# Rental Service Portal

**Submitted By**

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**Submitted To**

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This Project report has been submitted in fulfillment of the requirements for the Degree of Bachelor of Science in Software Engineering.

## APPROVAL

This thesis titled on **"Rental Service Portal"**, submitted by **Nuran Nahar Akther Reya (ID: 191-35-2740)** to the Department of Software Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Software Engineering and approval as to its style and contents.

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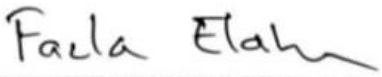

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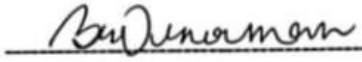

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# SUPERVISOR'S DECLARATION

I hereby declare that I have checked this project and, in my opinion, this project is adequate in terms of scope and quality for the award of the degree of Bachelor of Science.

(Supervisor's Signature)

**Full Name** : **Tapushe Rabaya Toma**

**Position** : **Assistant Professor**

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Date : 19/01/2025

# STUDENT'S DECLARATION

I hereby declare that the work in this project is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Daffodil International University or any other institution.

Reya

**(Student's Signature)**

**Full Name** : **Nurun Nahar Akther Reya**
**ID Number** : 191-35-2740
**Date** : 19 / 01 /2025

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## SUMMARY OF THE PROJECT

A web-based program called The Rental Service was created to make renting a car easier and more comfortable for users. During the idea stage of this project's development, which started in June 2024, I discovered a major obstacle: the impossibility to rent many cars at once. This insight served as the project's cornerstone, and I labored to fully develop the concept. The outcome of that endeavor is presented in this document, which offers a concise synopsis of the project's aims and objectives as well as a knowledge of the salient characteristics of the rental service.

The project's history, goals, and advantages are presented in the first chapter, giving readers a preview of the idea. To give context, it also lists the project's stakeholders and displays a system model. The paper breaks down the system requirements into functional and non-functional specifications that the application must meet in the second chapter. With an emphasis on the project's analytical elements, the third chapter explores system analysis and provides examples of important diagrams such the use case, activity, and sequence diagrams. The technology and development tools used during the project are described in the fourth chapter. The class diagram and entity relationship diagram, which show the relationships between entities, are also covered. System testing is covered in Chapter 5, with a focus on the significance of confirming the project's functionality. It contains a number of test scenarios intended to verify the product's performance and dependability prior to finalization. The project is summarized in the last chapter, which also points out its shortcomings and areas for improvement. It also contains an extensive list of references that were necessary for the project to be completed successfully.

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# First Chapter
# Overview

## 1.1 Objective

The main objective of this rental system is to develop a platform that allows customers to rent cars conveniently. The website should make it easier for vehicle owners to list their vehicles for rent. Additionally, customers will have the option to rent multiple cars simultaneously and pick them up at designated locations

## 1.2 Dimension

This system is designed to provide a platform where users can effortlessly access a wide range of vehicles at their convenience. Vehicle owners can list their vehicles for rent and efficiently manage bookings through the system. The administrator will oversee and maintain the platform by storing all relevant information and ensuring it is updated regularly.

## 1.3 Project Aim

Create a user-friendly platform that allows individuals to quickly and easily locate rental vehicles.

## 1.4 Outline

This system is intended to serve as a tool for managing vehicle and car-related information while aiding those in need. The remainder of the SRS delves into the detailed specifications of the Rental Car Portal.

## 1.2 User and Their Feature

### 2.1.1 Administrator

In the system, the administrator will play a vital role. They will be responsible for maintaining and overseeing data about users, booking information, car owners, vehicles and customers.

### 2.1.2 Car Owner

Vehicle owners will register on the platform, enabling them to view details about their cars and customers. The system will securely store this information for future references.

### 2.1.3 Client

Customers will create an account on the platform and can rent vehicles of their choice

## Section Two: Platform Assessment

### 2.1 Representation of Application scenario

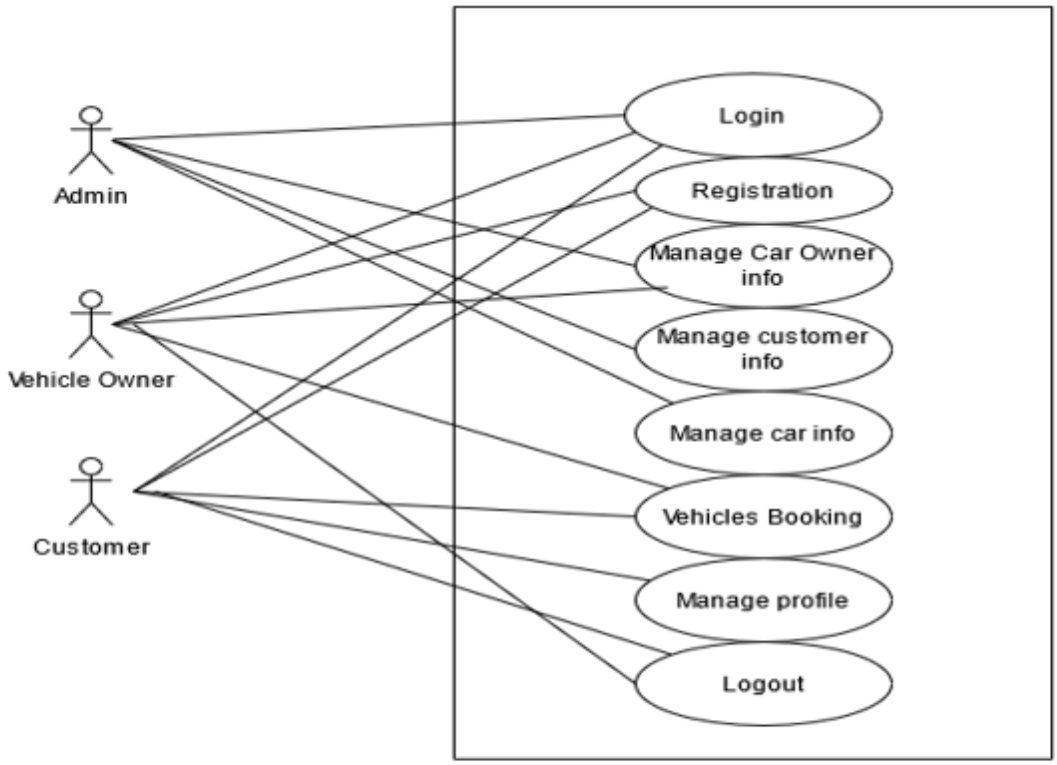



Figure 2.1: Representation of Use Case

## 2.2 Overview of the Use Case

### 2.2.1 User Registration

| | |
|---|---|
| **Title of Use Case** | Customers' and car owners' registration |
| **Use Case Goal** | Make sure to register new customers and car owners. |
| **Preconditions** | Internet Collection |
| **Success End Condition** | A super admin can register customers and car owners by filling in their details. |
| **Failed End Condition** | Inaccurate typing and system errors |
| **Primary Actor: Secondary Actor** | Administrator |
| **Trigger** | In the Registration field, click. |
| **Description / Main Success Scenario** | Step: 1 — The registration form can be clicked.<br>2 — Complete the needed field successfully.<br>3 — Press the "Register" button.<br>4 — The registration process is complete. |

### 2.2.2 Administrator Login

| | |
|---|---|
| **Title of Use Case** | Administrator Login |
| **Use Case Goal** | The administrator can log in successfully. |
| **Preconditions** | After providing the username and password, the administrator successfully logs in. |
| **Success End Condition** | The administrator enters the username and password and logs in successfully |
| **Failed End Condition** | The administrator merely provided the username and did not log in. Typing errors could prevent the administrator from successfully logging in. |
| **Primary Actor: Secondary Actor** | Administrator |
| **Trigger** | The administrator enters the username and password and logs in successfully. |
| **Description / Main Success Scenario** | Step: 1 — Enter the username and password<br>2 — Check Username and password<br>3 — Press the "Login" button.<br>4 — The user is entered the system |

### 2.2.3 Customer Information

<table>
<tr><td>Title of Use Case</td><td>Customer Information</td></tr>
<tr><td>Use Case Goal</td><td>All car owners' information can be gathered by the admin and stored in the database.</td></tr>
<tr><td>Preconditions</td><td>N/A</td></tr>
<tr><td>Success End Condition</td><td>The administrator inputs the individual's vehicle name and other relevant personal data into his record.</td></tr>
<tr><td>Failed End Condition</td><td>Administrators cannot gather all necessary information from people.</td></tr>
<tr><td>Primary Actor: Secondary Actor</td><td>Administrator</td></tr>
<tr><td>Trigger</td><td>Administrator took the information of the individual needed and saved it.</td></tr>
<tr><td>Description / Main Success Scenario</td><td>
<table>
<tr><td>Step</td><td>Action</td></tr>
<tr><td>1</td><td>Enter the Car Owner name</td></tr>
<tr><td>2</td><td>Enter Car owner Details</td></tr>
<tr><td>3</td><td>Press the "store" button.</td></tr>
<tr><td>4</td><td>The information is stored</td></tr>
</table>
</td></tr>
</table>

### 2.2.4 Store Owner Details for Cars

<table>
<tr><td>Title of Use Case</td><td>Store Owner Details for Cars</td></tr>
<tr><td>Use Case Goal</td><td>The administrator gets the vehicle's information from the owner and stores it.</td></tr>
<tr><td>Preconditions</td><td>N/A</td></tr>
<tr><td>Success End Condition</td><td>The administrator successfully stores the car information after obtaining it from the owner</td></tr>
<tr><td>Failed End Condition</td><td>The administrator obtained the vehicle's details from the owner but neglected to notify them of it.</td></tr>
<tr><td>Primary Actor: Secondary Actor</td><td>Administrator</td></tr>
<tr><td>Trigger</td><td>The administrator enters the vehicle's information into a database.</td></tr>
<tr><td>Description / Main Success Scenario</td><td>
<table>
<tr><td>Step</td><td>Action</td></tr>
<tr><td>1</td><td>Enter the Car name</td></tr>
<tr><td>2</td><td>Enter Car Details</td></tr>
<tr><td>3</td><td>Press the "Save" button.</td></tr>
<tr><td>4</td><td>The information is stored</td></tr>
</table>
</td></tr>
</table>

### 2.2.5 Vehicle Information Store

### 2.2.6 Store Customer Info

<table>
<tr><td>Title</td><td>Vehicle Information look</td></tr>
<tr><td>Use Case Aim</td><td>The administrator gets the vehicle's information from the owner and stores it.</td></tr>
<tr><td>Preconditions</td><td>N/A</td></tr>
<tr><td>Success End Condition</td><td>All client data can be gathered by the administrator and stored in the database.</td></tr>
<tr><td>Failed End Condition</td><td>The administrator's details are not visible to the customer. Nothing is stored by him, and the admin sees an empty field.</td></tr>
<tr><td>Primary Actor: Secondary Actor</td><td>Administrator</td></tr>
<tr><td>Trigger</td><td>The administrator enters the vehicle's information into a database.</td></tr>
<tr><td>Description / Main Success Scenario</td><td>
<table>
<tr><td>Step</td><td>Action</td></tr>
<tr><td>1</td><td>Enter the Customer Info Field</td></tr>
<tr><td>2</td><td>Enter the Customer Details</td></tr>
<tr><td>3</td><td>Press the "Save" button.</td></tr>
<tr><td>4</td><td>The information is stored</td></tr>
</table>
</td></tr>
</table>

### 2.2.7 Car Reservation

| | |
|---|---|
| **Title of Use Case** | Car Reservation |
| **Use Case Goal** | The administrator can arrange for patients to have cars, make sure they are available, and verify the distance. |
| **Preconditions** | The car must be available. |
| **Success End Condition** | By showing the customer's order, administrators provide motor vehicles. |
| **Failed End Condition** | The administrator gives consumers cars, however they are unable to deliver cars that are not available |
| **Primary Actor: Secondary Actor** | Administrator |
| **Trigger** | The administrator enters the vehicle's information into a database. |
| **Description / Main Success Scenario** | Step \| Action<br>1 \| Search Car<br>2 \| See the details<br>3 \| Press the "Reservation" button.<br>4 \| The Car is Booking is successful |

### 2.2.8 Handle Profiling

<table>
<tr><td>Title of Use Case</td><td>Handle profiling</td></tr>
<tr><td>Use Case Goal</td><td>They have the option to change their profile.</td></tr>
<tr><td>Preconditions</td><td>registering as a proprietor or consumer.</td></tr>
<tr><td>Success End Condition</td><td>Owner and client needed original information.</td></tr>
<tr><td>Failed End Condition</td><td>An error is showing</td></tr>
<tr><td>Primary Actor: Secondary Actor</td><td>Customer</td></tr>
<tr><td>Trigger</td><td>See the Manage profile</td></tr>
<tr><td>Description / Main Success Scenario</td><td>
<table>
<tr><td>Step</td><td>Action</td></tr>
<tr><td>1</td><td>Click on profile</td></tr>
<tr><td>2</td><td>See the details</td></tr>
<tr><td>3</td><td>Press the "Save" button.</td></tr>
<tr><td>4</td><td>The information is saved</td></tr>
</table>
</td></tr>
</table>

## 2.3 Work Schematic

### 2.3.1 Schematic Registration

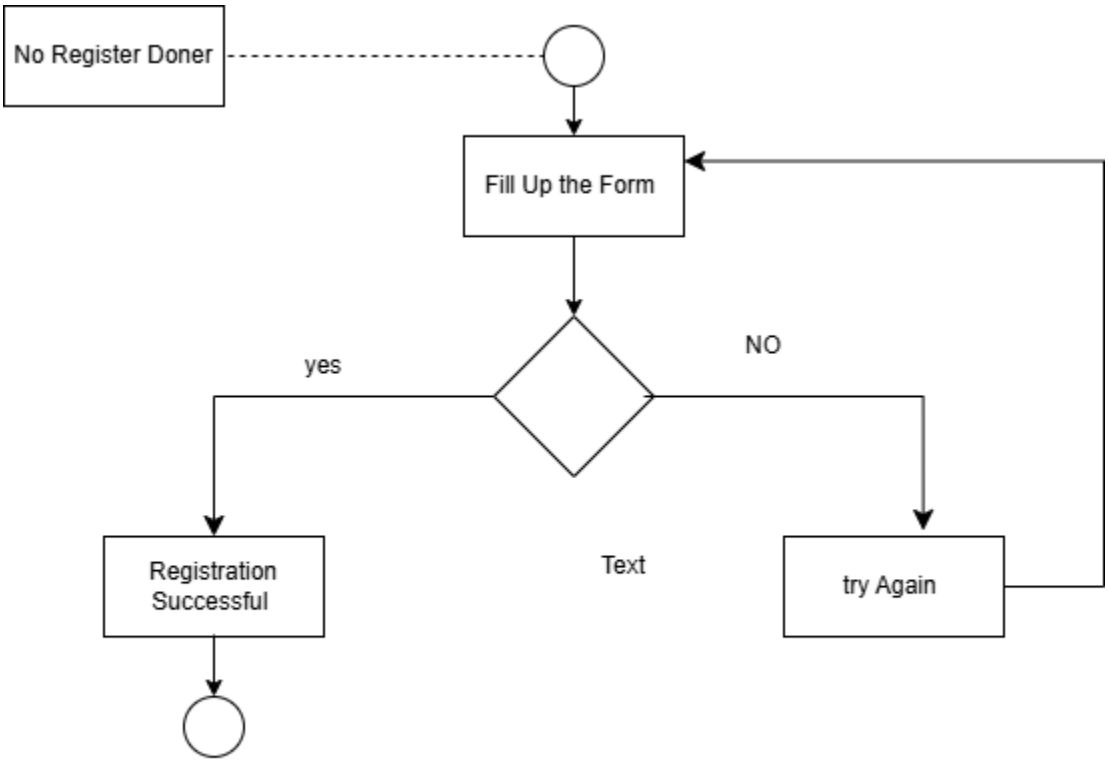



**Fig : Activity diagram for Registration**

Figure 2.2: Registration Schematic

### 2.3.2 Schematic Login

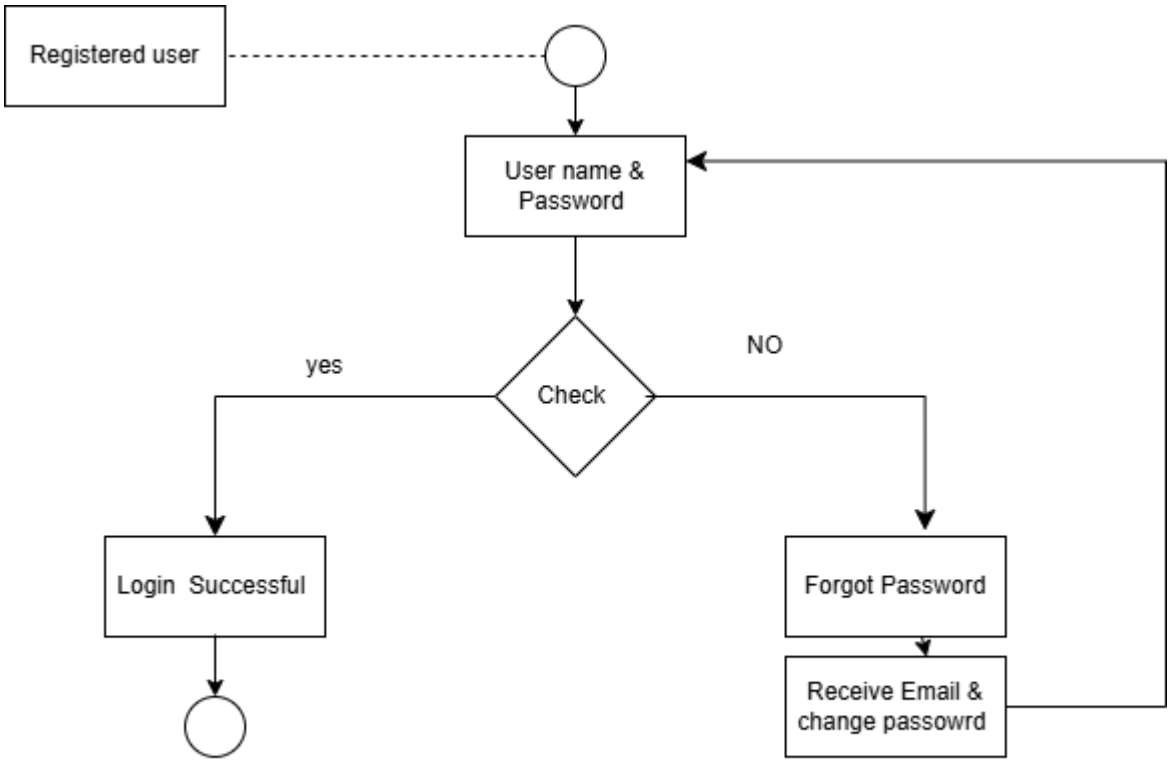



Fig : Activity Diagram for Login

Figure 2.3: Schematic Login

### 2.3.3 Schematic Administrator

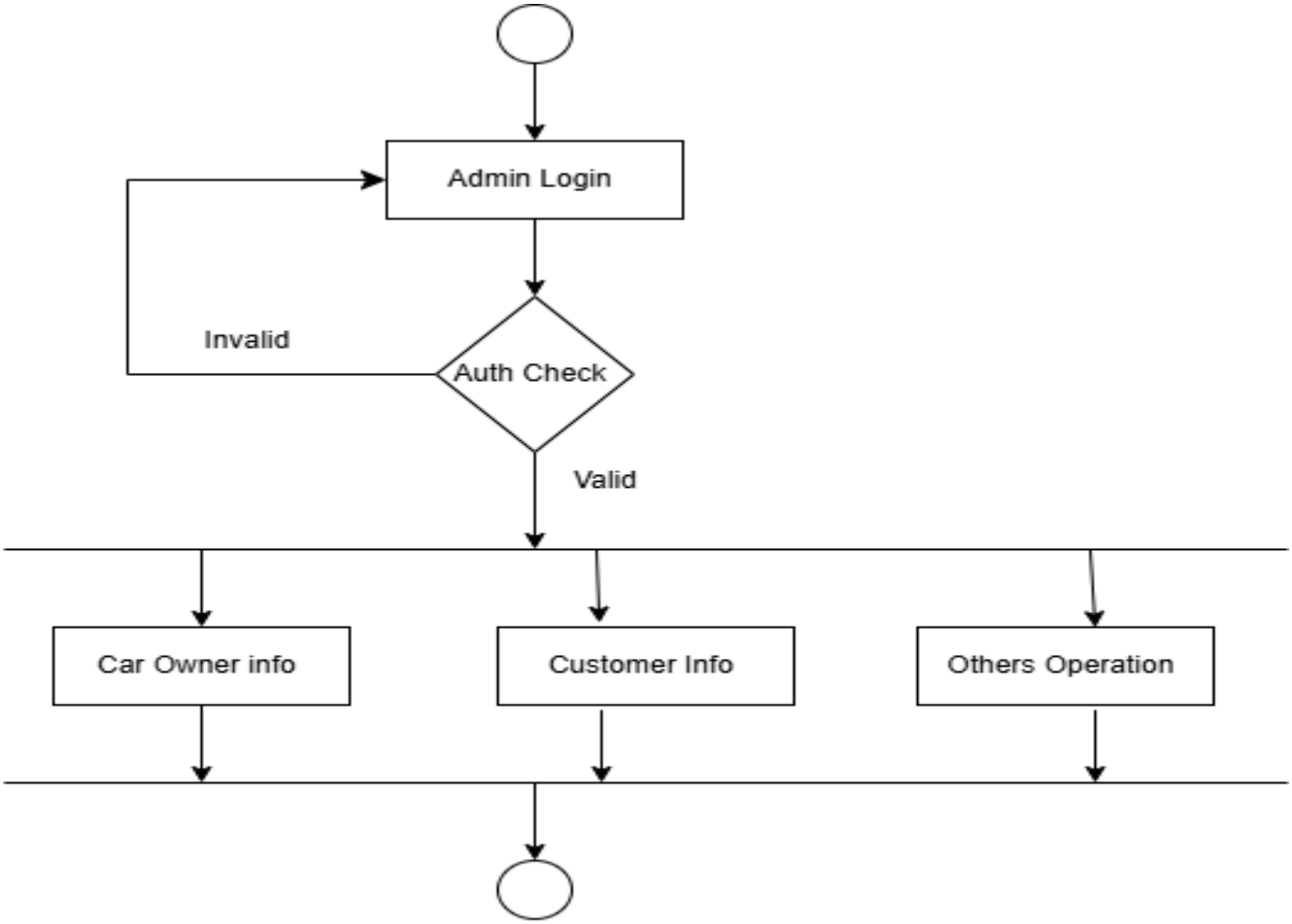



Fig : Activity Diagram For Admin

Figure 2.4: Schematic administrator

### 2.3.4 Schematic Owner's

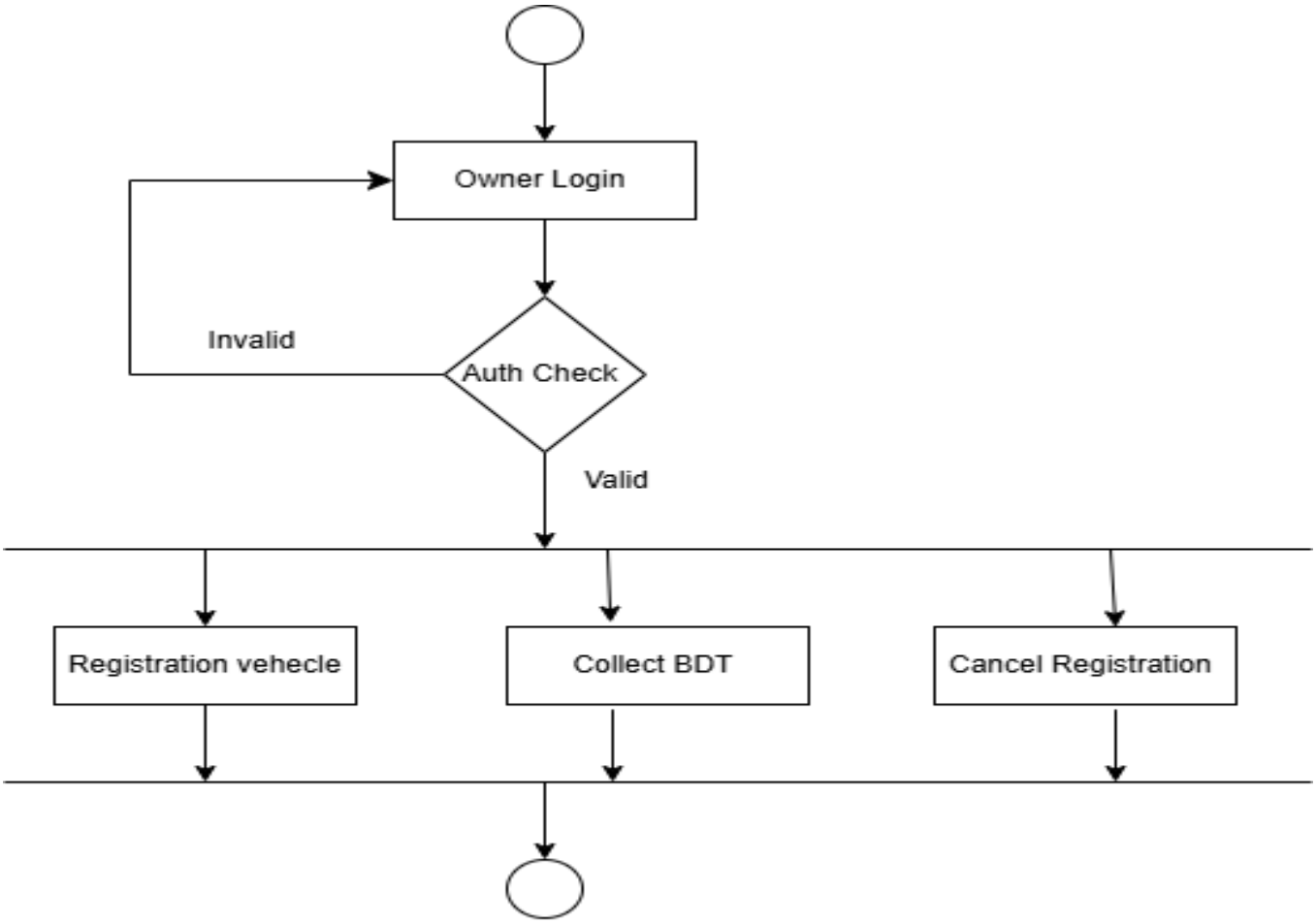



Fig : Activity Diagram For Owner

Figure 2.5: Schematic Activity

### 2.3.5 Schematic Customer

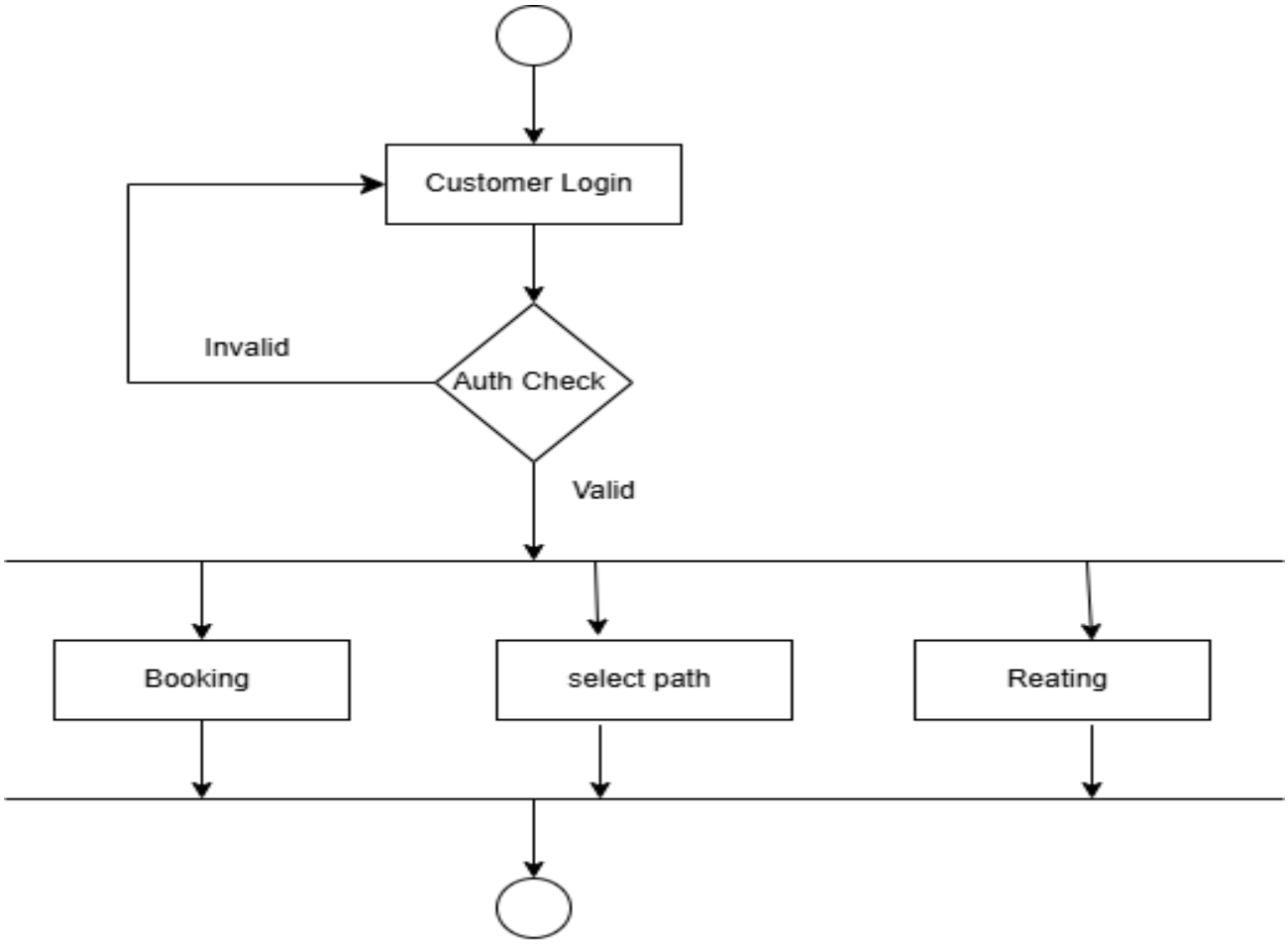



Fig : Activity Diagram For Customer

Figure 2.6: Schematic Customer

## 2.4 Schematic of Chain

### 2.4.1 Administrative Chain

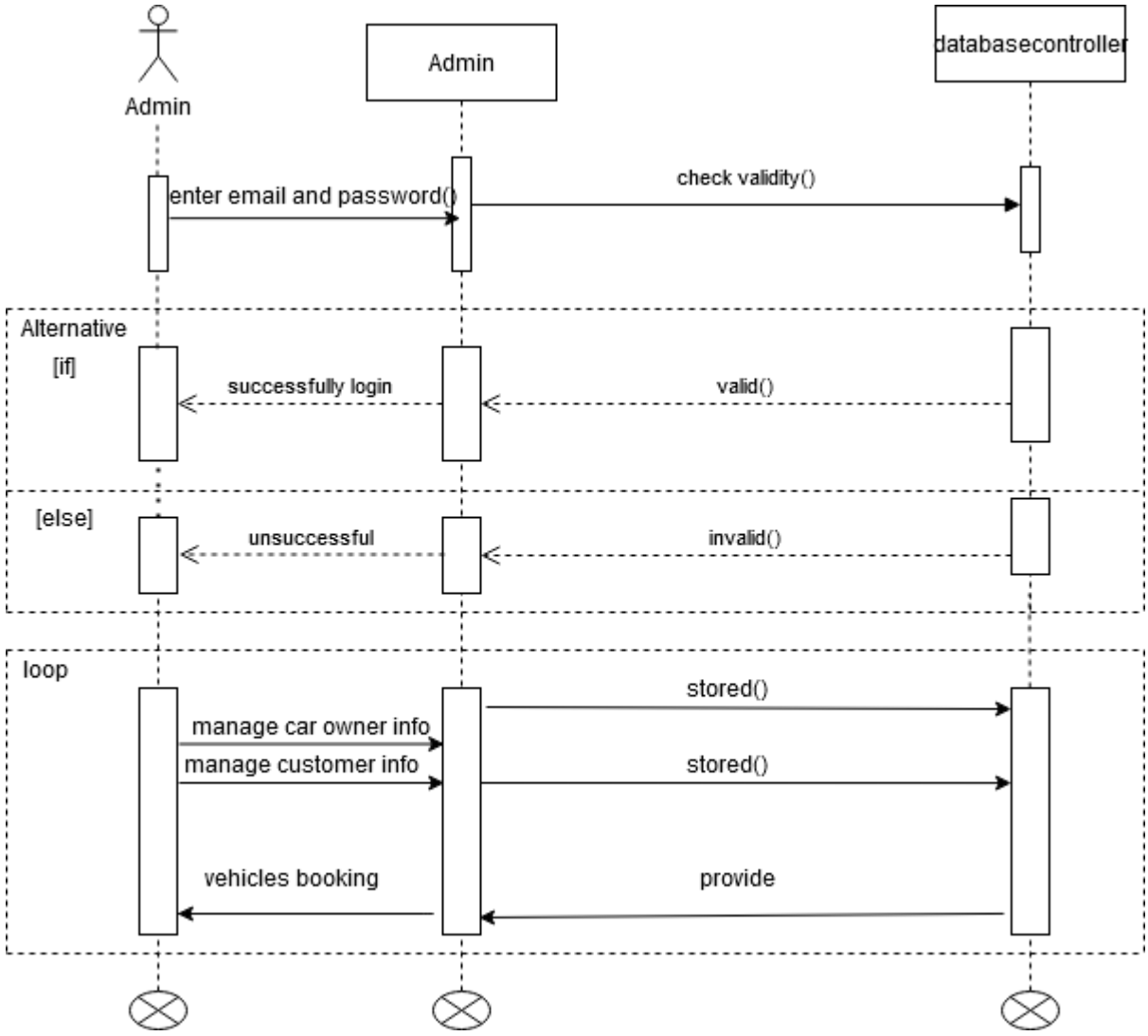



Figure 2.7: Administrative chain

### 2.4.2 The owner’s Sequence chain

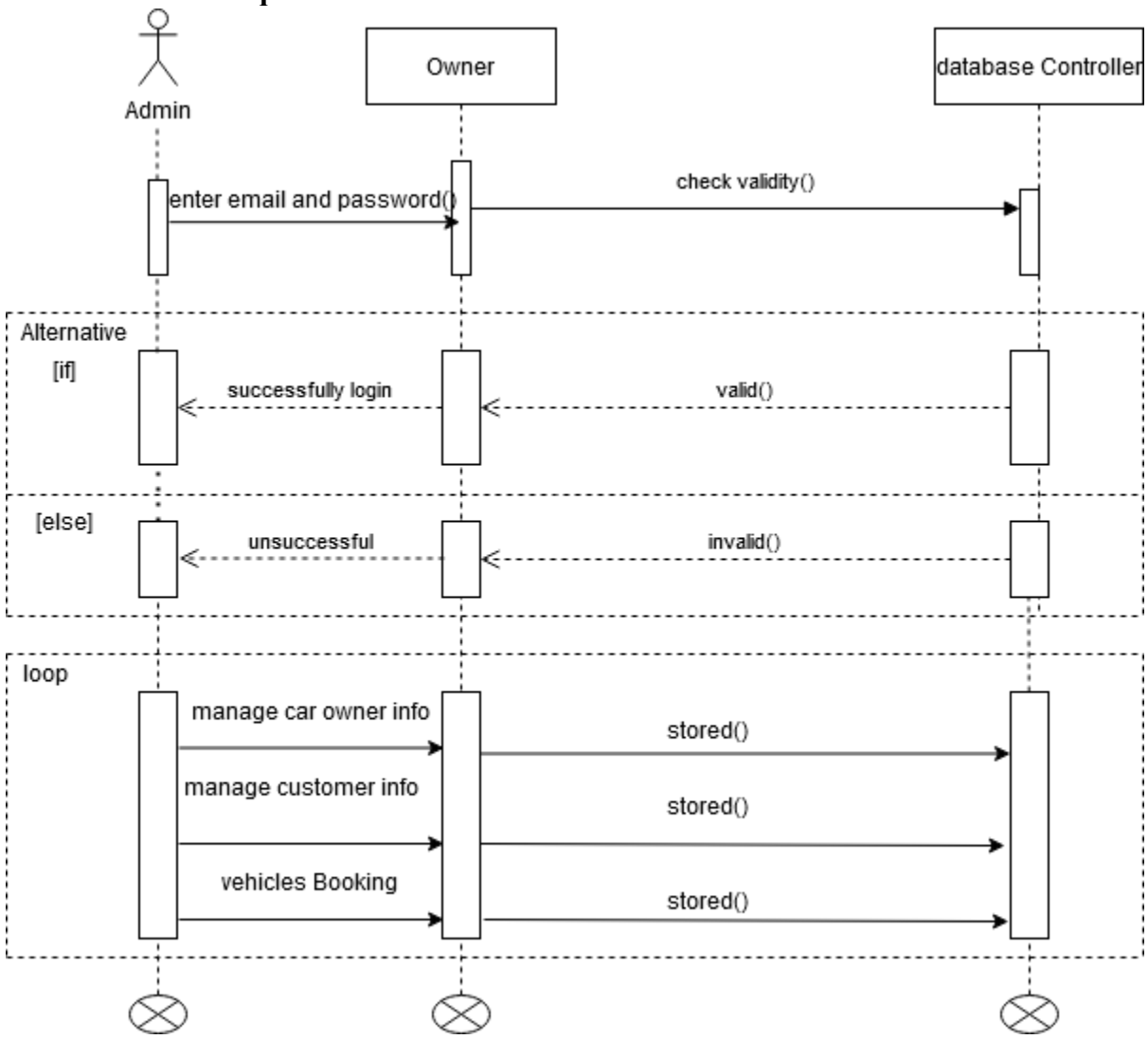



Figure 2.8: The owner's sequence chain

### 2.4.3 The User Sequence chain

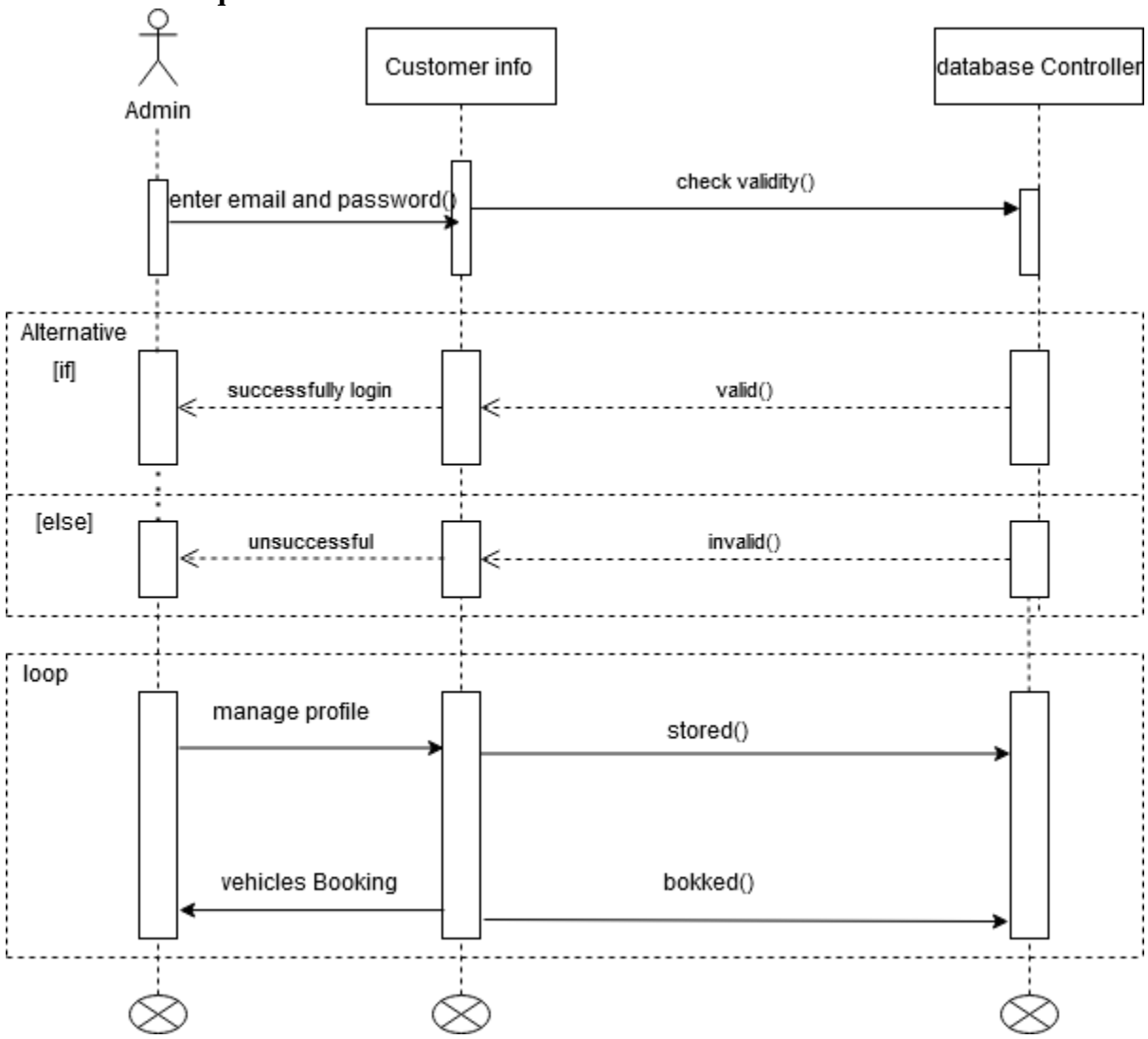



Figure 2.9: The User Sequence chain

## Section Three : Software Requirements Specification (SRS)

### 3.1 Needs for Function

#### 3.1.1 Administrator Log In

| | |
|---|---|
| **Functional_Req_1** | The author login the system with their valid credential |
| **Description** | If Credential is valid then the user entry the system |
| **Stakeholders** | Administrator |

#### 3.1.2 The Car owner's Details

| | |
|---|---|
| **Functional_Req_02** | The author entry each car owner information into the system |
| **Description** | The database helps the system to identify each car owners |
| **Stakeholders** | Administrator |

#### 3.1.3 The Customer Details

| | |
|---|---|
| **Functional_Req_03** | To add each customer details like as name, phone. Email. |
| **Description** | This table help the author to store each customer information |
| **Stakeholders** | Administrator |

### 3.1.4 Handle Vehicle details

| | |
|---|---|
| **Functional_Req_04** | The administrator can store all vehicle information like, mode, name etc. |
| **Description** | Easy way to manage the car |
| **Stakeholders** | Administrator |

### 3.1.5 Owner Registration for Transportation

| | |
|---|---|
| **Functional_Req_05** | The Administrator people can only perform the action |
| **Description** | This class helps us to add to car in the portal |
| **Stakeholders** | Transport Owner |

### 3.1.6 Car Reservation

| | |
|---|---|
| **Functional_Req_06** | In this module the user can reverse the car any time any where |
| **Description** | Help the tracking the total reservation of the car |
| **Stakeholders** | Customer |

### 3.1.7 Handle Profiling

| | |
|---|---|
| **Functional_Req_07** | The Access people can update and modify the profile |
| **Description** | To help store the information |
| **Stakeholders** | Administrator |

### 3.2 Showing criteria

#### 3.2.1 Criteria for Delay and Velocity

| | |
|---|---|
| **Performance_Req_1** | It should take less than a second to see the form and outcome**.** |
| **Description** | Any administrator or vehicle owner who wants to fill out a form and view the information must be able to do it in less than a second. |
| **Stakeholders** | Administrator, Vehicle Owner, Client |

#### 3.2.2 Minimum Size Needs

| | |
|---|---|
| **Performance_Req_2** | It should be possible for the system to accommodate at least 1000 users simultaneously. |
| **Description** | Make sure there is no lag in the system's ability to support 1000 users simultaneously. |
| **Stakeholders** | Administrator, Vehicle Owner, Client |

### 3.3 Criteria for Availability

#### 3.3.1 Durability Conditions

| | |
|---|---|
| **Depend_Req_1** | The information provided by the system ought to be trustworthy. |
| **Description** | Every piece of data displayed on the system should be trustworthy. |
| **Stakeholders** | Owner, Client, and Administrator. |

#### 3.3.2 Criteria for Maintenance

| | |
|---|---|
| **Depend_Req_2** | The system should be simple to maintain. |
| **Description** | The system ought to offer maintenance issues. |
| **Stakeholders** | Owner, Client, and Administrator. |

### 3.3.3 Criteria for Presence

| | |
|---|---|
| **Depend_Req_3** | The system must be accessible when needed. |
| **Description** | The system needs to be accessible at all times. |
| **Stakeholders** | Owner, Client, and Administrator. |

## 3.4 Criteria for safety measures

### 3.4.1 Criteria for Aesthetics

| | |
|---|---|
| **Sec_Req_1** | The system needs to be usable by everyone. |
| **Description** | The structure must be easy for usage. |
| **Stakeholders** | Owner, Client, and Administrator. |

## Chapter Four: Systemic Evaluation

### 4.1 Limitations in the conception and execution

#### 4.1.1 Condition of Operation

A web-based system will be used for the rental service. Therefore, anyone with a browser can access it by clicking on the precise link. This will make it easy to access the system and guarantee that you get the most out of it. Additionally, since it will be installed on a web server, it will remove the hassle of maintaining the system across several platforms.

#### 4.1.2 Language of Software usage

The Django Framework will be used in the development of the application. Python will be the language of choice, and HTML and CSS will be used in addition to Bootstrap.

#### 4.1.3 Instruments for the Process of Creation

The PyCharm: Python IDE will be utilized for community editing in order to facilitate development.

### 4.2 Diagram of Entity Relationship

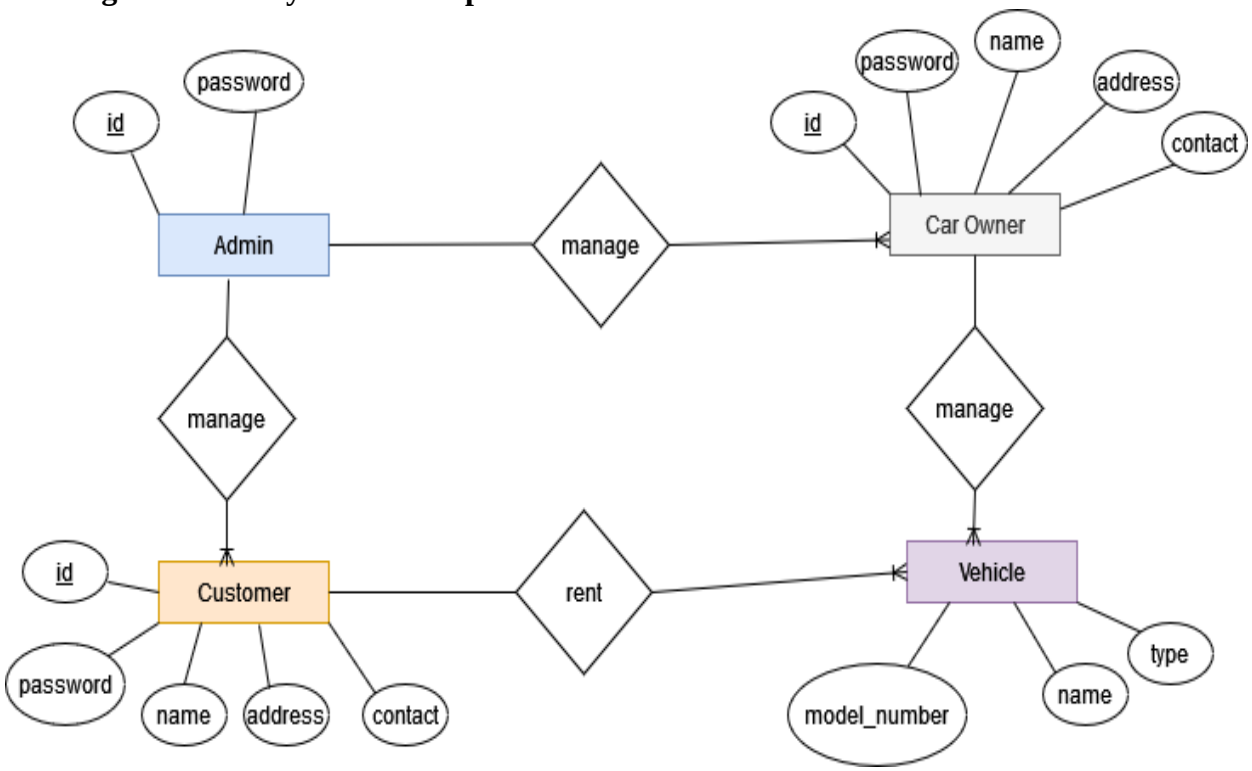
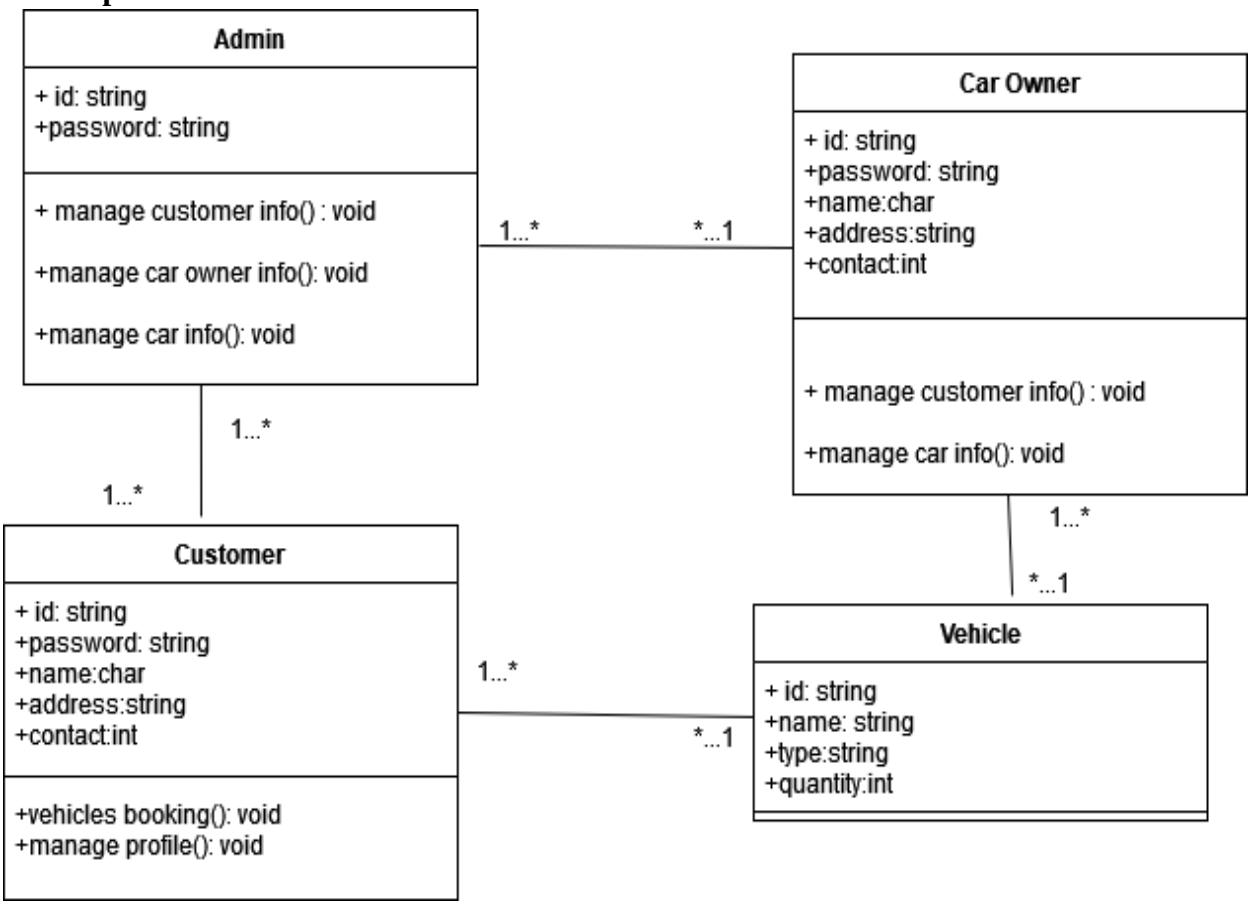



Figure 4.1: Diagram of Entity Relationships

### 4.3 Map of Sections




### 4.4

Figure 4.2 Map of Sections

## Section Five: Systemic Evaluation

### 5.1 Capabilities Checking

#### 5.1.1 Visitor Feature

| Title | Priority | Scenario |
|---|---|---|
| Access the System Home Page | 1 | The visitor can see the Home page of the system |
| Look at the details That Is Available | 1 | See all information is given |
| Questions to Ask | 3 | Feedback the visitor |

#### 5.1.2 Administrator's Feature

| Title | Priority | Scenario |
|---|---|---|
| Login the system | 1 | The user is able to access the network. |
| See all details | 1 | Can perform all the action |
| Questions to Ask | 3 | Improvement is needed |

### 5.1.3 Owner Features

| Title | Priority | Scenario |
|---|---|---|
| Login the system | 1 | The author can able to access |
| See all details | 1 | Can perform all the action |
| Questions to Ask | 3 | Improvement is needed |

### 5.1.4 Client Features

| Title | Priority | Scenario |
|---|---|---|
| Registration the system | 1 | The author can able to access |
| See all details | 1 | Can perform all the action |
| Questions to Ask | 3 | Improvement is needed |

### 5.2 Black Box Testing

#### 5.2.1 Registration

| | |
|---|---|
| **Test Case Number** | TC_01 |
| **Test Case Name** | The User Registration |
| **Test Case Title** | The User can Registration |
| **Pre-Condition** | Internet Collection is needed |
| **How it works** | 1. Go to the Link<br>2. Enter the username<br>3. Enter the email & Number<br>4. Click on submit button |
| **Test Data** | Email: a@gmail.com<br>Pass: 23245 |
| **Design By** | Tester |
| **Design Date** | 30-12-24 |
| **Execute By** | Tester |
| **Pass/Fail** | Pass |

#### 5.2.2 Login

| | |
|---|---|
| **Test Case Number** | TC_02 |
| **Test Case Name** | The User Login |
| **Test Case Title** | The User can Login the system |
| **Pre-Condition** | Internet Collection is needed |
| **How it works** | 1. Go to the Link<br>2. Enter the email<br>3. Enter the password<br>4. Click on Login button |
| **Test Data** | Email: a@gmail.com<br>Pass: 23245 |
| **Design By** | Tester |
| **Design Date** | 30-12-24 |
| **Execute By** | Tester |
| **Pass/Fail** | Pass |

### 5.2.3 Client details

| | |
|---|---|
| **Test Case Number** | TC_03 |
| **Test Case Name** | Store Owner Details |
| **Test Case Title** | Store Owner Details |
| **Pre-Condition** | Login the system |
| **How it works** | 1. Go to the profile<br>2. Add required information<br>3. Click on Login button |
| **Test Data** | xxxxxxx |
| **Design By** | Tester |
| **Design Date** | 30-12-24 |
| **Execute By** | Tester |
| **Pass/Fail** | Pass |

### 5.2.4 Update User Information

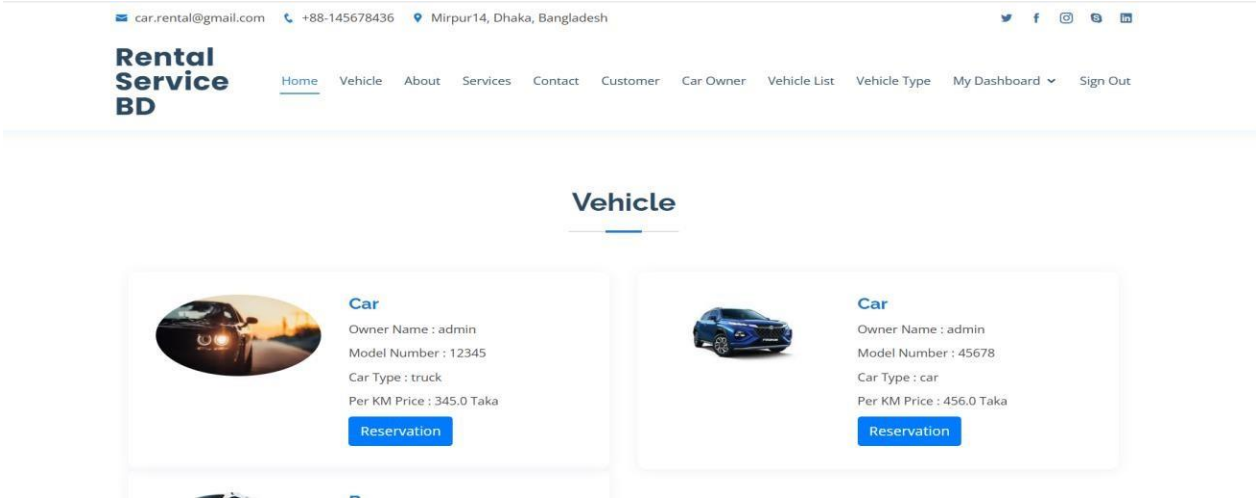
| | |
|---|---|
| **Test Case Number** | TC_04 |
| **Test Case Name** | Update Information |
| **Test Case Title** | The User can update the information |
| **Pre-Condition** | Login the system |
| **How it works** | 1. Go to the profile<br>2. Add required information<br>3. Click on Update button |
| **Test Data** | xxxxxxx |
| **Design By** | Tester |
| **Design Date** | 30-12-24 |
| **Execute By** | Tester |
| **Pass/Fail** | Pass |

### 5.2.5 Logout the system

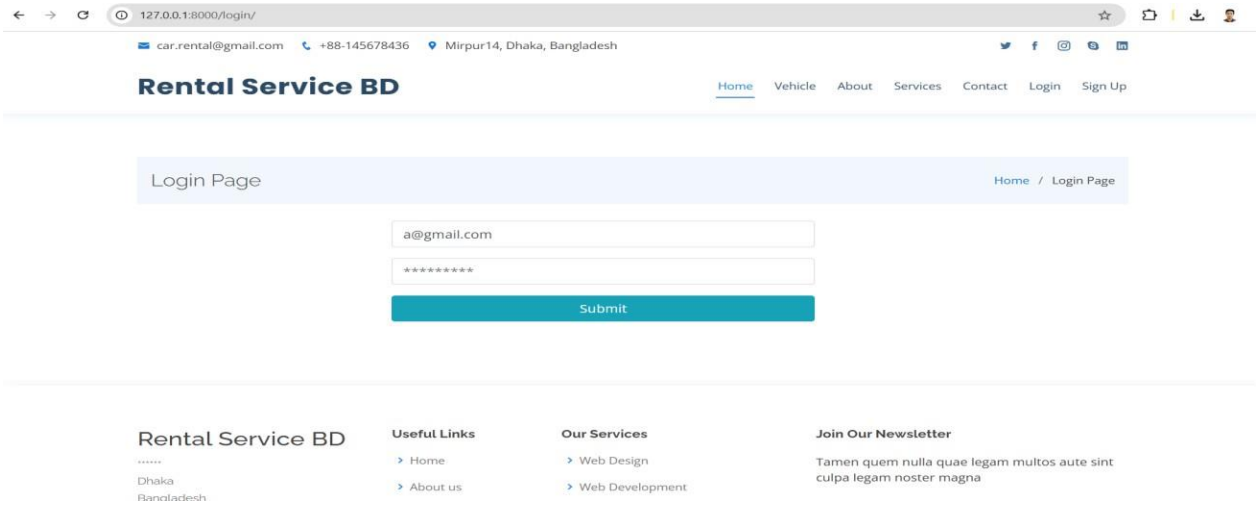
| | |
|---|---|
| **Test Case Number** | TC_05 |
| **Test Case Name** | Log Out the system |
| **Test Case Title** | The User can Log out the system |
| **Pre-Condition** | Login the system |
| **How it works** | 1. Go to the Three dot button<br>2. Click on logout button |
| **Test Data** | xxxxxxx |
| **Design By** | Tester |
| **Design Date** | 30-12-24 |
| **Execute By** | Tester |
| **Pass/Fail** | Pass |

## Section six: Front Interface

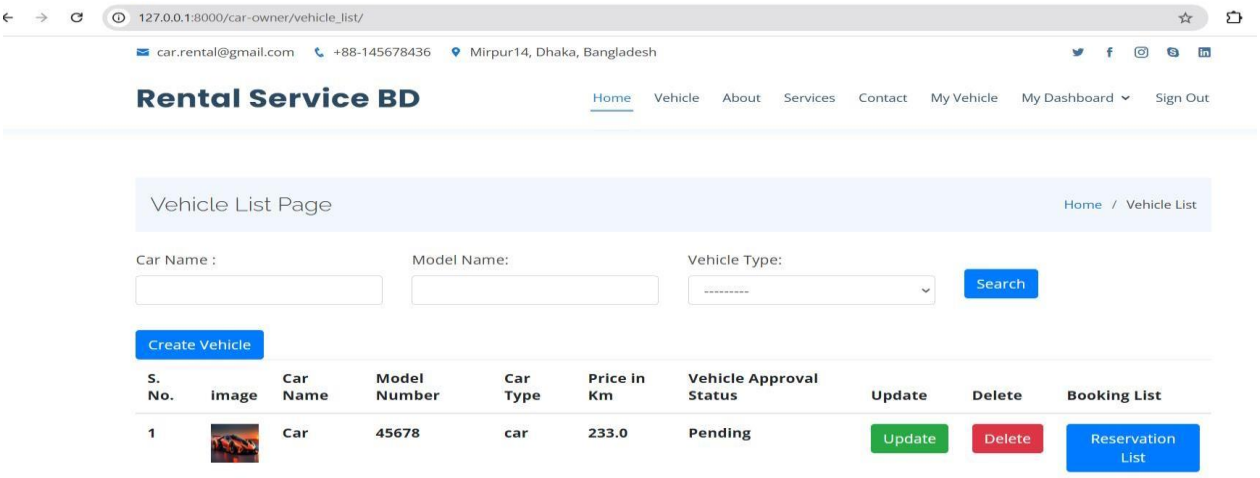
### 6.1 Page: Homepage



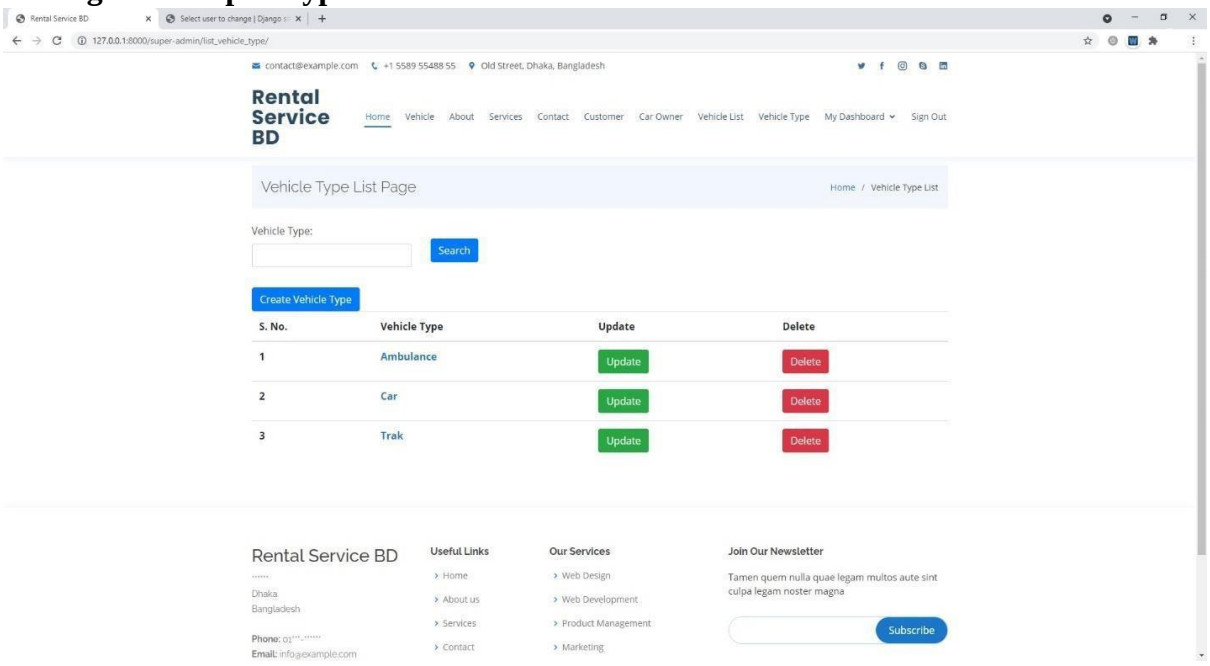

### 6.2 Page : Login



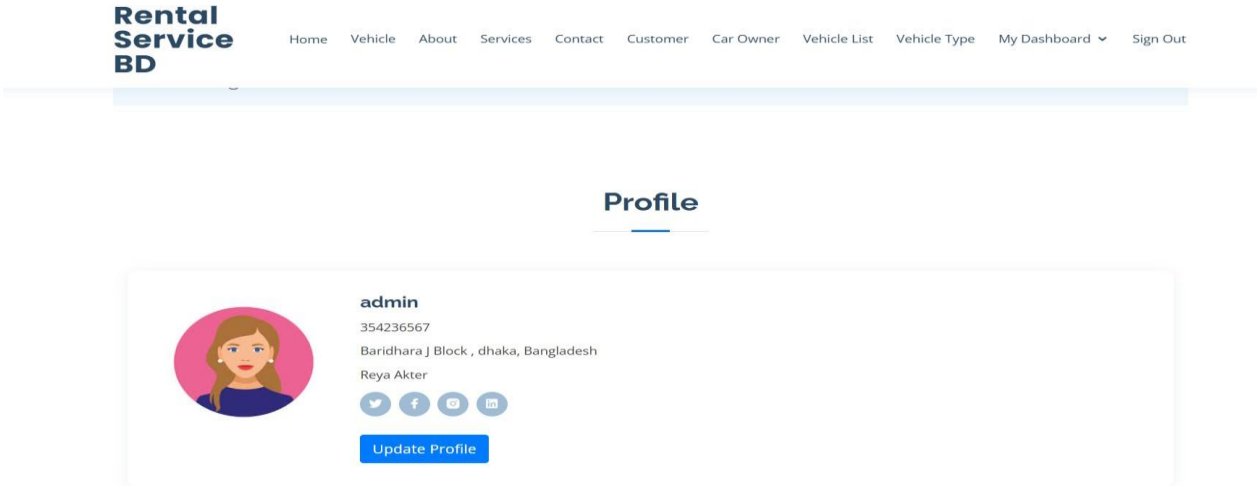
## 6.3 Page: Owner all transport



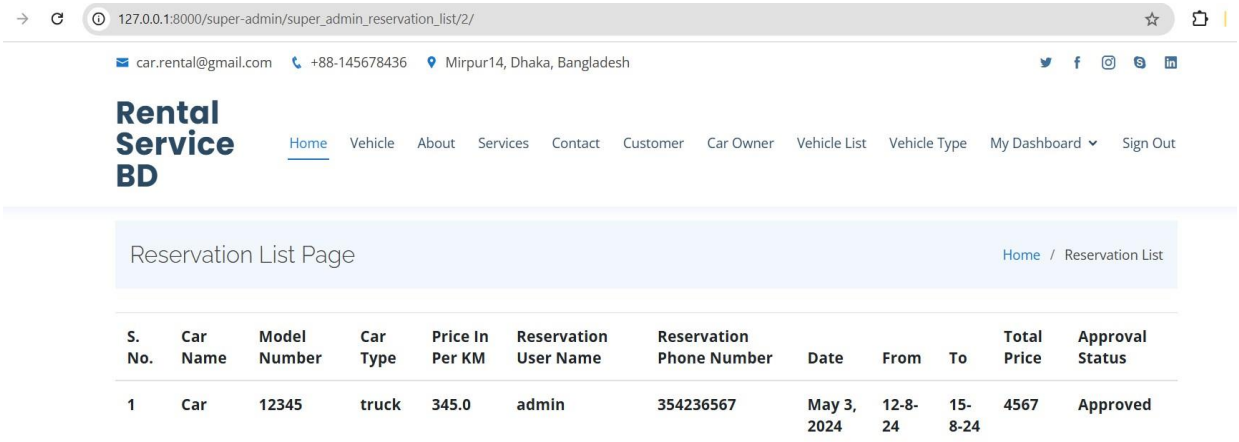

## 6.4 Page : Transport type



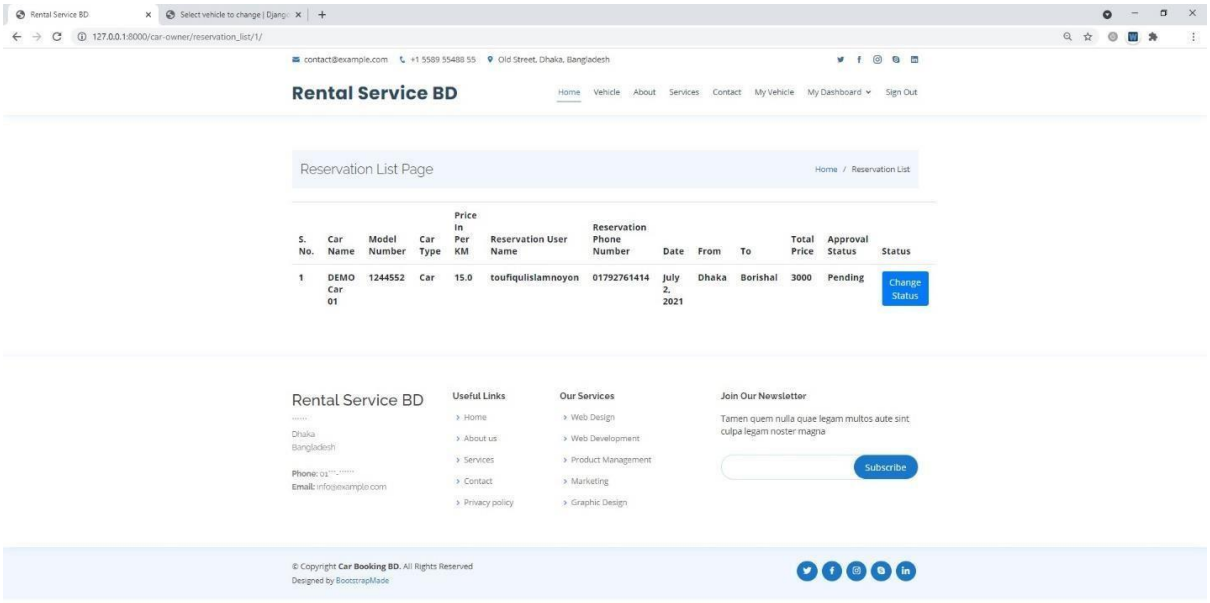
## 6.5 Super admin profile




## 6.6 Reservation transport



## 6.7 See all Reservation



## Section Seven: In the end

### 7.2 Restriction

Despite my best efforts, this project has several restrictions, such as UI design.

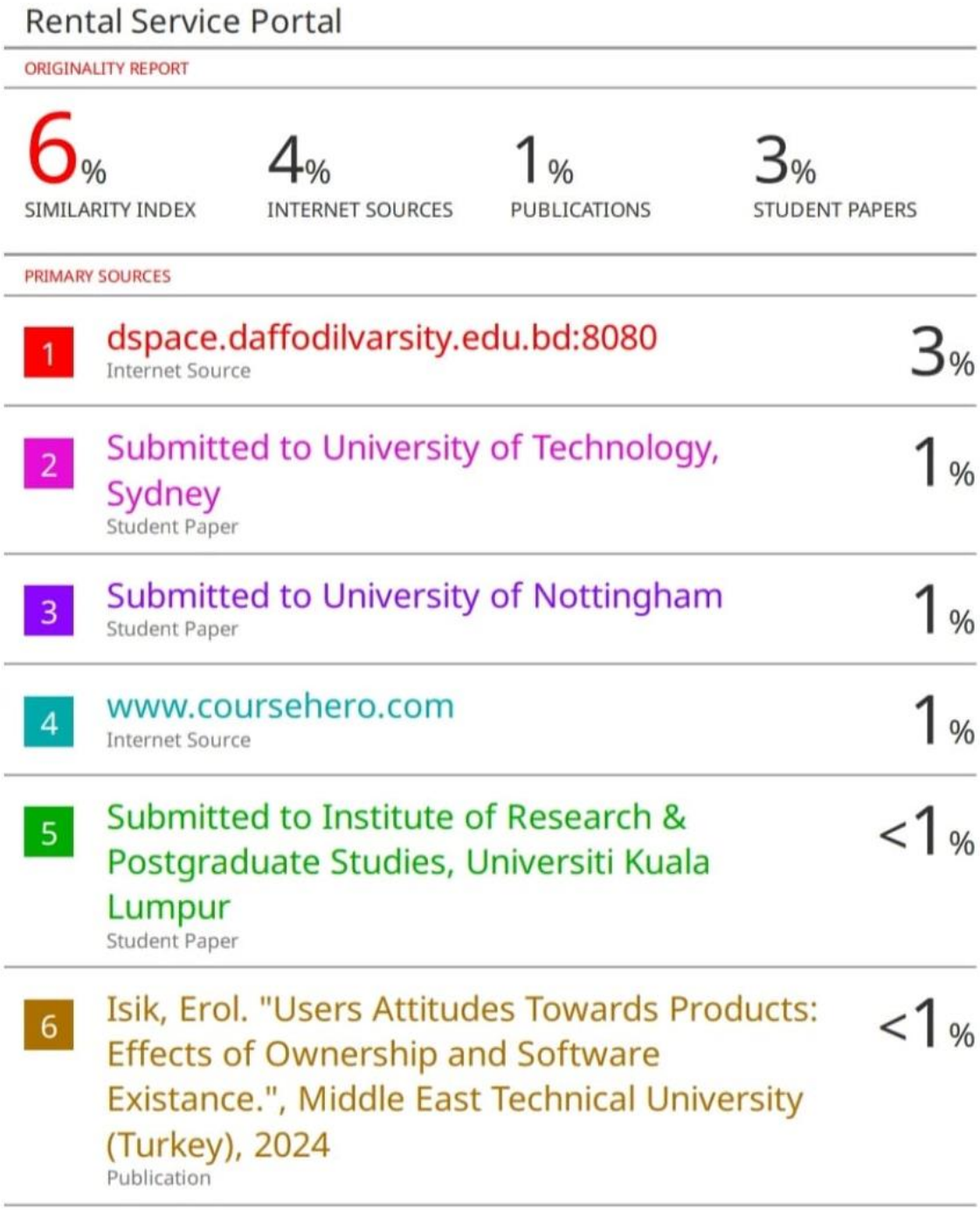
### 7.3 Upcoming

- Add home rent system

## The Citation

*https://www.python.org/*
*https://www.javatpoint.com/*
*https://www.canva.com/*

**Report**



Rental Service Portal

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