	Completed	No 2 Jalan 2 Mont Kiara 52100 Kuala Lumpur	
2/10/2021	User2	CarWasher1	Pending	No 3 Jalan 3 Mont Kiara 52100 Kuala Lumpur	-Car Waxing
3/10/2021	User3	CarWasher2	Pending	No 4 Jalan 4 Mont Kiara 52100 Kuala Lumpur	- Car Steam Cleaning
4/10/2021	User4	CarWasher2	Pending	No 5 Jalan 5 Mont Kiara 52100 Kuala Lumpur	

## 9.14 User Screen

Scenario: The user login using their username and password

After the user login the system will bring up the user screen for the user to view their profile details, choose the subscription plan, make the transaction, manage appointments and manage payment info. Clicking ‘Logout’ will bring the user back to the main screen.



## 9.15 User Profile Screen

In the Profile page, the user will be able to view, update and remove their personal details by clicking ‘Edit’.



## 9.16 User Subscription and Service Screen

In the Subscription & Service page, the user can view their current subscription plan as well as adding additional services such as car waxing and car steam cleaning.

The screenshot shows the 'Subscription & Services' section of the mobile car wash application. At the top, there is a navigation bar with links for Home, Profile, Subscription & Services (which is the active tab), Appointment, and Transaction. On the right side of the header, it says 'Welcome User1 [Logout]'. Below the header, the title 'Welcome User1' is displayed in bold black font. Underneath it, the section 'Subscription & Services' is shown. A table displays the following information:

Subscription Plan	1 month
Additional Services	No

At the bottom left of the screen, there is a blue button labeled 'Update'.

## 9.17 User Appointment Screen

In the Appointment page, the user can view their appointment and update the appointment status whether the car has been cleaned and the user can also view the history of their appointment.

The screenshot shows the 'Appointment' section of the mobile car wash application. At the top, there is a navigation bar with links for Home, Profile, Subscription & Services, Appointment (which is the active tab), and Transaction. On the right side of the header, it says 'Welcome User1 [Logout]'. Below the header, the title 'Welcome User1' is displayed in bold black font. Underneath it, the section 'Appointment' is shown. A table displays the following information:

Date	Car washers	Time	Status	Address	Additional notes
1/10/2021	CarWasher1	0900-1000	Completed	No 2 Jalan 2 Mont Kiara 52100 Kuala Lumpur	

At the bottom left of the screen, there are two blue buttons labeled 'Update' and 'History'.

## 9.18 User Transaction Screen

In the Transaction page, the user can update their payment information, view their payment status as well as their history.

The screenshot shows the 'Mobile Car Wash' application interface. At the top, there is a navigation bar with links: Home, Profile, Subscription & Services, Appointment, Transaction, and a welcome message 'Welcome User1 [Logout]'. Below the navigation bar, the main content area has a blue header with the text 'Welcome User1'. Underneath the header, the section title 'Transaction' is displayed. A table is present, showing a single row of transaction details:

Date	Car washers	Time	Status	Address	Additional notes	Payment
1/10/2021	CarWasher1	0900-1000	Completed	No 2 Jalan 2 Mont Kiara 52100 Kuala Lumpur		Completed

At the bottom of the transaction section, there are two buttons: 'Update' and 'History'.

# 10 Component Design

## 1.1.1 Car Washer - Login

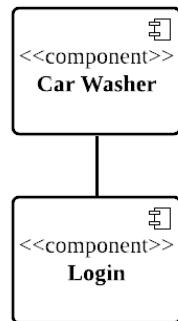


Figure 25

### Pseudocode:

GET User id  
GET User password

IF

(User id == EnteredUsername && User password == EnteredPassword)

THEN

Login Successful

ELSE

Show error message  
Redirect back to Login form  
Clear Login form

END IF

**Activity Diagram:**

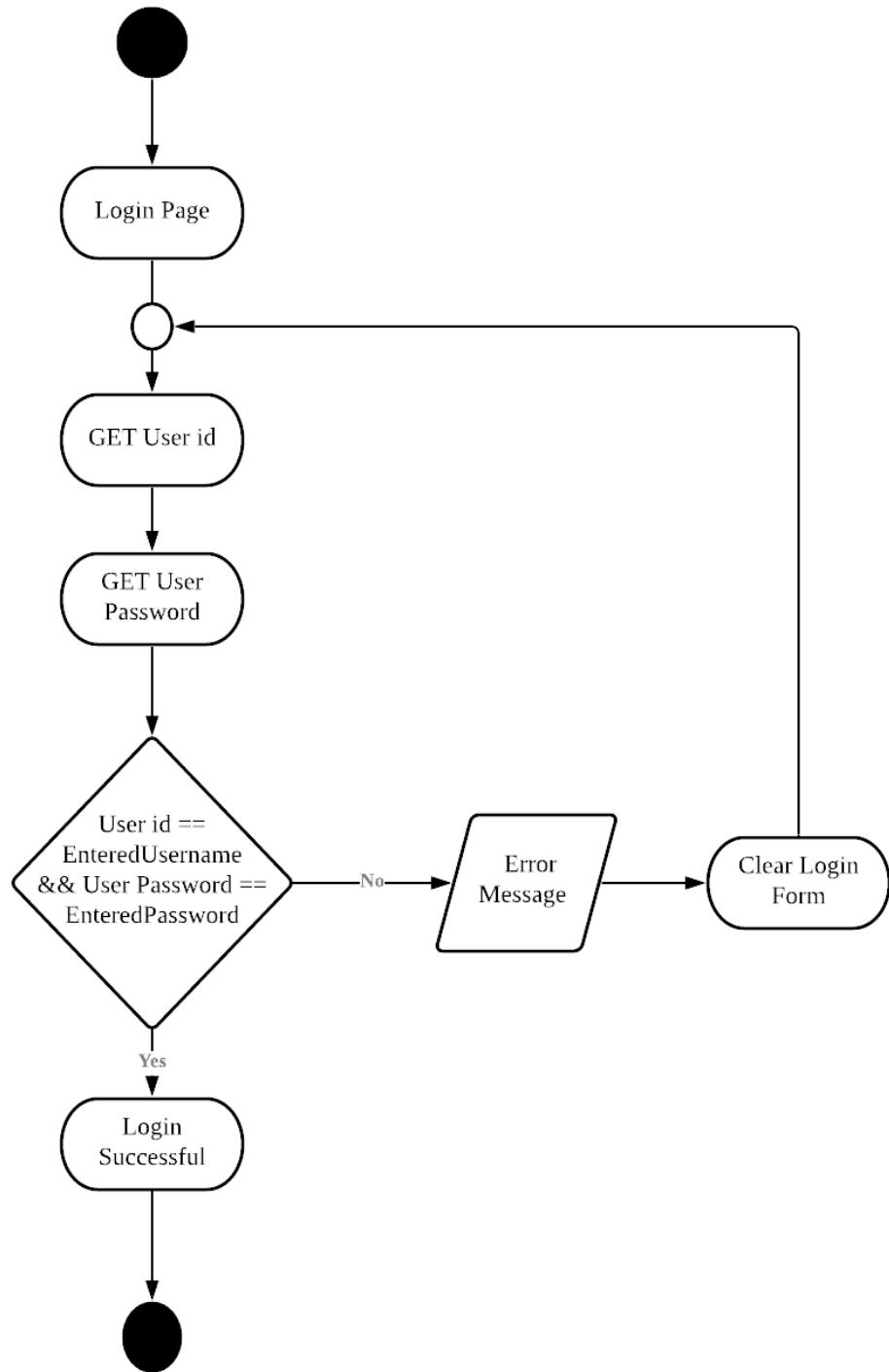


Figure 26

### 1.1.2 Car Washer - View Personal Details

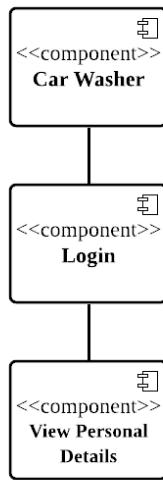


Figure 27

#### Pseudocode:

View Personal Details Button Selected

Select \* FROM Car Washer WHERE User id = Session("ID")

```
Worker_ID.Text = Session("ID")
Worker Name.Text = Worker Name
DOB.Date Format = DOB
Gender.Text = Gender
Address.Text = Address
Phone.Text = Phone
Email.Text = Email
Status.Text = Status
Nationality.Text = Nationality
```

**Activity Diagram:**

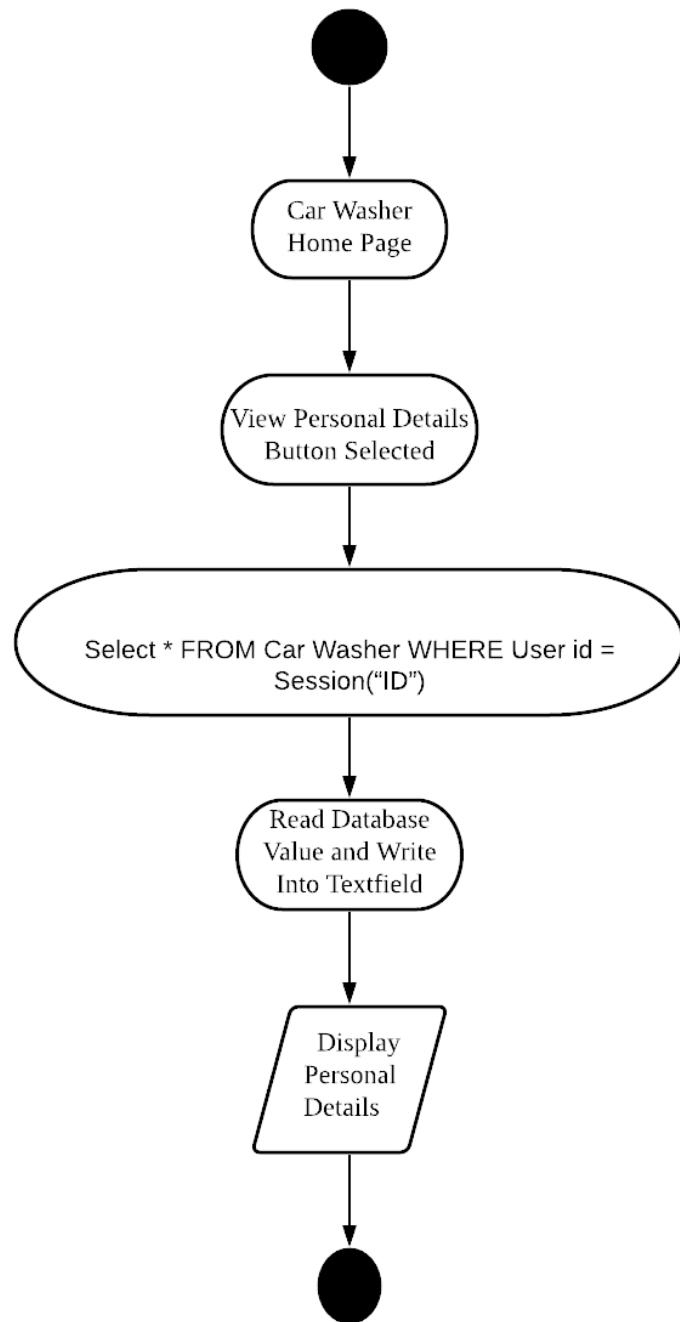


Figure 28

### 1.1.3 Car Washer - Edit Personal Details

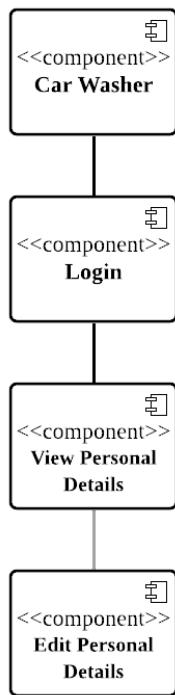


Figure 29

#### Pseudocode:

```
Select * FROM Car Washer WHERE User id = Session("ID")
```

```
Worker_ID.Text = Session("ID")
Worker Name.Text = Worker Name
DOB.Date Format = DOB
Gender.Text = Gender
Address.Text = Address
Phone.Text = Phone
Email.Text = Email
Status.Text = Status
Nationality.Text = Nationality
```

Select Save Button

IF

```
(Address.Text != StringEmpty && Phone.Text != StringEmpty && Email.Text != StringEmpty)
```

THEN

Update Car Washer Set Address = “Address.Text”,  
Phone = “Phone.Text”  
Email = “Email.Text”

**ELSE**

Error Message = “Please Enter Value”

**END IF**

### Activity Diagram:

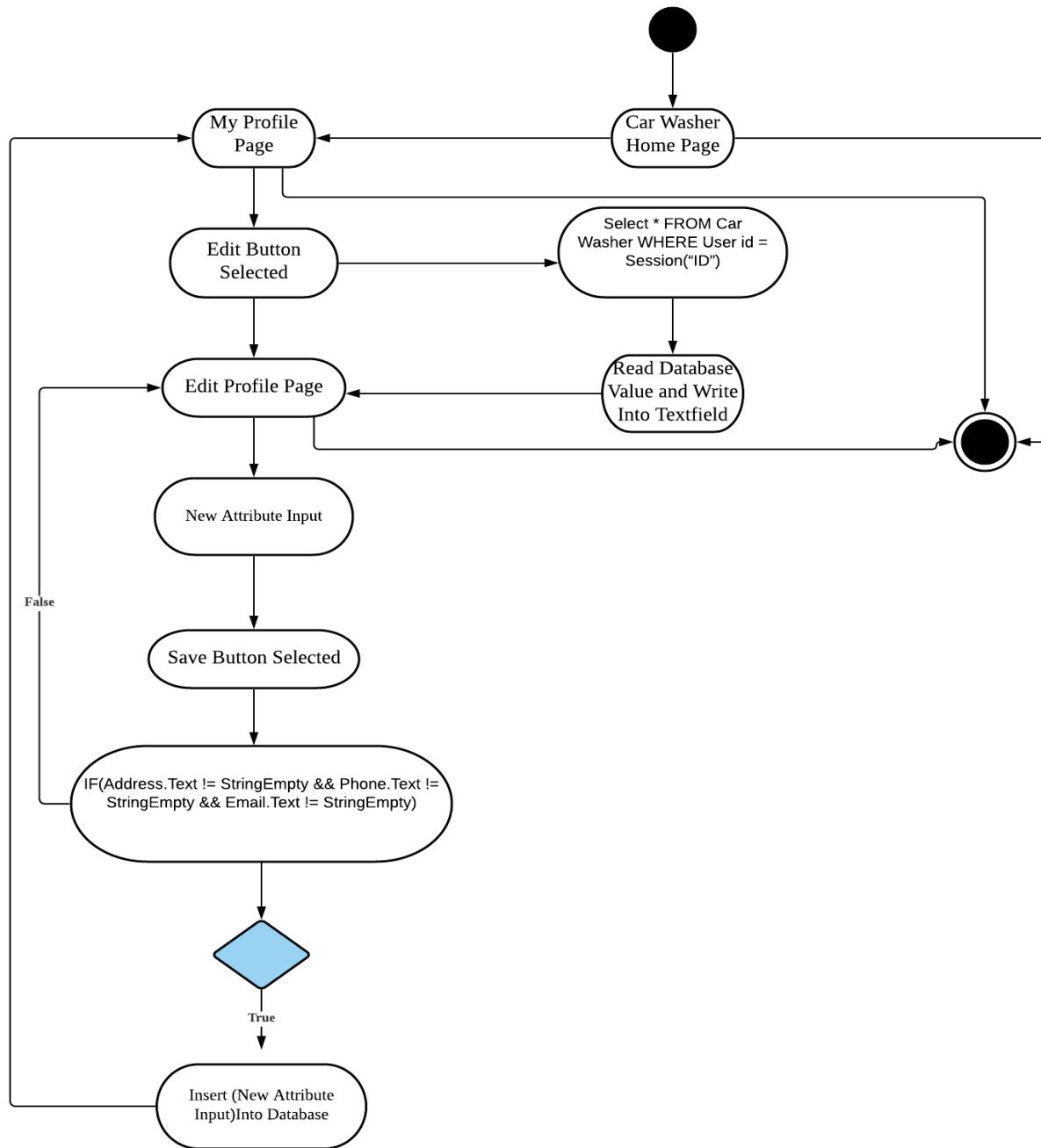


Figure 30

#### 1.1.4 Car Washer - Update Appointment Status

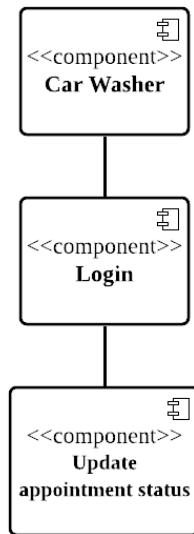


Figure 31

#### Pseudocode:

IF

(Car Washer Completes Client Appointment)

THEN

Set Appointment Status = "Completed"

IF

(Car Washer Not Complete Client Appointment)

THEN

Set Appointment Status = "Pending"

ELSE

Set Appointment status = "Cancelled"

END IF

#### Activity Diagram:

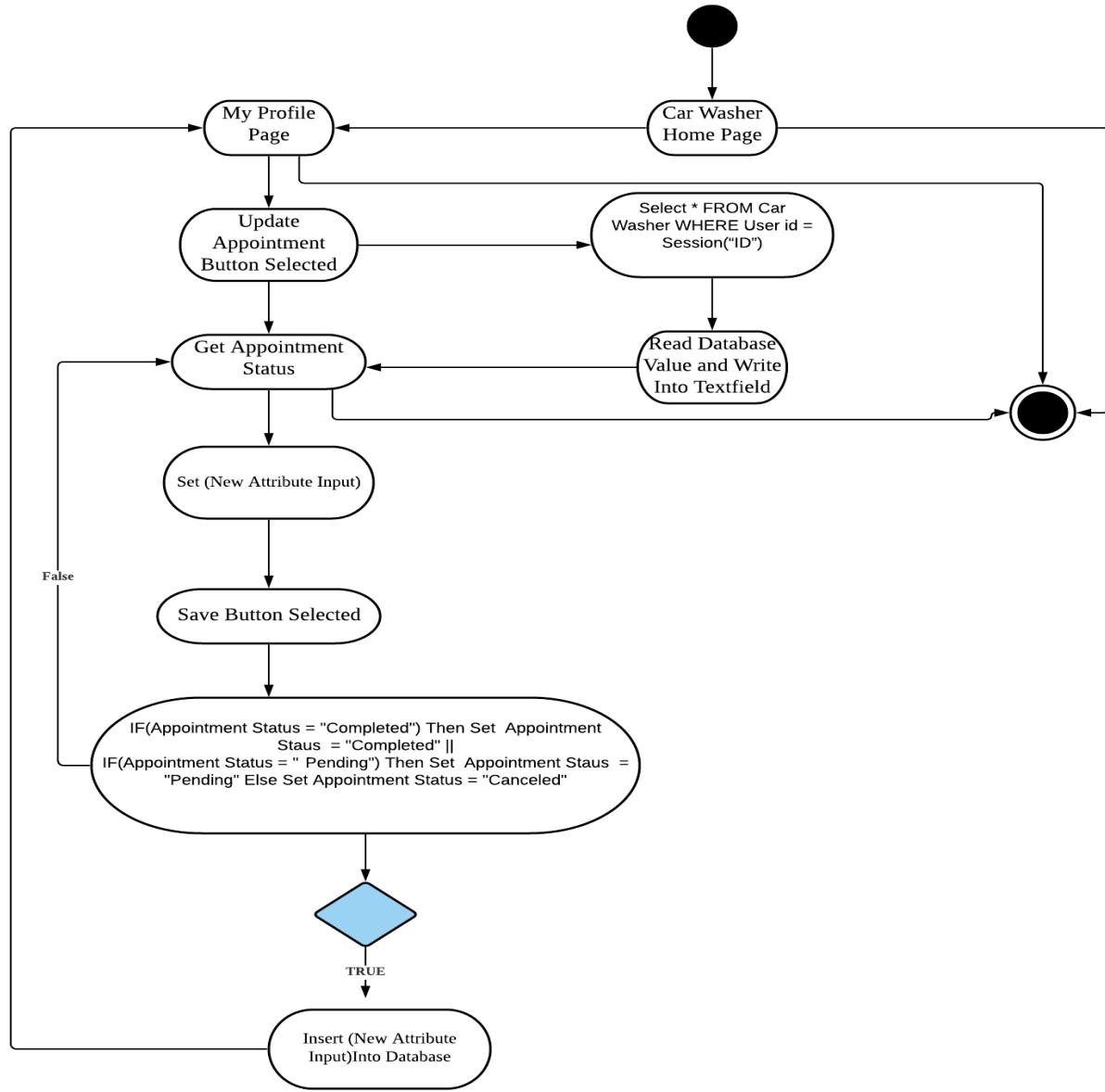


Figure 32

### 1.1.5 Admin - Login

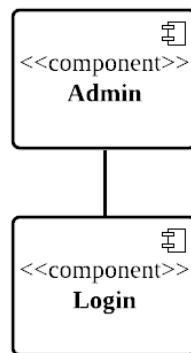


Figure 33

#### Pseudocode:

GET User id  
GET User password

IF

(User id == EnteredUsername && User password == EnteredPassword)

THEN

Login Successful

ELSE

Show error message  
Redirect back to Login form  
Clear Login form

END IF

**Activity Diagram:**

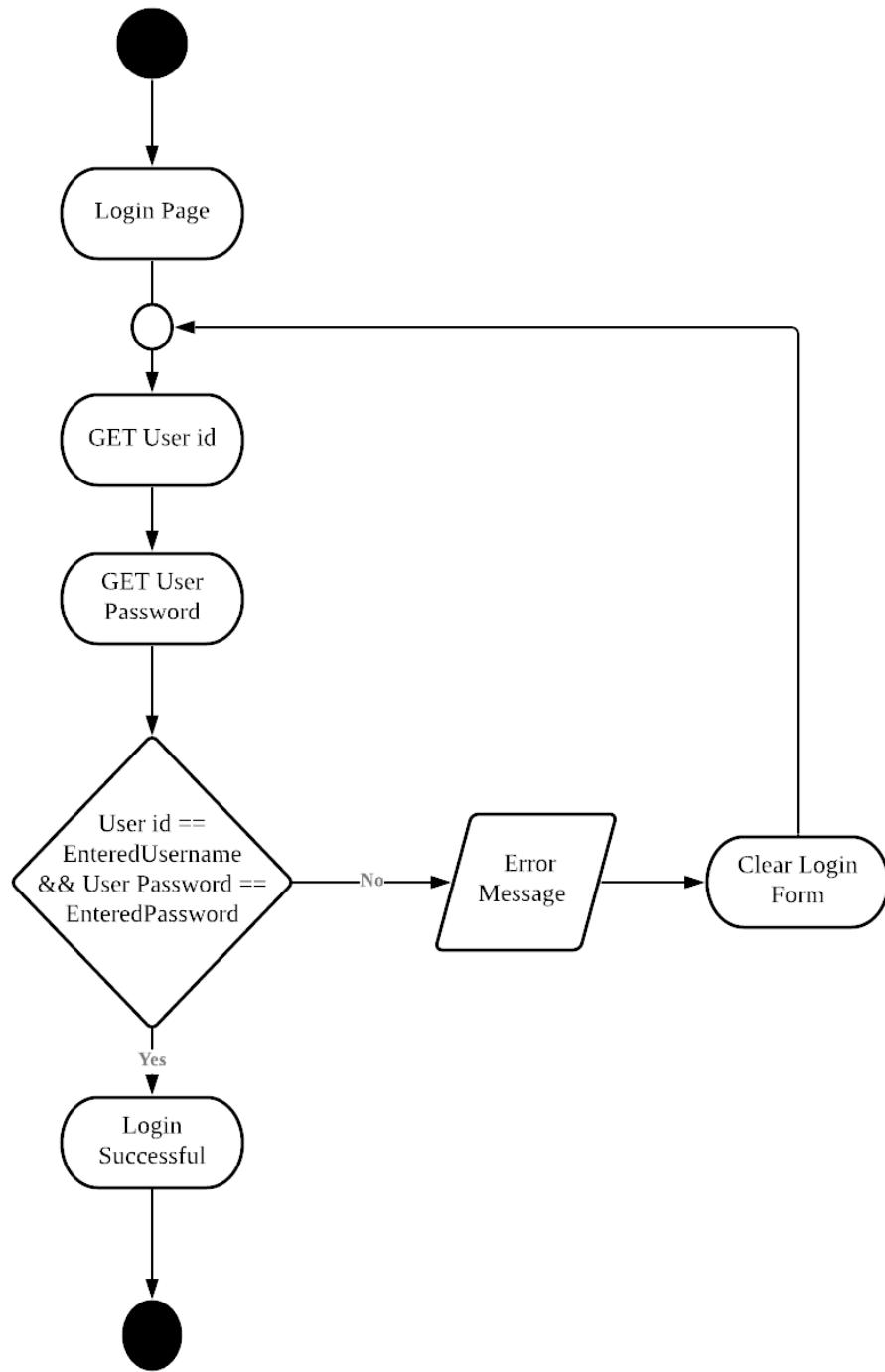


Figure 34

### 1.1.6 Admin - View Car Washer List

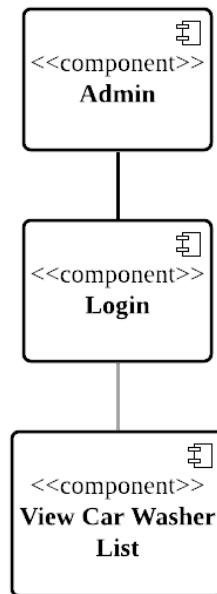


Figure 35

#### Pseudocode:

IF

(View Car Washer Button == true)

THEN

DISPLAY All Car Washer Worker No, Worker\_ID & Worker Name

END IF

## Activity Diagram

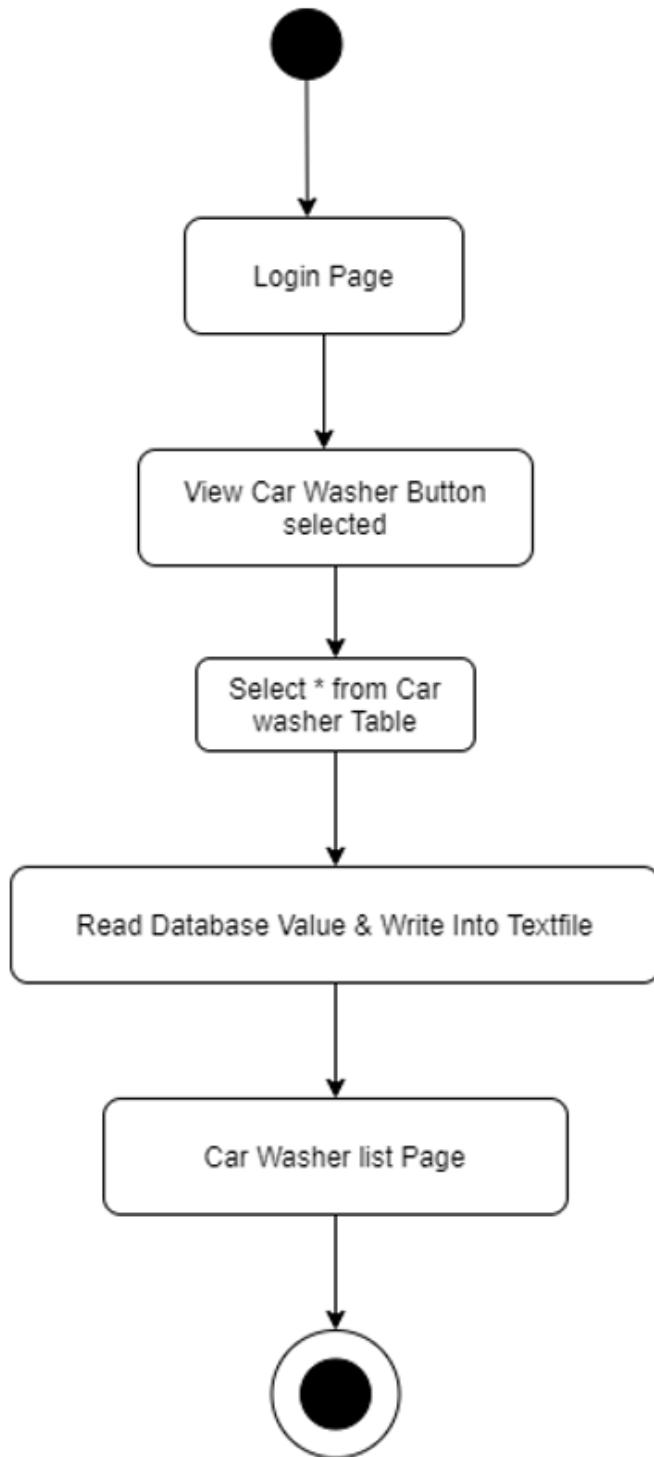


Figure 36

### 1.1.7 Admin - View Car Washer Profile

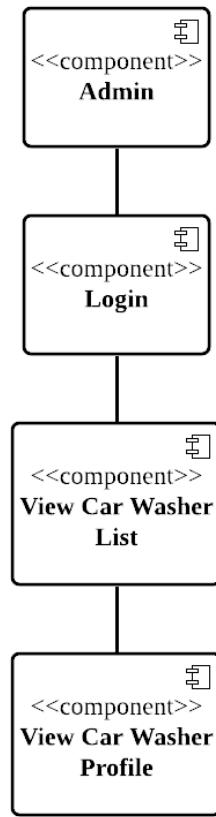


Figure 37

#### Pseudocode:

```
Select * FROM Car Washer WHERE User id = Session("ID")
```

```
Worker_ID.Text = Session("ID")
Worker Name.Text = Worker Name
DOB.Date Format = DOB
Gender.Text = Gender
Address.Text = Address
Phone.Text = Phone
Email.Text = Email
Status.Text = Status
Nationality.Text = Nationality
```

## Activity Diagram

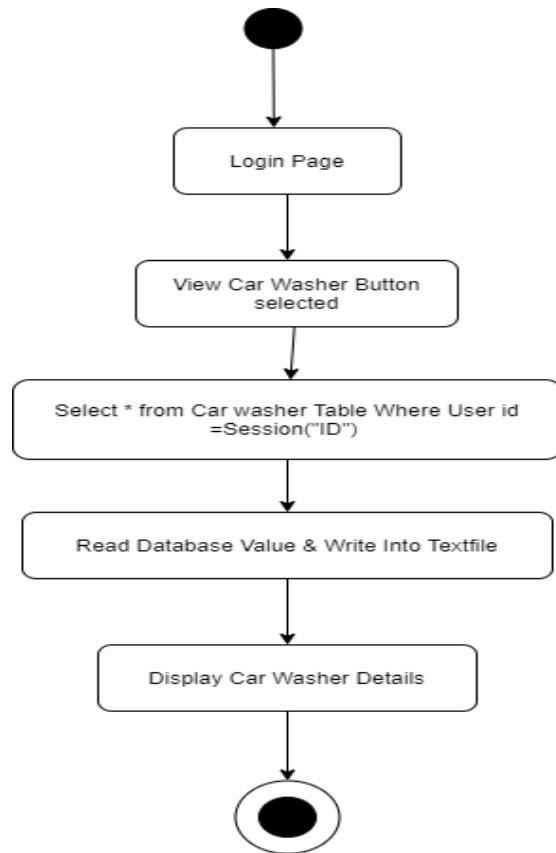


Figure 38

### 1.1.8 Admin - Update Car Washer

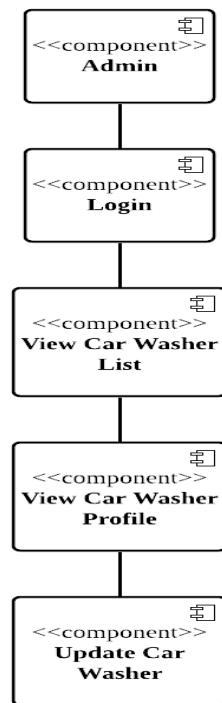


Figure 39

#### Pseudocode:

Select \* FROM Car Washer WHERE User id = Session("ID")

Worker\_ID.Text = Session("ID")  
Worker Name.Text = Worker Name  
DOB.Date Format = DOB  
Gender.Text = Gender  
Address.Text = Address  
Phone.Text = Phone  
Email.Text = Email  
Status.Text = Status  
Nationality.Text = Nationality

Select Save Button

IF

(Address.Text != StringEmpty && Phone.Text != StringEmpty && Email.Text != StringEmpty)

THEN

Update Car Washer Set Address = "Address.Text",

Phone = "Phone.Text"  
Email = "Email.Text"

ELSE

Error Message = "Please Enter Value"

END IF

**Activity Diagram:**

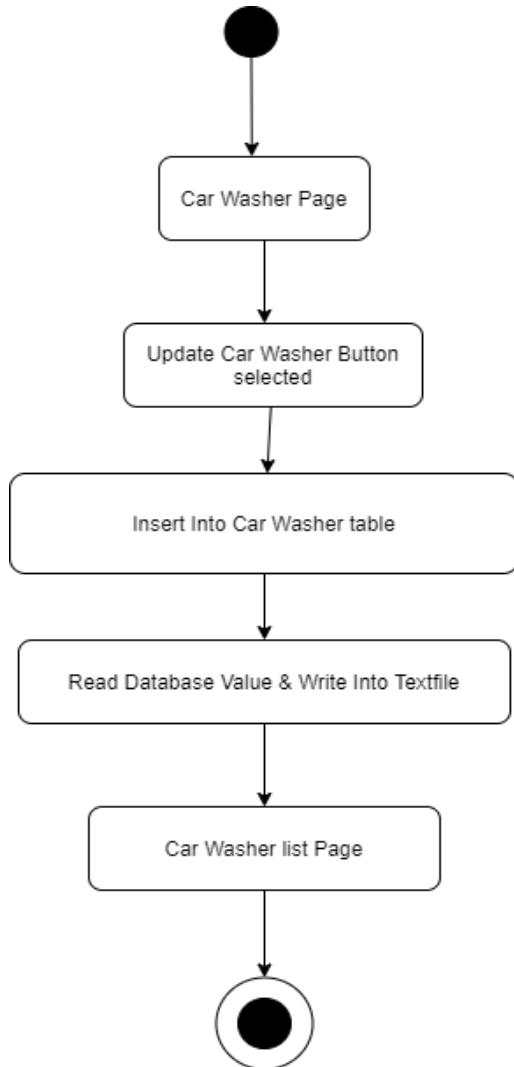


Figure 40

### 1.1.9 Admin - Delete Car Washer



Figure 41

#### Pseudocode:

```
Select * FROM Car Washer WHERE User id = Session("ID")
```

```
Worker_ID.Text = Session("ID")
Worker Name.Text = Worker Name
DOB.Date Format = DOB
Gender.Text = Gender
Address.Text = Address
Phone.Text = Phone
Email.Text = Email
Status.Text = Status
Nationality.Text = Nationality
```

Select Delete Button

DISPLAY "The Car Washer Profile is deleted"

Redirect to Car Washer List Screen

END IF

**Activity Diagram:**

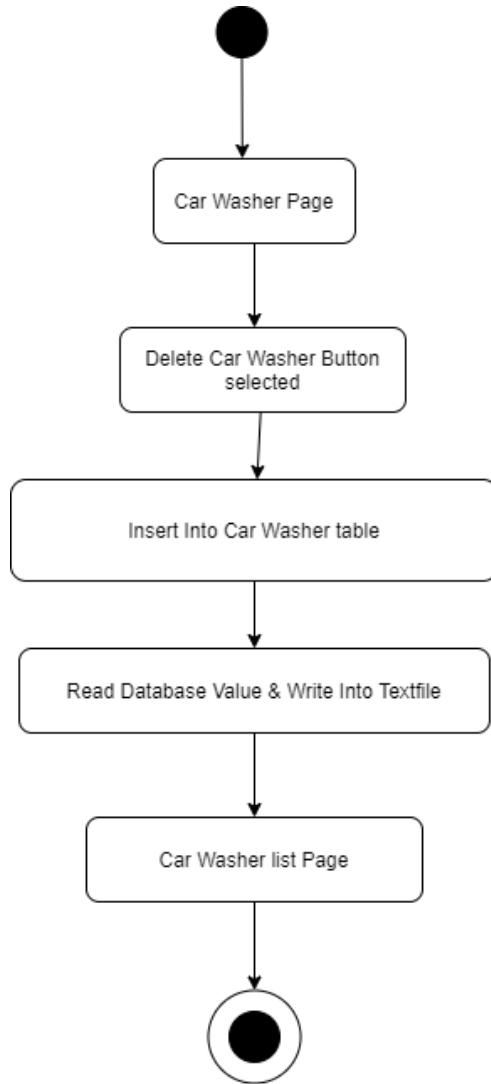


Figure 42

### 1.1.10 Admin - Add Car Washer

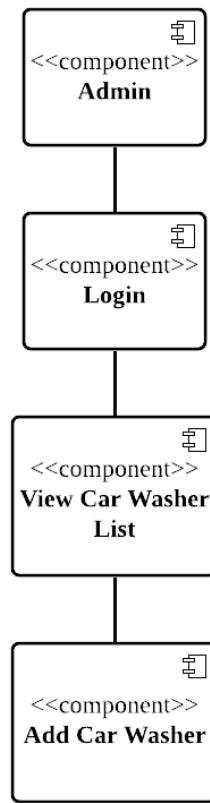


Figure 43

#### Pseudocode:

Select Add Car Washer Button

PROMPT Worker\_ID.Text, Worker Name.Text, DOB.Date/Time, Gender.Text, Address.Text, Phone.Text, Email.Text, Status.Text, Nationality.Text

Select Save Button

IF

(Worker\_ID.Text == StringEmpty && Worker Name.Text == StringEmpty && DOB.Date/Time == StringEmpty && Gender.Text == StringEmpty && Address.Text == StringEmpty && Phone.Text == StringEmpty && Email.Text == StringEmpty && Status.Text == StringEmpty && Nationality.Text == StringEmpty)

THEN

DISPLAY Error Message

END IF

**Activity Diagram:**

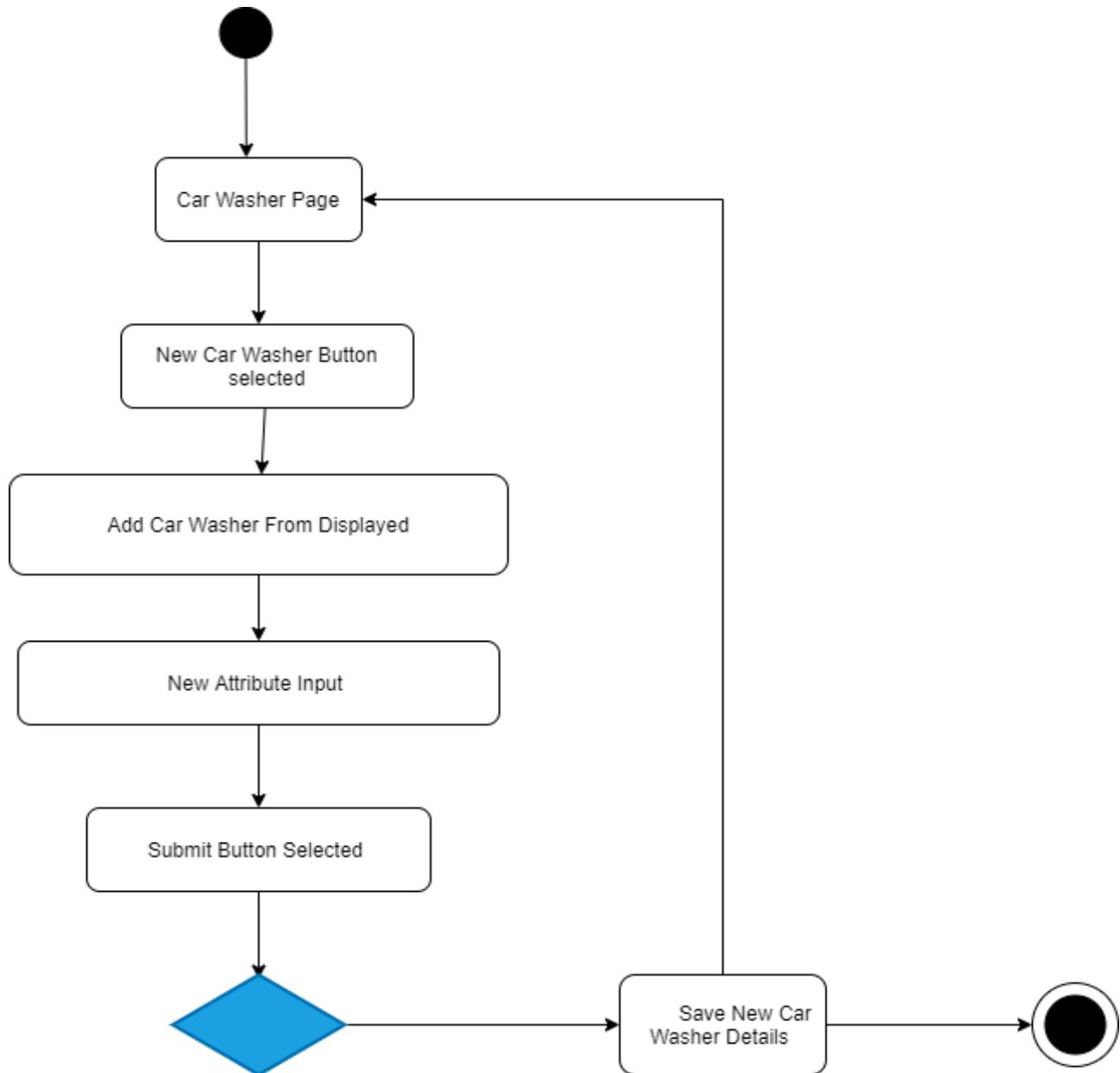


Figure 44

### 1.1.11 Admin - Overview

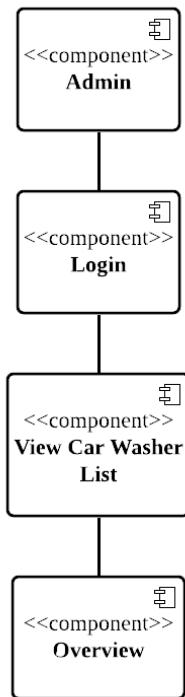


Figure 45

#### Pseudocode:

Select Overview Schedule

DISPLAY Daily Schedule for all Car Washers

**Activity Diagram:**

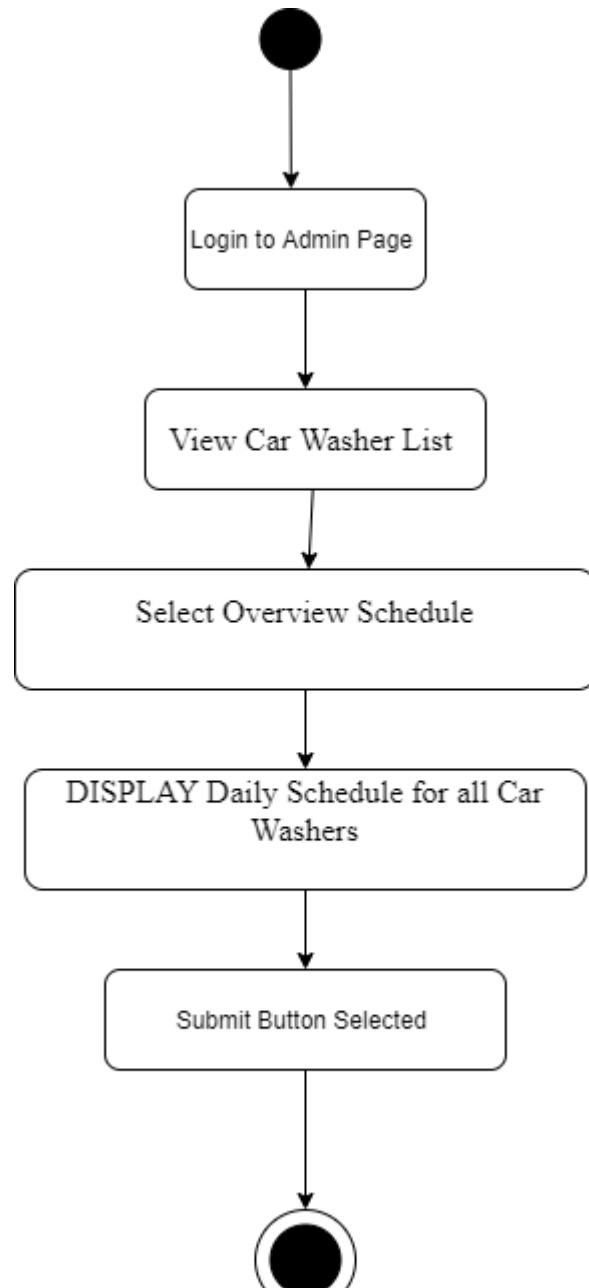


Figure 46

### 1.1.12 User - Register

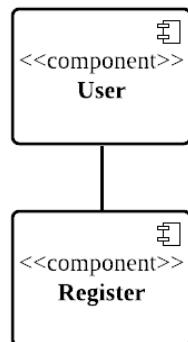


Figure 47

#### Pseudocode:

PROMPT Customer Name.Text, Password.Text, Email.Text, Phone.Text, Customer Address.Text  
value: “Submit”, default state: disabled

IF

(Customer Name.Text == StringEmpty)

THEN

Error Message “Please enter your name.”

ELSE IF

(Password.Text == StringEmpty)

THEN

Error Message “Please enter your password.”

ELSE IF

(Password.Text is not strong)

THEN

Error Message “Password not strong enough”

ELSE IF

(Email.Text == StringEmpty)

THEN

Error Message “Please enter your email.”

ELSE IF

(Email.Text is not valid)

THEN

Error Message “Please enter a valid email address.”

ELSE IF

(Phone.Text == StringEmpty)

THEN

Error Message “Please enter your phone number.”

ELSE IF

(Phone.Text is not a valid number)

THEN

Error Message “Please enter a valid phone number.”

ELSE IF

(Customer Address.Text == StringEmpty)

THEN

Error Message “Please enter your address details.”

IF

Customer Name.Text, Password.Text, Email.Text, Phone.text, Customer Address.Text all contain valid values

enable “Submit”

END IF

**Activity Diagram:**

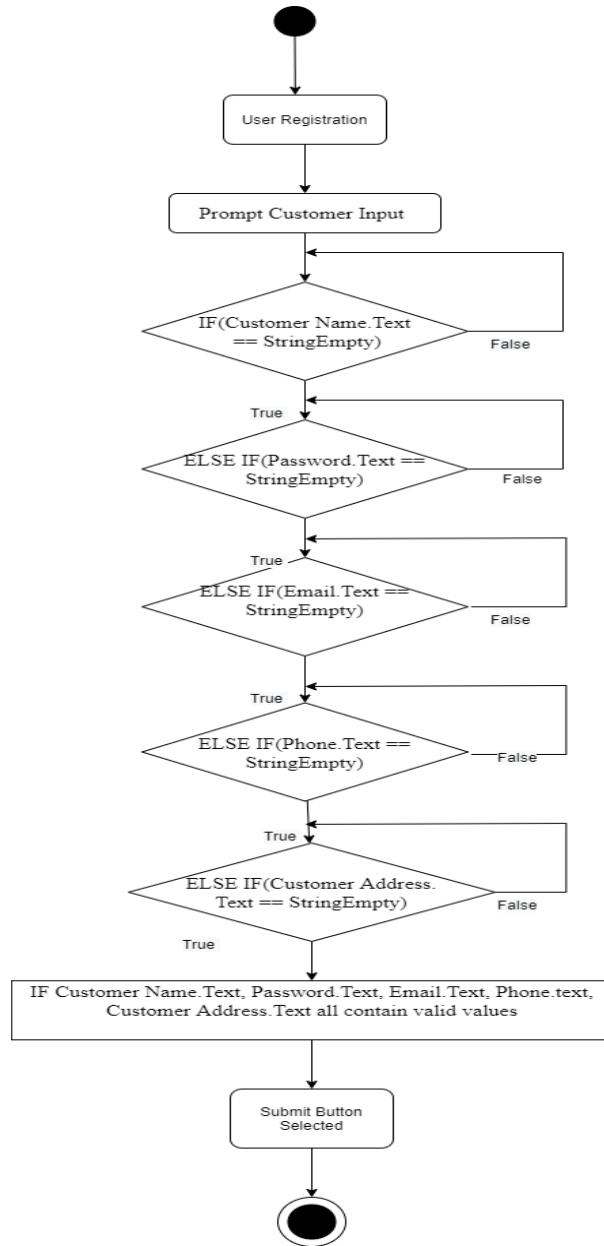


Figure 48

### 1.1.13 User - Choose Subscription Plan

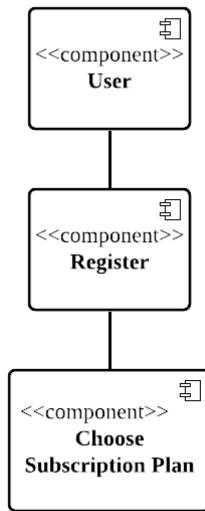


Figure 49

#### Pseudocode:

DISPLAY Plan\_1, Plan\_2 and Plan\_3

PROMPT Customer to choose Subscription Plan

IF

(Customer chooses Plan\_1)

THEN

Set Subscription Plan = Plan\_1

ELSE IF

(Customer chooses Plan\_2)

THEN

Set Subscription Plan = Plan\_2

ELSE IF

(Customer chooses Plan\_3)

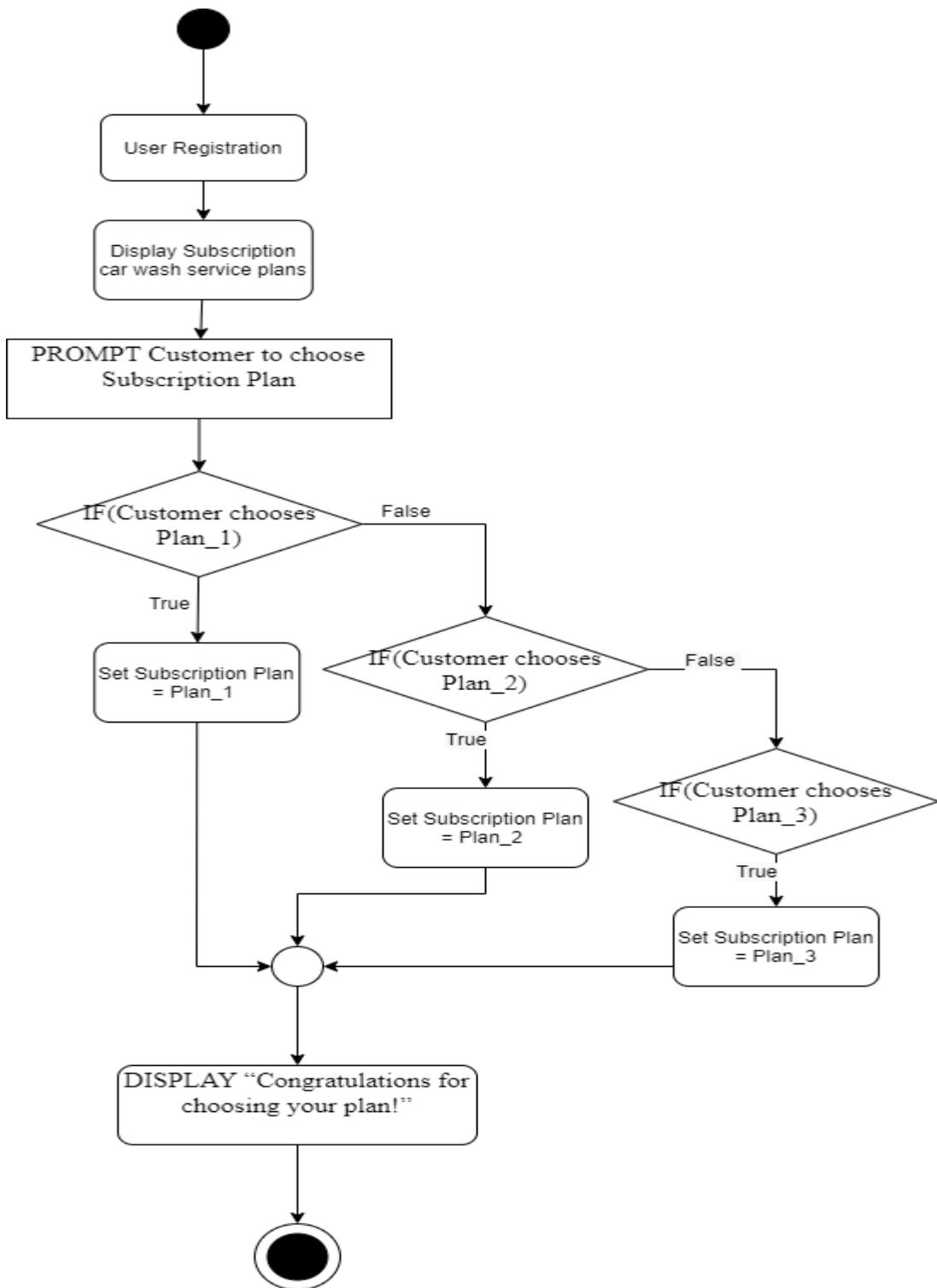
THEN

Set Subscription Plan = Plan\_3

DISPLAY “Congratulations for choosing your plan!”

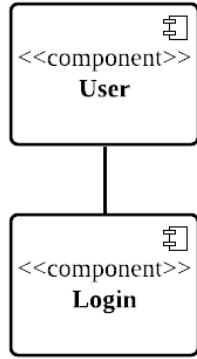
END IF

**Activity Diagram:**



*Figure 50*

### **1.1.14 User - Login**



*Figure 51*

### **Pseudocode:**

GET User id  
GET User password

IF

(User id == EnteredUsername && User password == EnteredPassword)

THEN

Login Successful

ELSE

Show error message  
Redirect back to Login form  
Clear Login form

END IF

### **Activity Diagram:**

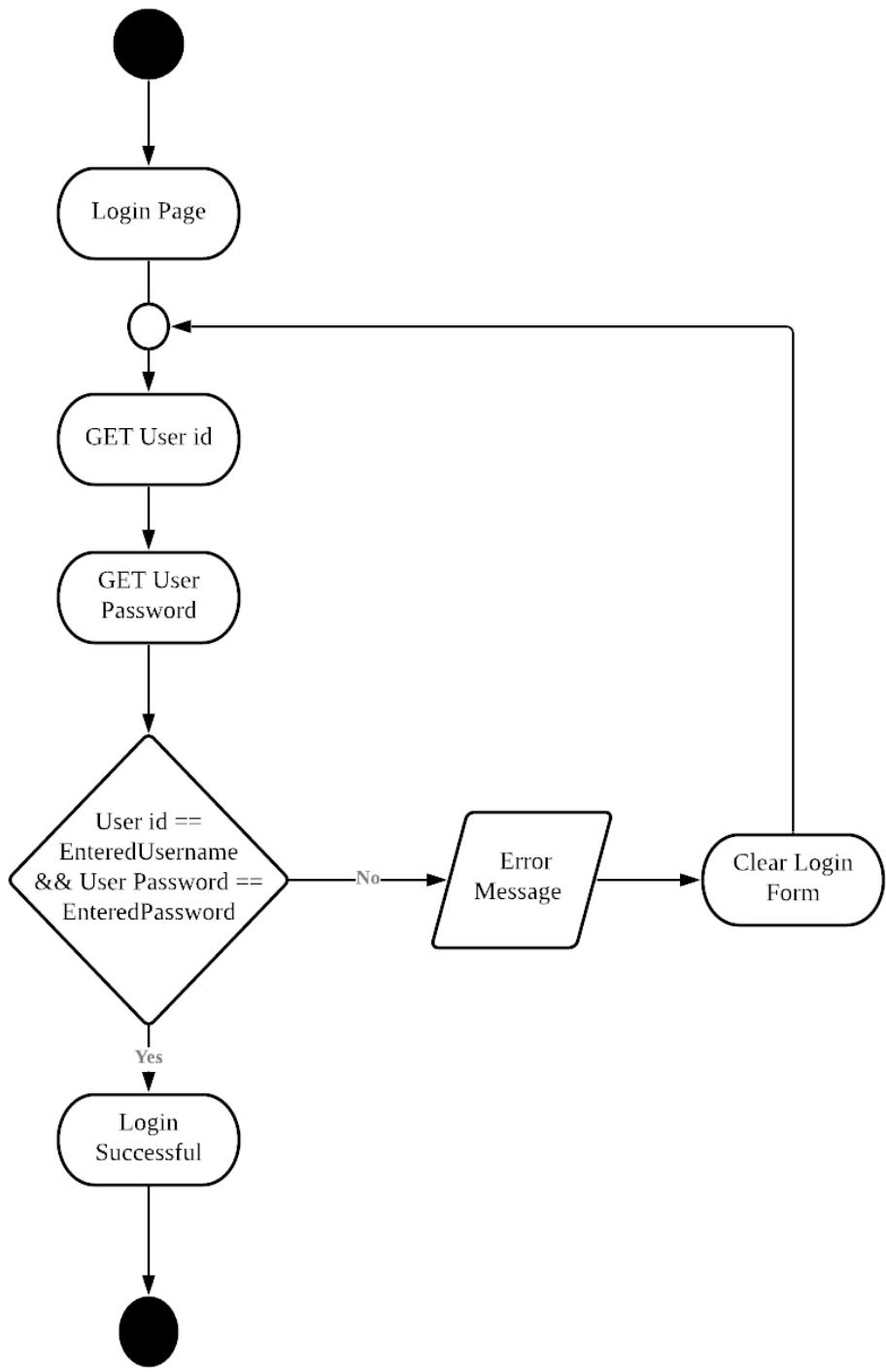
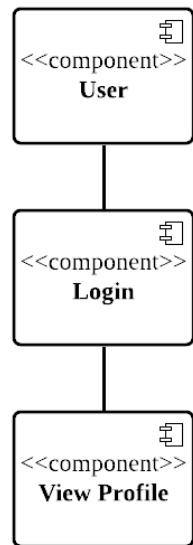


Figure 52

### 1.1.15 User - View Profile



*Figure 53*

**Pseudocode:**

Select \* FROM Customer WHERE User id = Session("ID")

Customer\_ID.Text = Session("ID")  
 Customer Name.Text = Customer Name  
 Customer Address.Text = Customer Address  
 Phone.Text = Phone  
 Email.Text = Email  
 Customer Account Status.Text = Customer Account Status  
 Customer Subscription.Text = Customer Subscription

**Activity Diagram:**

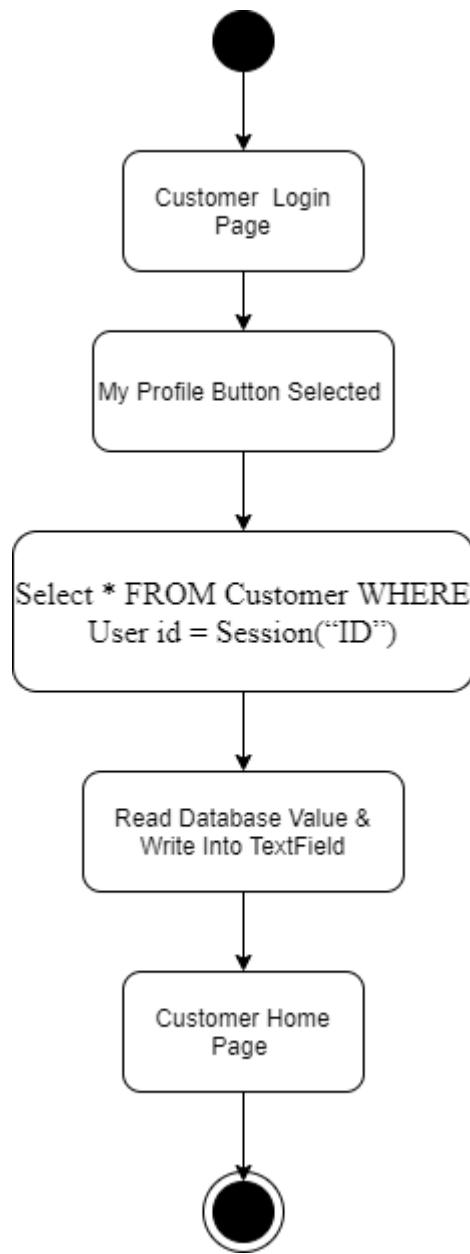
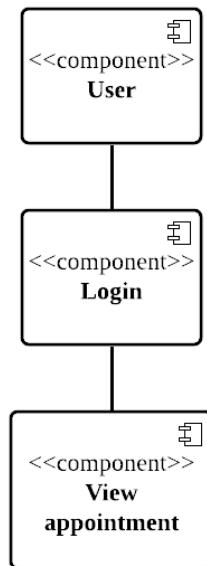


Figure 54

### 1.1.16 User - View Appointment



*Figure 55*

### **Pseudocode:**

Select Click View Appointment

IF

(Appointment == true)

DISPLAY Appointment time, Appointment Details, Appointment Location, Car Washer ID, Car Washer Name, Total Payment;

ELSE

DISPLAY “Sorry you don’t have any pending appointments”

END IF

### **Activity Diagram:**

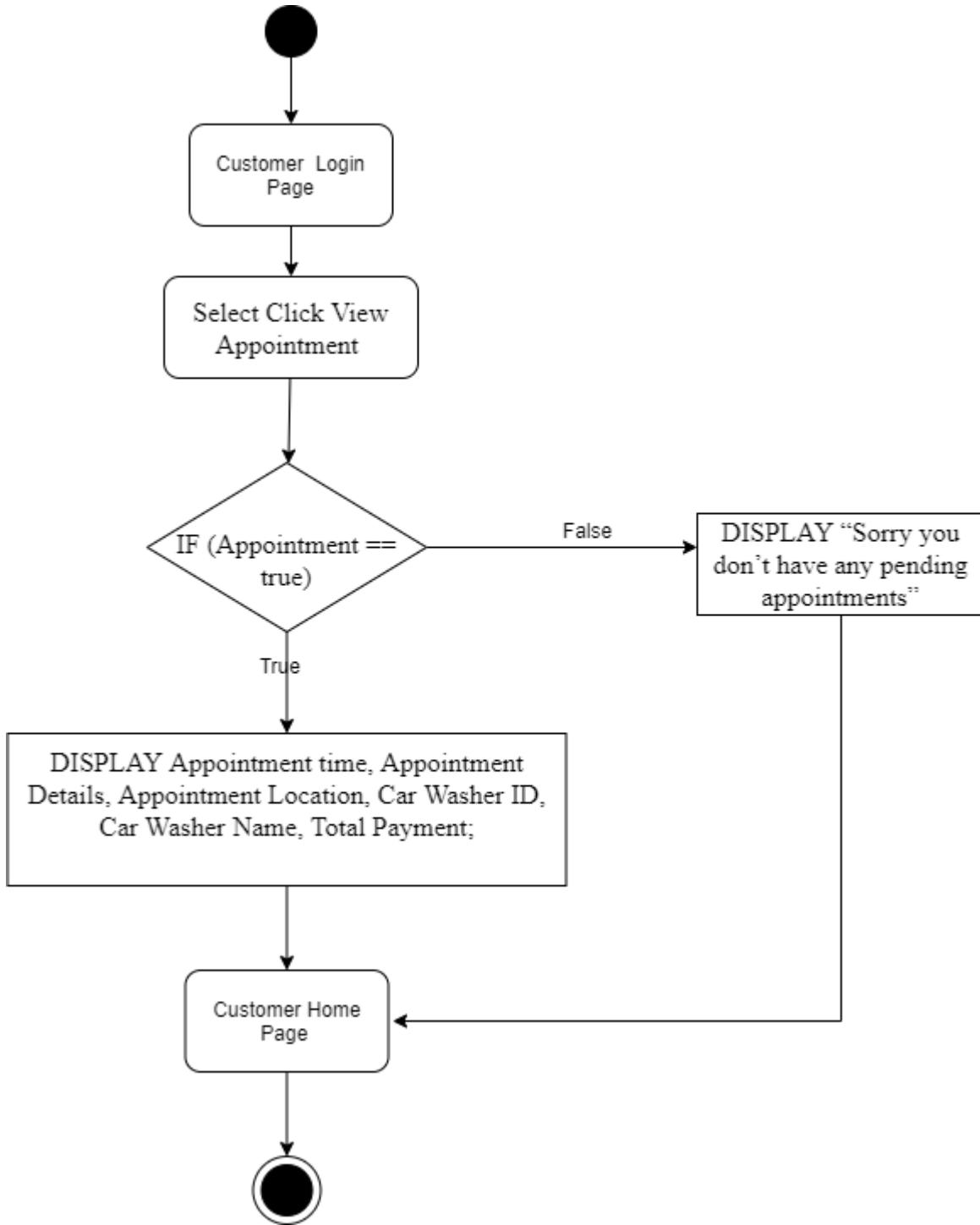


Figure 56

### 1.1.17 User - Update Appointment

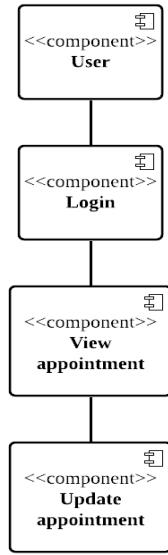


Figure 57

#### Pseudocode:

User Selects Update Appointment button

Redirects to Update Appointment Page

#### Activity Diagram:

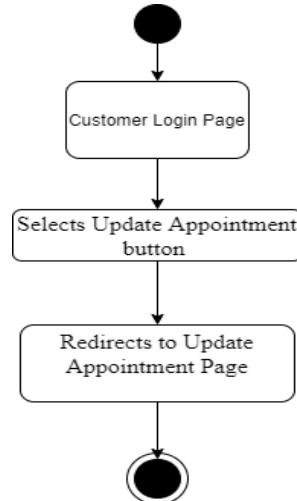


Figure 58

#### 1.1.18 User - Add/Delete Services

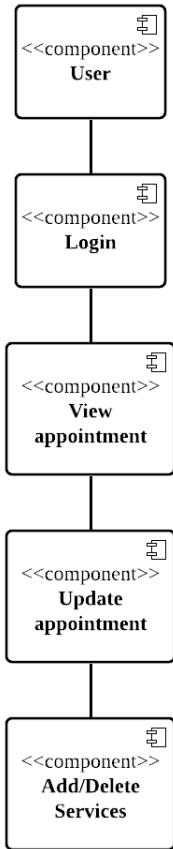


Figure 59

### Pseudocode:

User Selects Update Appointment button  
 Redirects to Update Appointment Page

IF

(Add Services == true)

THEN

PROMPT Customer to choose additional appointment services from a given list

ELSE IF

(Delete Service == true)

PROMPT Customer to choose to delete any additional appointment services chosen previouslyl

Select Save Button

DISPLAY "Changes to your appointment updated successfully."

END IF

**Activity Diagram:**

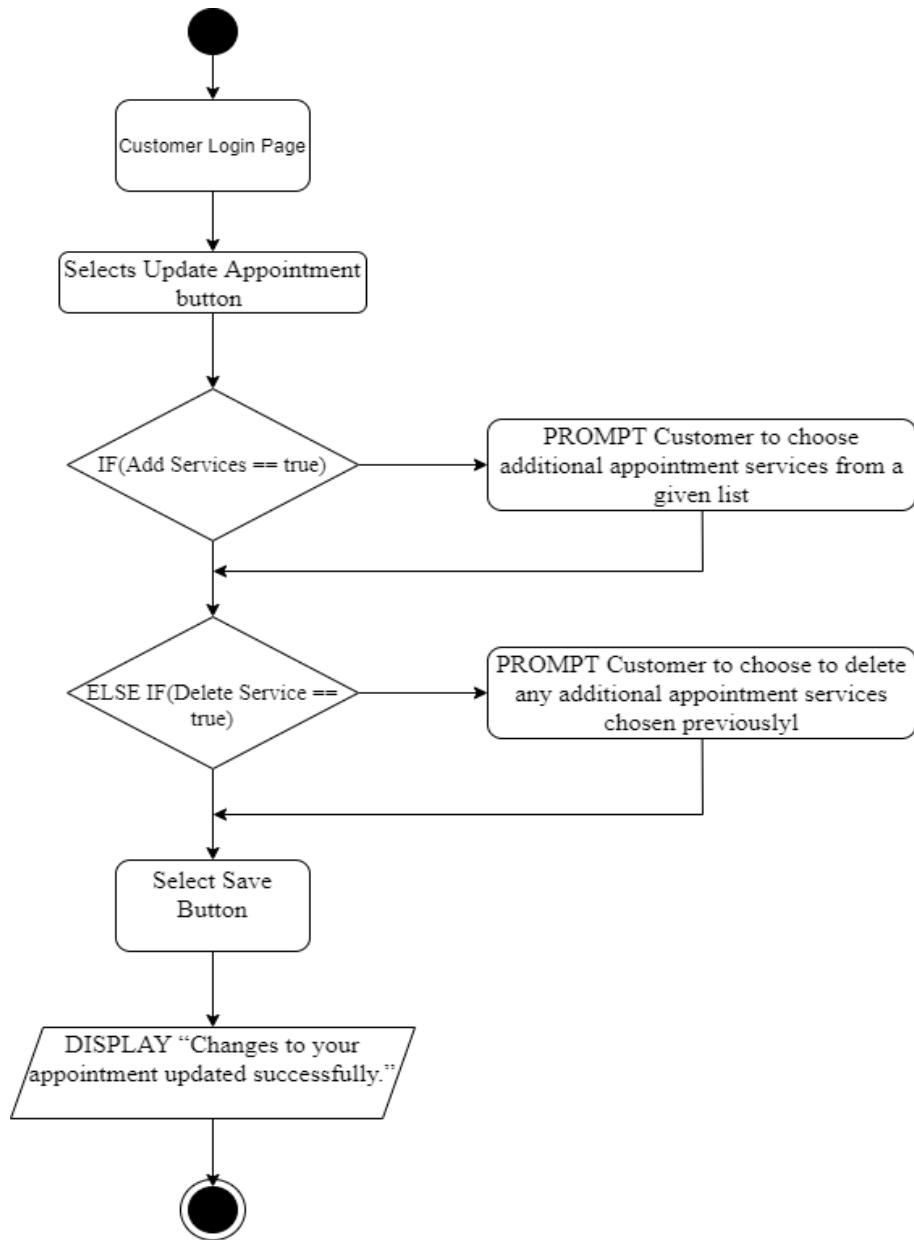


Figure 60

**1.1.19 User - Make Financial Transactions**

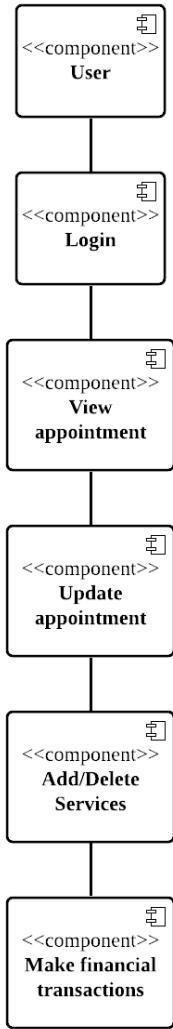


Figure 61

**Pseudocode:**

Select Make financial transactions button.

Customer redirected to Stripe Payment Page

PROMPT Customer Email, Customer card Information, Customer Name and Country

Select Pay Button

DISPLAY “Transaction Successful”

**Activity Diagram:**

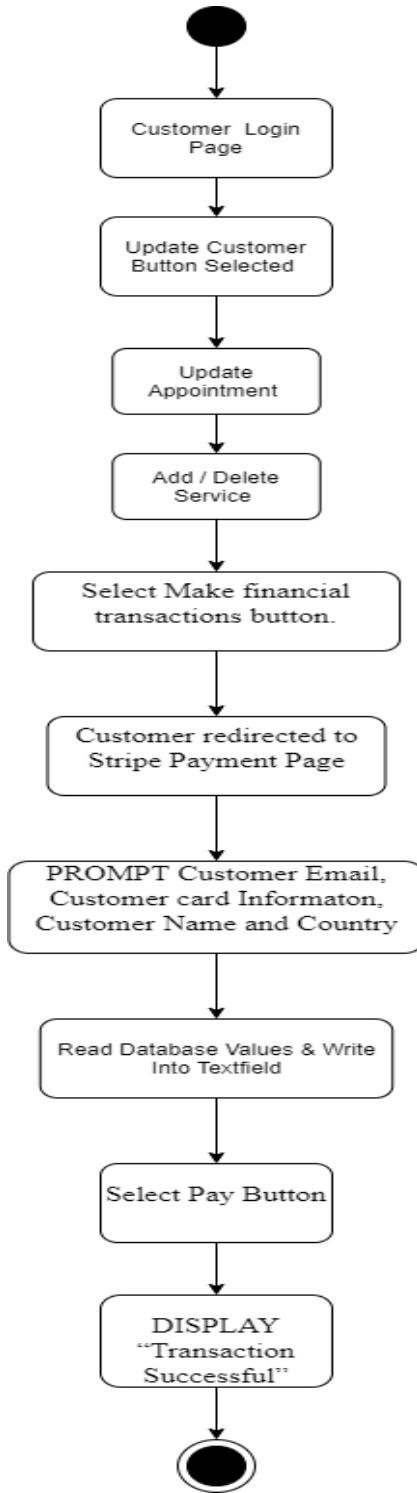


Figure 62

### 1.1.20 User - View Payment Receipts

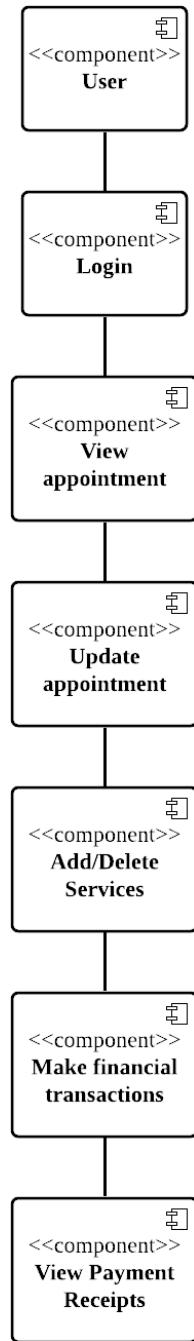


Figure 6

#### Pseudocode:

Select View Payment Receipt Button

DISPLAY Customer Name, Benefactor Name, Benefactor's A/C No, Date and Time of Transaction, Receipt Number

END IF

**Activity Diagram:**

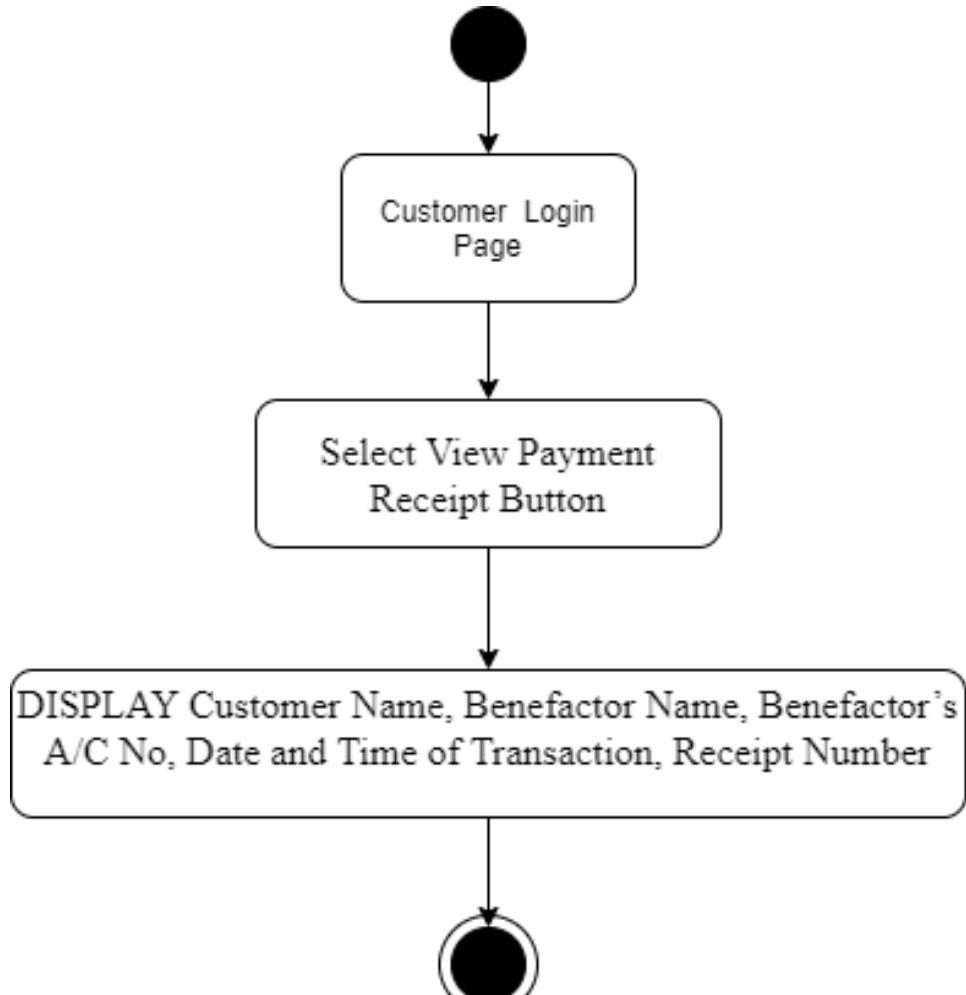


Figure 64

### 1.1.21 User - View Appointment History

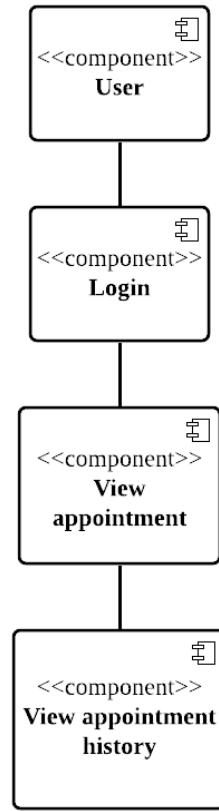


Figure 65

#### Pseudocode:

Select Button View Appointment History

IF

(Previous Booked Appointments == true)

THEN

DISPLAY Previous Appointment

ELSE

DISPLAY "You haven't made any appointments yet."

END IF

**Activity Diagram:**

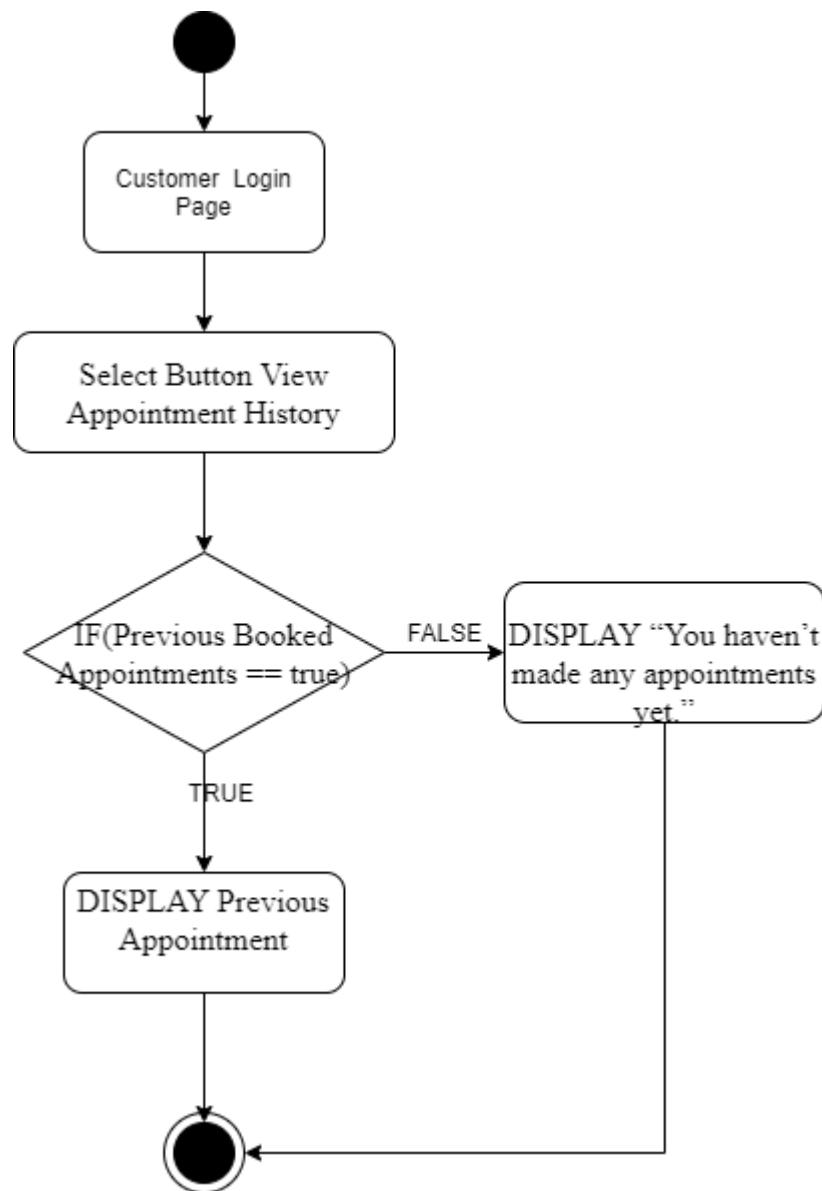
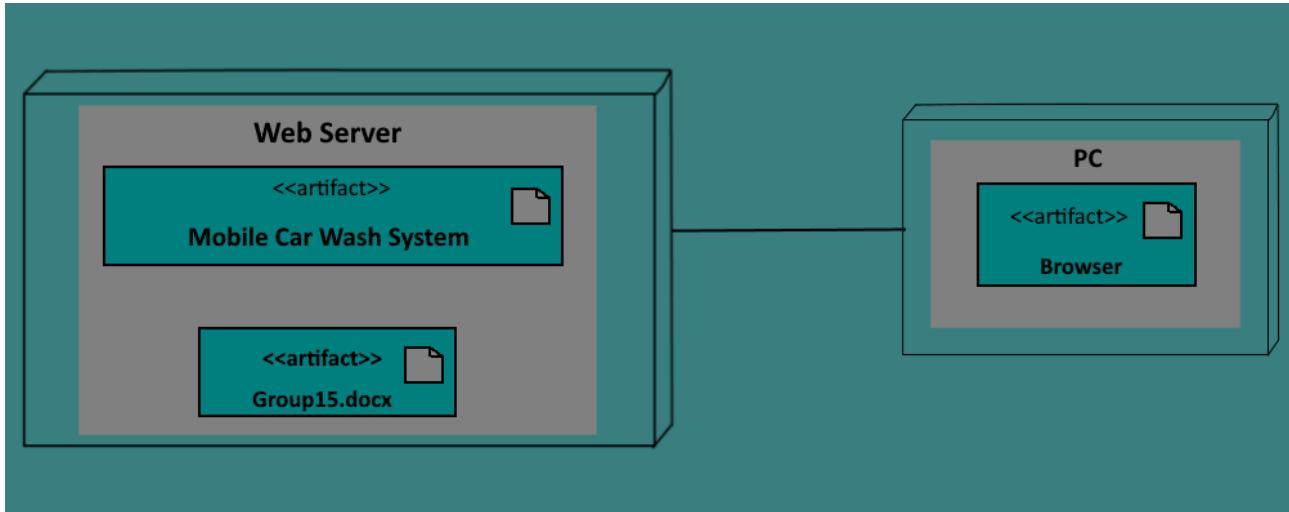


Figure 66

# 11 Deployment Design

## 11.1 Deployment Diagram



## 12 Test Data

### Black Box Testing

#### 12.1 Test Case 1

Test Case ID: TC1

Test Case Name: Test Case for Car Washer Screen

No	Actions	Expected Output	Actual Output	Pass/Fail	Remarks
<b>Car Washer Screen</b>					
1	Car Washer login	Login to Car Washer Screen	Login to Car Washer Screen	Pass	
2	View Profile	Show profile of the car washer	Show profile of the car washer	Pass	
3	Update Appointment	Add appointment	Add appointment	Pass	

## 12.2 Test Case 2

Test Case ID: TC2

Test Case Name: Test Case for Admin Screen

No	Actions	Expected Output	Actual Output	Pass/Fail	Remarks
<b>Admin Screen</b>					
1	Admin login	Login to Admin Screen	Login to Admin Screen	Pass	
2	View Employee List	Show the employee list	Show the employee list	Pass	
3	Manage Car Washer	View, add, update and delete car washer	View car washer	Fail	Since we did not implement database into the website, the admin can only view the car washer but unable to add, update and delete car washer
4	Overview Schedule	Show schedule	Show schedule	Pass	

## 12.1 Test Case 3

Test Case ID: TC3

Test Case Name: Test Case for Customer Screen

No	Actions	Expected Output	Actual Output	Pass/Fail	Remarks
<b>Customer Screen</b>					
1	Customer login	Login to Customer Screen	Login to Customer Screen	Pass	
2	View Profile	Show profile of the car washer	Show profile of the car washer	Pass	
3	View Plan	Show subscription plan	Show subscription plan	Pass	

### 12.3 Test Case 4

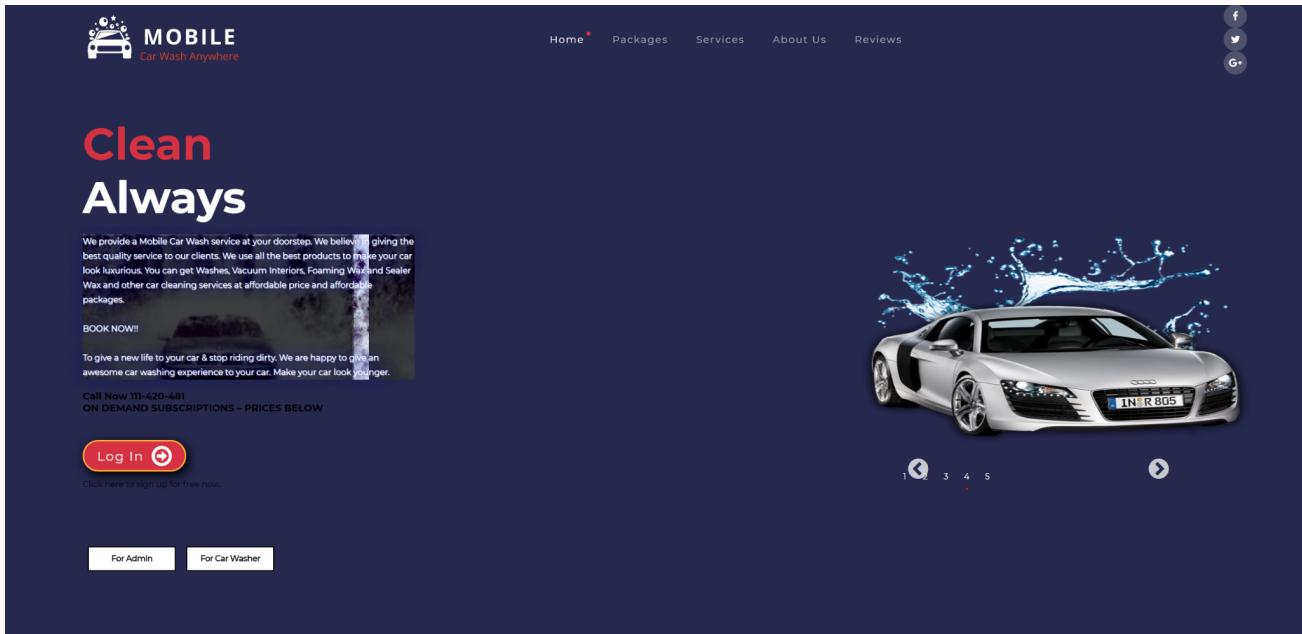
Test Case ID: TC4

Test Case Name: Test Case for Main Screen

No	Actions	Expected Output	Actual Output	Pass/ Fail	Remarks
<b>Main Screen</b>					
1	View Home Page	Show home page	Show home page	Pass	
2	View and Select in Packages Page	Show and select Packages	Show and select Packages	Pass	Stripe has been implemented into the packages
3	View Services Page	Show services page	Show services page	Pass	
4	View About Us Page	Show about us page	Show about us page	Pass	
5	View Review Page	Show review page	Show reviewpage	Pass	

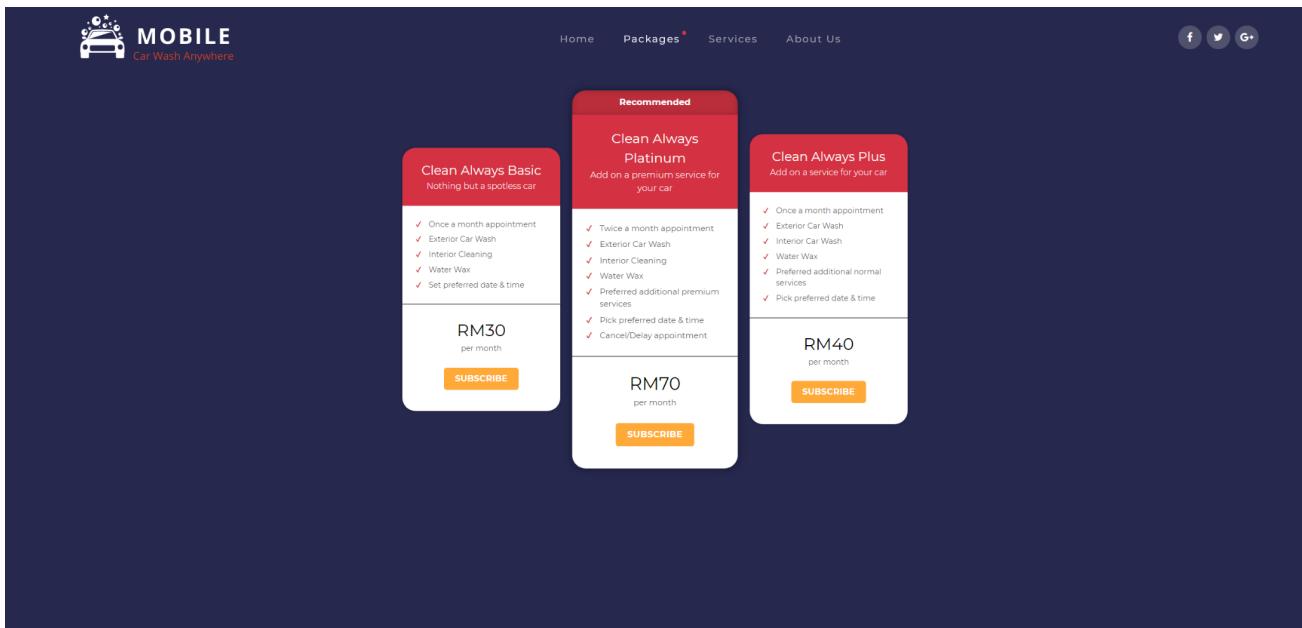
# 13 Sample Screen

## 13.1.1 Main Screen



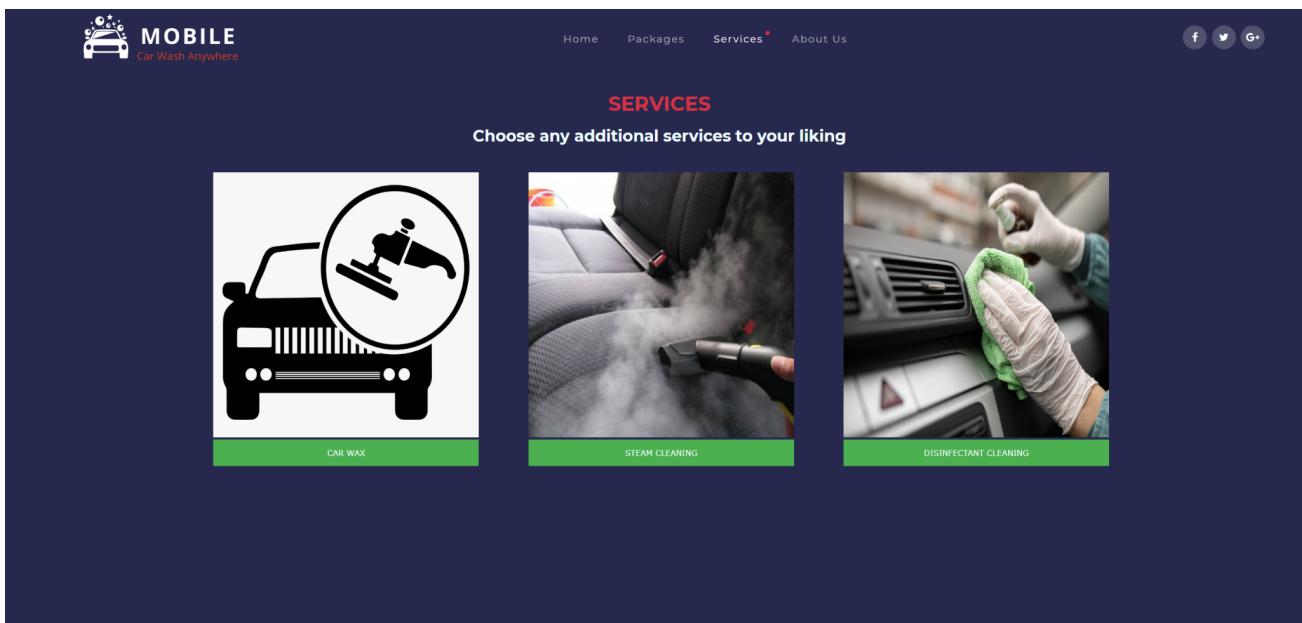
The screenshot shows the homepage of a mobile car wash service. At the top left is the logo 'MOBILE Car Wash Anywhere' with a car icon. The top right features social media links for Facebook, Twitter, and Google+. The main heading 'Clean Always' is displayed prominently in large red and white text. Below it is a sub-headline: 'We provide a Mobile Car Wash service at your doorstep. We believe in giving the best quality service to our clients. We use all the best products to make your car look luxurious. You can get Washes, Vacuum Interiors, Foaming Wax and Sealer Wax and other car cleaning services at affordable price and affordable packages.' A 'BOOK NOW!' button is visible. To the right is a photograph of a silver Audi R8 sports car with water splashing around it. On the left side, there's a section for 'ON DEMAND SUBSCRIPTIONS – PRICES BELOW' with a 'Log In' button and a 'Click here to sign up for free now.' link. At the bottom left are two buttons: 'For Admin' and 'For Car Washer'. The footer contains a navigation bar with 'Home', 'Packages', 'Services', and 'About Us'.

## 13.1.2 Packages screen



This screenshot shows the 'Packages' screen of the website. The top navigation bar includes 'Home', 'Packages', 'Services', and 'About Us', along with social media icons. The main content area is divided into three sections: 'Clean Always Basic' (Nothing but a spotless car), 'Recommended' (Clean Always Platinum), and 'Clean Always Plus' (Add on a service for your car). Each section lists its features and price per month, with a 'SUBSCRIBE' button at the bottom. The 'Clean Always Basic' package costs RM30 per month and includes services like Once a month appointment, Exterior Car Wash, Interior Cleaning, Water Wax, and Set preferred date & time. The 'Clean Always Platinum' package costs RM70 per month and adds services like Twice a month appointment, Preferred additional premium services, Pick preferred date & time, and Cancel/Delay appointment. The 'Clean Always Plus' package costs RM40 per month and adds services like Exterior Car Wash, Interior Car Wash, Water Wax, Preferred additional normal services, and Pick preferred date & time.

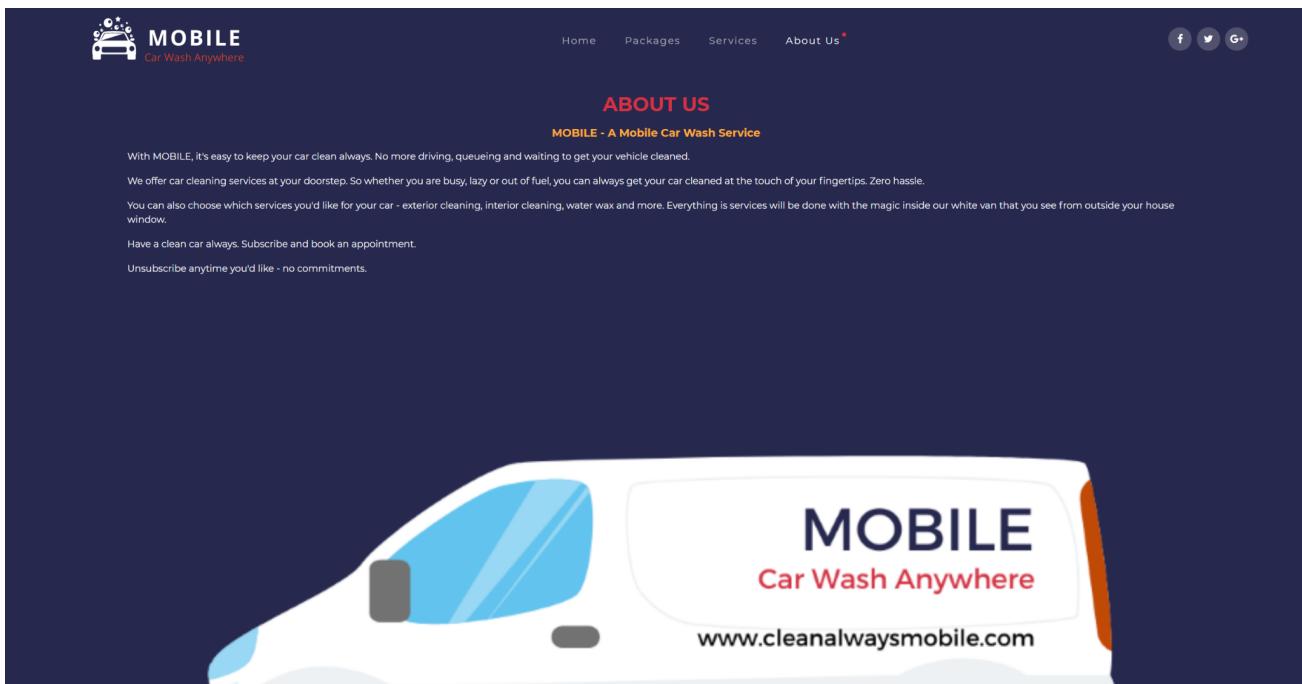
### 13.1.3 Services screen



The screenshot shows the 'SERVICES' section of the website. At the top, there's a navigation bar with links for Home, Packages, Services\*, and About Us. Below the navigation is a heading 'SERVICES' and a sub-instruction 'Choose any additional services to your liking'. There are three service options displayed in a grid:

- CAR WAX**: An icon of a car with a hand holding a squeegee.
- STEAM CLEANING**: An image showing a steam cleaner being used on a car seat.
- DISINFECTANT CLEANING**: An image showing a gloved hand wiping down a car's interior air vent with a cloth.

### 13.1.4 About Us screen

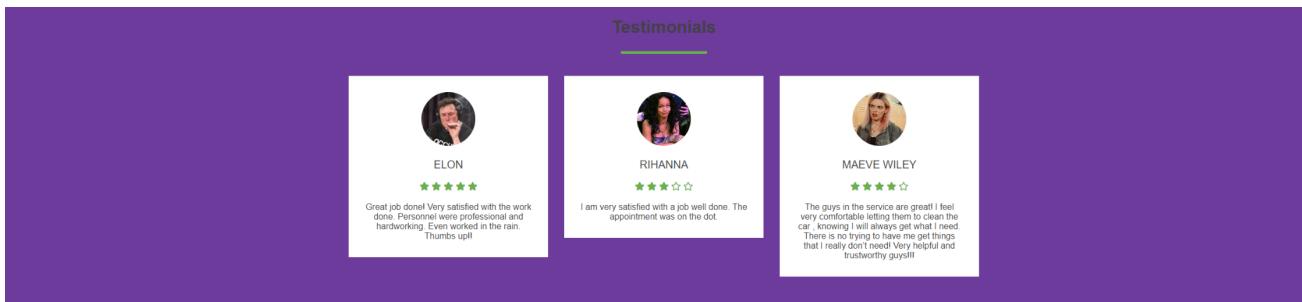


The screenshot shows the 'ABOUT US' section of the website. At the top, there's a navigation bar with links for Home, Packages, Services, and About Us\*. Below the navigation is a heading 'ABOUT US' and a sub-instruction 'MOBILE - A Mobile Car Wash Service'. The page contains several paragraphs of text describing the service, including:

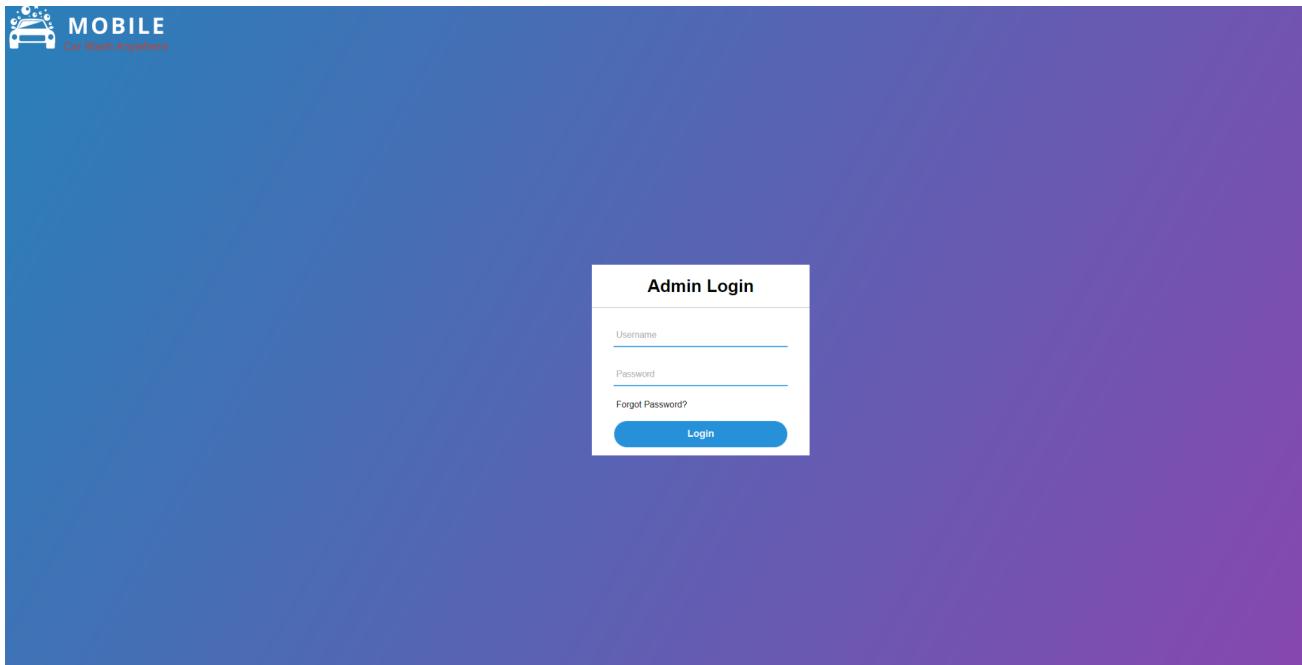
With MOBILE, it's easy to keep your car clean always. No more driving, queueing and waiting to get your vehicle cleaned.  
We offer car cleaning services at your doorstep. So whether you are busy, lazy or out of fuel, you can always get your car cleaned at the touch of your fingertips. Zero hassle.  
You can also choose which services you'd like for your car - exterior cleaning, interior cleaning, water wax and more. Everything is services will be done with the magic inside our white van that you see from outside your house window.  
Have a clean car always. Subscribe and book an appointment.  
Unsubscribe anytime you'd like - no commitments.

At the bottom of the page, there's a graphic of a white van with blue and orange accents. The van has the 'MOBILE Car Wash Anywhere' logo and the website address 'www.cleanalwaysmobile.com' displayed on its side.

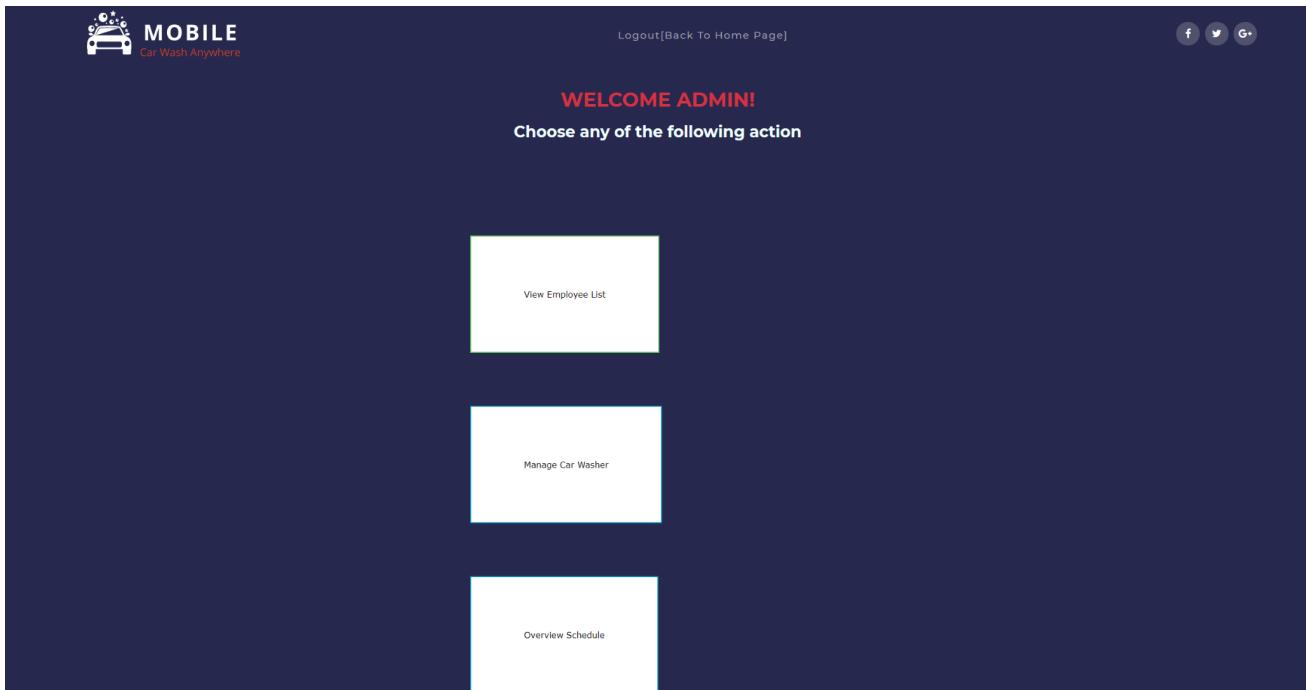
### 13.1.5 Review Screen



### 13.2.1 Admin Login Screen



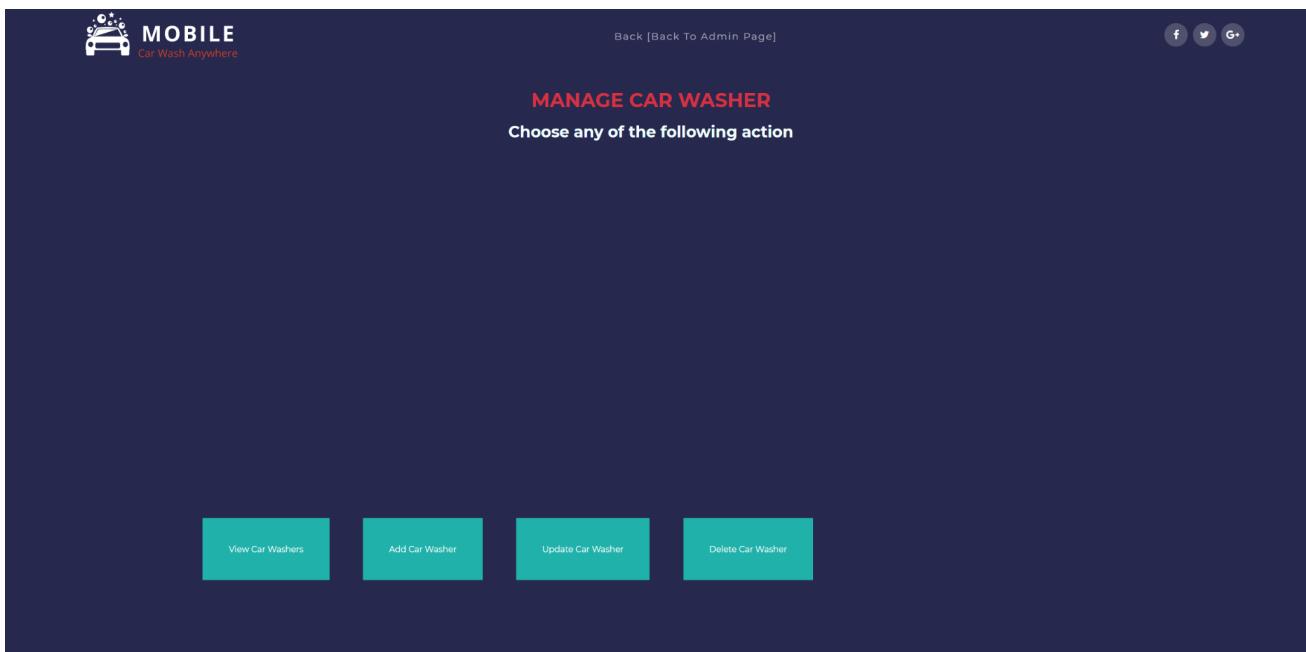
### 13.2.2 Admin Admin Screen



### 13.2.3 Admin View Employee List Screen

NAME	POSITION	CONTACT	E-MAIL ADDRESS
Roy	Secretary	+60123456789	roy@gmail.com
John	Treasurer	+60134567890	john@gmail.com
Jake	IT	+60145678901	jake@gmail.com
Yoga Shri	Car Washer	+60156789012	1911010796@student.mmu.edu.my
John	Car Washer	+60167890123	john@gmail.com
Willie	Car Washer	+60178901234	willie@gmail.com

### 13.2.4 Admin Manage Car Washer Screen



The screenshot shows the 'Manage Car Washer' section of the mobile application. At the top left is the 'MOBILE Car Wash Anywhere' logo. In the top right corner are social media sharing icons for Facebook, Twitter, and Google+. The center header reads 'MANAGE CAR WASHER' in red, with the sub-instruction 'Choose any of the following action' below it. Four teal-colored rectangular buttons are arranged horizontally at the bottom: 'View Car Washers', 'Add Car Washer', 'Update Car Washer', and 'Delete Car Washer'.

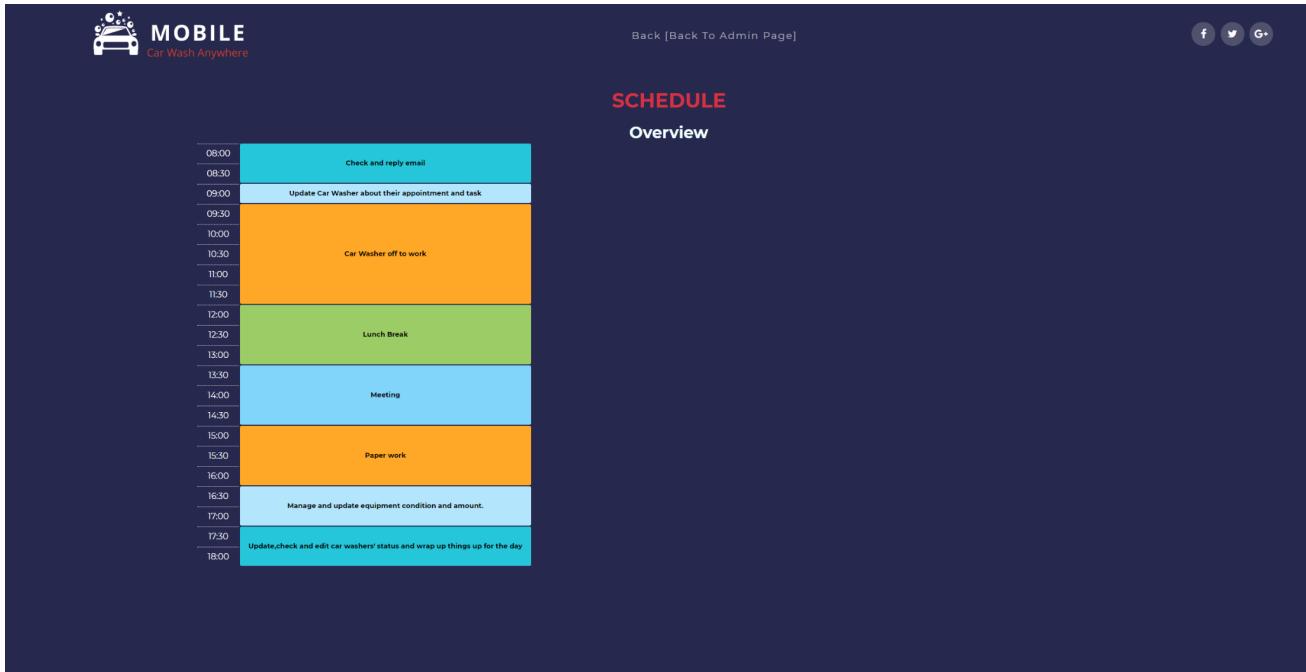
### 13.2.5 Admin View Car Washer Screen



The screenshot shows the 'View Car Washer' section of the mobile application. At the top left is the 'MOBILE Car Wash Anywhere' logo. In the top right corner are social media sharing icons for Facebook, Twitter, and Google+. The center header reads 'VIEW CAR WASHER' in red, followed by 'Car Washer List'. Below this is a table with the following data:

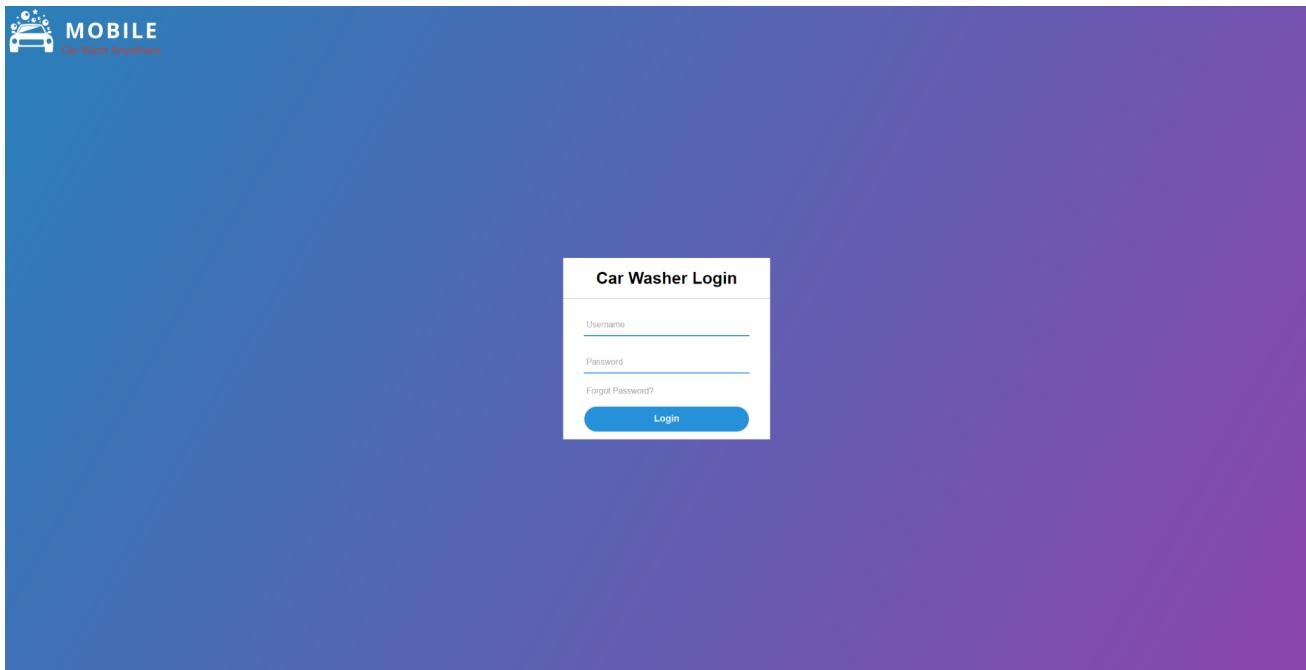
NAME	POSITION	CONTACT	E-MAIL ADDRESS	STATUS
Yoga Shri	Car Washer	+60156789012	1911007956@student.mmu.my	ACTIVE
John	Car Washer	+60167890123	john@gmail.com	ACTIVE
Willie	Car Washer	+60178901234	willie@gmail.com	ACTIVE

### 13.2.6 Admin View Overview Schedule Screen



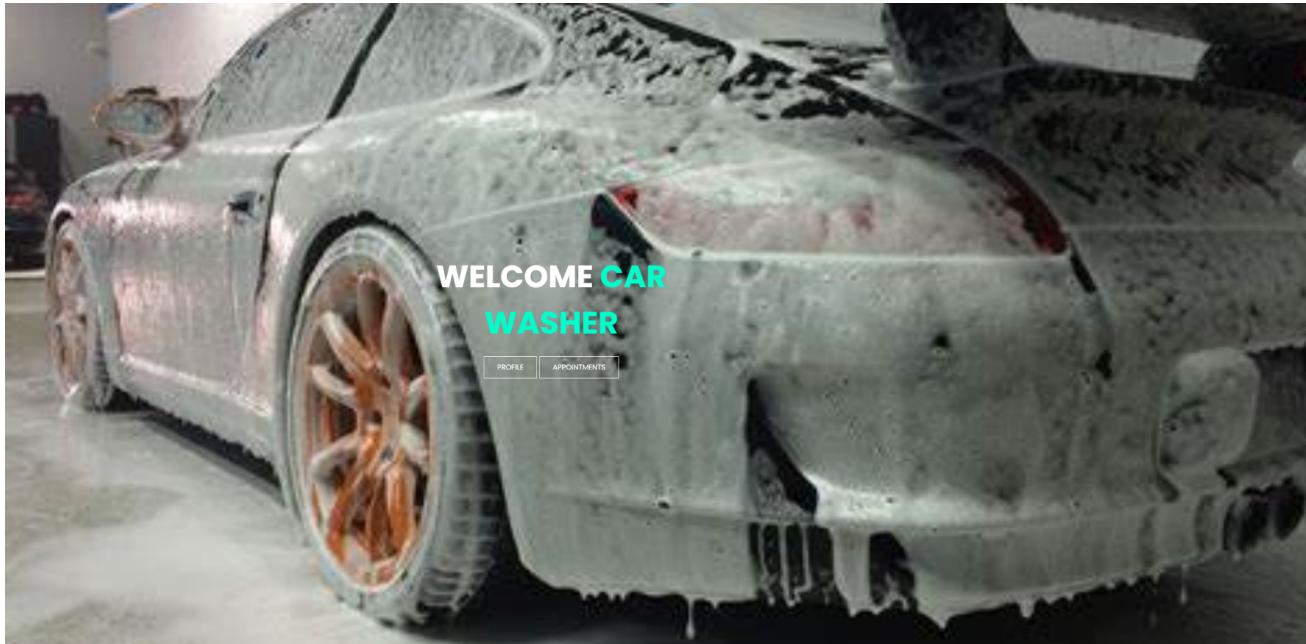
The screenshot shows a schedule overview for an admin. At the top right are links for 'Back [Back To Admin Page]', social media sharing (Facebook, Twitter, Google+), and a search bar. The main area is titled 'SCHEDULE Overview' and displays a timeline from 08:00 to 18:00. The schedule is color-coded: teal for 08:00-08:30 (Check and reply email), light blue for 08:30-09:00 (Update Car Washer about their appointment and task), orange for 09:00-10:00 (Car Washer off to work), green for 10:00-12:00 (Lunch Break), light blue for 12:00-13:00 (Meeting), orange for 13:00-15:00 (Paper work), light blue for 15:00-16:00 (Manage and update equipment condition and amount), and teal for 16:00-18:00 (Update, check and edit car washers' status and wrap up things up for the day).

### 13.3.1 Car Washer Login Screen



The screenshot shows a car washer login interface. At the top left is the 'MOBILE Car Wash Anywhere' logo. The main area features a 'Car Washer Login' form with fields for 'Username' and 'Password', a 'Forgot Password?' link, and a large blue 'Login' button.

### 13.3.2 Car Washer Main Screen



### 13.3.3 Car Washer Profile Screen

A screenshot of a mobile application profile screen. At the top left is a circular profile picture of a person wearing sunglasses and a floral headband. To the right of the picture, the name "Yoga" is displayed. Below the name are several input fields with placeholder text: "Full Name" (Yoga Sri A P Murti), "Age" (22), "Email" (191100795@student.mmu.edu.my), "Phone" (+60156789012), and "Address" (Persiaran Multimedia, Cyberjaya, Selangor). The background of the screen is dark grey.

### 13.3.4 Car Washer Appointment Screen

The image shows a web-based appointment booking form titled "Update Appointment". The form is divided into two main sections: "For person" and "Appointment request".

**For person:**

- Name: [Input field]
- Email address: [Input field]
- Phone number: [Input field]

**Appointment request:**

- Datum: [Input field] (set to 14.02.2022)
- Morning  Afternoon
- Confirmation requested by:  
 Email  Phone call

A blue "Submit request" button is located at the bottom of the form.

In the bottom right corner of the form area, there is a small circular icon containing the text "Schedule time with me" and "powered by Calendly".

# **14 Conclusion**

## **14.1 Summary of Results**

The results overall satisfied the requirements with just one test case failing, which is the test case for admin screen as we did not manage to implement the database into the webpage therefore it is not possible to add, update and delete the car washer. Even though the implementation of the web page took us weeks to develop, we managed to get it up and running using HTML and CSS. We managed to include Stripe Api for the user to make payment of the selected packages in Packages Screen, and the car washer is able to update the appointment by including the widgets in the HTML file. Communication and teamwork between the members are crucial in completing the system, we learned a lot from each other as we came from different programming backgrounds.

## **14.2 Problems Encountered**

The first problem we encountered during this project is that we were not able to implement the database into the system as we do not have enough experience, even so we were able to implement an interactive system with hard work and effort. The second problem that we encountered is that the project title ‘mobile car washer’ is an unfamiliar service for us but thankfully there are examples available online that we were able to reference as we were unable to go out for further research about the details of mobile car washer.

## **14.3 Limitations and Future Enhancements**

The limitations of this project is that we are limited to this project title of mobile car wash as we were unable to choose other available titles which might be interesting to work on, but thanks to Miss Azyyati’s advice and guidance throughout the whole project we were able to implement the web application for this title. For the future enhancement, there is a lot of room to improve in this project such as implementing the database and improving the interface to make it more user friendly.