

**A**  
**PROJECT REPORT ON**

**Vehicle Showroom And Service Management System**

SUBMITTED IN  
PARTIAL  
FULFILLMENT OF  
**DIPLOMA IN ADVANCED COMPUTING (PG-DAC)**



**UNDER THE GUIDANCE OF**  
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**CENTRE FOR DEVELOPMENT OF ADVANCED  
COMPUTING (C-DAC), PUNE.**

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## **ABSTRACT**

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The vehicle showroom and service management software Application is a Web-based Application which helps to manage the vehicle showroom & service center activities seamlessly. In current Scenario small scale showroom's uses a excel to keep track of vehicles in showroom. And also, service centers have no provision for any-tracking and no full proof solution to integrate same. In conventional method there are lot of human errors or also some cumulative errors. So, to avoid them we give full proof solution for showroom and service center management (small scale). This application will also provide online service and vehicle booking facility.

In this software there are no. of provisions like to maintain employee data, maintain customer data, maintain transaction details & also maintains vehicle details which we can use as per our requirement for future use. Software provides security and data integrity features along with proper channel of authorization via Admin login which avoids frauds or loss due to miscommunication in conventional system.

### **MODULE:**

**1. Admin:** Admin will have a login credentials to access the whole contents of website. Admin needs to get logged in by entering valid credentials. Admin can view all the details of the registered Customer and can Add and Delete Customer from the Database. Admin can add Employee to Showroom also can remove an employee from the Showroom. Admin can view all the vehicles available in the showroom and the list of Booked vehicles. Admin can view all serviced vehicles data. Also, admin can edit the data of serviced vehicles.

**2. Employee:**

There will be a manager who is going to play two roles. One is sales manage and other is service manage. Being a Sales Manager he will be handling all the work related to Vehicle purchase. He can register a customer who directly comes to the showroom for first time. He can also book a vehicle on for customer. After completion of the vehicle purchase sales manager will have to mark vehicle as purchased and create required documents for the vehicle with invoice and hand it over to the customer. Also, He can view all the vehicles data from the showroom.

Being a Service Manager he will be handling all the work related to vehicle service. Service manager will add customer who directly comes to the showroom for vehicle servicing for first time. Also, he will accept payment and create invoice for the customer who comes directly to the showroom.

### **3. Customer:**

Customer can register to the website and login to the same. Customer can see the list of vehicles that are in the showroom. Customer can book a vehicle online by making the minimum required payment for the vehicle and will receive the invoice of that payment details. To purchase vehicle customer, have to go to showroom and make full payment to the sales manager so that sales manager will prepare all the documents of vehicle and hand it over to the customer.

Customers can also come directly to the showroom, in this case all the registration process and booking of vehicle will be done by sales manager. Customer can also book vehicle servicing slot on the website after registration. They can make a payment of the servicing through payment gateway and after payment they will receive an invoice.

Customer who comes directly to the showroom for vehicle servicing service manager will do all the registration process for the customer. Also, service manager will create invoice for the servicing.

## **CHAPTER 1: INTRODUCTION**

### **1.1 Introduction:**

The “Vehicle Showroom and Service Management System” has been developed to override the problems prevailing in the practicing manual system. This software is supported to eliminate and in some cases reduce the hardships face by this existing system. Moreover this system is designed for the particular need of the company to carry out operations in a smooth and effective manner.

This system also enables a user friendly experience for the ease of customers to enjoy various services such as view/buy vehicles available in the showroom and also to choose the several services for the maintenance of the vehicle with auto billing facility wherein the invoice will be immediately provided to the customer.

Our online showroom plays a significant role in the evolving automobile industry. It provides amazing opportunities for vendors and create an amazing shopping experience for customers. Our system’s pivotal role is that it is responsible not only for a service but also for every single vendor that runs a online showroom on the defined platform.

## **1.2 Aim:**

The aim of the system is to provide hassle-free user experience to both customers and vendors. It also facilitates numerous showroom services via online platform.

Customer can browse the vehicles online and also reserve the vehicle to purchase. And also it avails the customer to enjoy services involving the maintenance of the vehicle.

Vendor has a totally wonderful experience in order to manage the vehicle showroom and service maintenance activities seamlessly such as vehicle and employee management.

## **1.3 Existing System**

The old manual system was suffering from a series of drawbacks. Since whole of the system was to be maintained with hands the process of keeping, maintaining and retrieving the information was very tedious and lengthy. The records were never used to be in a systematic order. There used to be lots of difficulties in associating any particular transaction with a particular context. If any information was to be found it was required to go through the different registers, documents there would never exist anything like report generation. There would always be unnecessary consumption of time while entering records and retrieving records. One more problem was that it was very difficult to find errors while entering the records. Once the records were entered it was very difficult to update these records.

The project, Vehicle Showroom and Service Management System, is a web-based application that allows smooth operation of various activities of a vehicle showroom for both customer and showroom manager i.e. vendor.

This software application helps in managing all the data of showroom and avoids manual hours that need to spend in record keeping. This application keeps the data in a centralized way which is available to admin and employees of showroom. No specific training is required for the vendors to use this application. This software application also helps customers to connect to the vehicle showroom from any remote location to avail the services without visiting the showroom.

## **CHAPTER 2. PRODUCT OVERVIEW AND SUMMARY**

### **2.1 Purpose:**

The main purpose for preparing this document is to give a general insight into the analysis and requirements of the existing system or situation and for determining the operating characteristics of the system.

This system also enables a user friendly experience for the ease of customers to enjoy various services such as view/buy vehicles available in the showroom and also to choose the several services for the maintenance of the vehicle with auto billing facility wherein the invoice will be immediately provided to the customer.

Vendor has a totally wonderful experience in order to manage the vehicle showroom and service maintenance activities seamlessly such as vehicle and employee management

### **2.2 Scope:**

We all know the importance of computerization. The world is moving ahead at lightning speed and everyone is running short of time. One always wants to get the information and perform a task he/she/they desire(s) within a short period of time and too with amount of efficiency and accuracy. The application areas for the computerization have been selected on the basis of following factors:

- Minimizing the manual records kept at different locations.
- There will be more data integrity.
- Facilitating desired information display, very quickly, by retrieving information from users.
- Facilitating various statistical information which helps in decision-making.
- To reduce manual efforts in activities that involved repetitive work.
- Updating and deletion of such a huge amount of data will become easier

### **2.3 Overview:**

Vehicle Showroom and Service Management System web application is created for smooth operation of various activities of showroom and has following stages.

For Admin:

- Login
- Show all Vehicles and Add/Update/Delete Vehicle
- View Vehicle Details
- Add/Update/Delete Customer
- View Customer List
- Add/Update/Delete Employee
- View Employee List
- View Booked Services List
- Get/Add/Update/Delete Service Types
- View Invoices List

For Employee:

- Login
- Add Customer
- Book Vehicle for Customer
- View Booked Services List and Details
- Sell Vehicle

For Customer:

- Register/Login
- View Available Vehicles
- Book Vehicle / Service
- Book Test Drive

## **For Admin:**

### **Login:-**

On this page admin should enter his login details and he will be accessible to all the admin operations.

### **Show All Vehicles:-**

Admin can view the list of all the vehicles available in the showroom.

### **Add / Update/ Delete Vehicle:-**

When new stock of vehicles arrives in the showroom , Admin can add / update vehicles in the database. And when a vehicle gets sold he can delete that vehicle from list of available vehicles.

### **Add/Update/Delete Customer:-**

Admin can also manage the customer list. He can add/update/delete a customer from the list if required.

### **View Customer List:-**

Admin can view the entire customers in the customer list.

### **Add/Update/Delete Employee:-**

Admin can add new employee data when new employee joins the showroom company. He can also update the data of existing employee if needed. When employee leaves the job then admin can delete that specific employee from the list.

### **View Employee List:-**

Admin can view the entire employee who are currently working in the showroom.

### **View Booked Services List:-**

Admin can view the list of all booked services at that point of time.

## **Get/Add/Update/Delete Service Types:-**

Admin can get information about what type of services are available in the showroom. He can also add/update/delete the specific service available in the showroom.

## **For Employee :**

### **Login:-**

On this page employee should enter his login details and he will be accessible to all the employee operations.

### **Add Customer:-**

In case a customer directly visits the showroom directly then employee can add the customer and his details in system.

### **Book Vehicle for Customer:-**

He can also book the vehicle for customer when customer directly visits the showroom.

### **View Booked Services List and Details:-**

Employee can see the list of booked services and details of booked services.

## **For Customer:**

### **Register / Login:-**

On this page employee should enter his login details and he will be accessible to all the employee operations.

### **View Available Vehicles:-**

When customer visits the showroom website he can see detailed information of all available vehicles for sale in the showroom at that point of time.

### **Book Vehicle / Service:-**

Customer can book new vehicle or other services for maintenance of his vehicle from website.

**Book Test Drive:-**

Customer can book test drive. bookshelf to be sold.

## **2.4 Feasibility Study**

### **Feasibility**

After doing the project Vehicle Showroom Management System, study and analyzing all the existing or required functionalities of the system, the next task is to do the feasibility study for the project. All projects are feasible - given unlimited resources and infinite time.

Feasibility study includes consideration of all the possible ways to provide a solution to the given problem and also determining whether a project's worth doing or not. The proposed solution should satisfy all the user requirements and should be flexible enough so that future changes can be easily done based on the future upcoming requirements.

Before actually recommending the new system it is important to investigate if it is feasible to develop the new system. Before developing and implementing a system we have to make sure that our system is feasible in the following ways:

1. Technical Feasibility.
2. Operational Feasibility.
3. Economical Feasibility

#### **Technical Feasibility:**

In this type of feasibility study, the system analyst has to check whether it is possible or not to develop the requested system with availability of manpower, software etc. The system which we run on Windows is suitable for clients.

This included the study of function, performance and constraints that may affect the ability to achieve an acceptable system. For this feasibility study, we studied complete functionality to be provided in the system, as described in the System Requirement Specification (SRS), and checked if everything was possible using different type of frontend and backend platforms.

#### **Operational Feasibility:**

In this type of feasibility study the operation implementation of the system is considered. Checking is done regarding whether it is feasible for the user department to use the website. Thus the proposed system is said to be operationally feasible only if the clients are able to understand the system clearly and correctly and can use the system with ease.

No doubt the proposed system is fully GUI based that is very user friendly and all inputs to be taken are self-explanatory even to a layman. Besides, a proper

training has been conducted to let know the essence of the system to the users so that they feel comfortable with new system. As far our study is concerned the clients are comfortable and happy as the system has cut down their loads and doing.

### **Economical Feasibility:**

This is a very important aspect to be considered while developing a project. In this type of feasibility study, the benefits of the system to the organization are considered by taking into consideration the cost-benefit analysis. We decided the technology based on minimum possible cost factor.

The basic software, which is required for the implementation of the system, is Windows andLinux which easily available. Thus, this website is feasible for the organization and loading Linux/Windows and the proposed website is economically feasible for the user.

All hardware and software cost has to be borne by the organization.

Overall we have estimated that the benefits the organization is going to receive from the proposed system will surely overcome the initial costs and the later on running cost for system.

## **CHAPTER 3: REQUIREMENTS**

### **3.1 Functional Requirements:**

A Functional requirement defines a function of a software system or its components. A function is described as asset of inputs, the behavior, and outputs. Functional requirements may be calculations, technical details, data manipulation and processing and other specific functionality that defines what a system is supposed to accomplish. Behavioral requirements describing all the cases where the system uses the functional requirements are captured in use cases. Functional requirements are supported by non-functional requirements (also known as quality requirements), which impose constraints on the design or implementation (such as performance requirements, security, or reliability).

The System must provide following Functionalities:-

- Admin
- Employee
- Customer
- Vehicle

#### **Admin**

The Admin has the overall jurisdiction of the project for managing the Employee, Customer and Vehicles.

#### **Employee**

Every authorized employee in the showroom service center will have a unique username and password, by which they logs on to the system for customer management and vehicle sales.

#### **Customer**

Every registered employee in the showroom and service center will have a unique username and password, by which they logs on to the system to avail the numerous services provided by the system.

#### **Vehicle**

The vehicles which are available in the showroom can be managed by admin

### **3.2 Non-Functional Requirements:**

A non-functional requirement is a requirement that specifies criteria that can be used to judge the operation of a system, rather than specific behaviors. This should be contrasted with functional requirement that defines specific behavior or functions. The plan for implementing functional requirements is detailed in the system design. The plan for implementing nonfunctional requirements is detailed in the system architecture. Broadly, functional requirement define what a system is supposed to do whereas non-functional requirements define how a system is supposed to be. Non- functional requirements are often called qualities of a system. Other terms for non-functional requirements are “constraints”, “quality attribute”, “quality goals” “quality of service requirements” and “non-behavioral requirements”. Informally these are sometimes called the “utilities”, from attributes like stability and portability. Qualities, that are non-functional requirements, can be divided into two main categories:

1. Execution qualities, such as security and usability, which are observable at run time.
2. Evolution qualities, such as testability maintainability, extensibility and scalability, which are embodied in the static structure of the software system.

The Automobile Service Management System has the following non-functional requirements:

- 24 X 7 availability.
- Better component design to get better performance.
- Flexible service based architecture will be highly desirable for future extension.
- Ease of Use-flexibility, performance.
- Security- Privacy, Confidentiality, Integrity, Authentication.
- Comprehensiveness- Transferability, Divisibility, Standardization.
- Maintenance

## CHAPTER 4: PROJECT DESIGN

### 4.1 Data Model:

The following table structures depict the database design:

#### TABLES:

##### 1. Table of forgot\_password\_tb

```
mysql> desc forgot_password_tb;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| id    | int    | NO   | PRI | NULL    | auto_increment |
| email | varchar(255) | YES  |     | NULL    |
| otp   | double  | NO   |     | NULL    |
+-----+-----+-----+-----+-----+
3 rows in set (0.11 sec)
```

##### 2. Table of customer\_tb

```
mysql> desc customer_tb;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| id    | int    | NO   | PRI | NULL    | auto_increment |
| active | bit(1) | NO   |     | NULL    |
| city   | varchar(30) | YES  |     | NULL    |
| country | varchar(30) | YES  |     | NULL    |
| state   | varchar(30) | YES  |     | NULL    |
| zip_code | varchar(30) | YES  |     | NULL    |
| contact_no | varchar(255) | NO   |     | NULL    |
| registration_date | date | YES  |     | NULL    |
| email_id | varchar(255) | YES  | UNI | NULL    |
| customer_name | varchar(255) | NO   |     | NULL    |
+-----+-----+-----+-----+-----+
```

##### 3. Table of roles

```
mysql> desc roles;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| id    | int    | NO   | PRI | NULL    | auto_increment |
| name   | varchar(20) | YES  |     | NULL    |
+-----+-----+-----+-----+-----+
```

#### 4. Table of employee\_tb

```
mysql> desc employee_tb;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | int   | NO   | PRI | NULL    | auto_increment |
| city  | varchar(30) | YES  |     | NULL    |                |
| country | varchar(30) | YES  |     | NULL    |                |
| state | varchar(30) | YES  |     | NULL    |                |
| zip_code | varchar(30) | YES  |     | NULL    |                |
| account_no | varchar(30) | YES  |     | NULL    |                |
| ifsc_code | varchar(30) | YES  |     | NULL    |                |
| location | varchar(30) | YES  |     | NULL    |                |
| bank_name | varchar(30) | YES  |     | NULL    |                |
| basic_salary | double | YES  |     | NULL    |                |
| joining_date | date   | NO   |     | NULL    |                |
| leaving_date | date   | YES  |     | NULL    |                |
| dept_name | varchar(30) | NO   |     | NULL    |                |
| designation | varchar(30) | NO   |     | NULL    |                |
| emp_id | varchar(30) | YES  | UNI | NULL    |                |
| gender | varchar(30) | YES  |     | NULL    |                |
| emp_name | varchar(30) | NO   |     | NULL    |                |
| password | varchar(30) | NO   |     | NULL    |                |
+-----+-----+-----+-----+-----+-----+
```

#### 5. Table of service\_type\_tb

```
mysql> desc service_type_tb;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| id    | int   | NO   | PRI | NULL    | auto_increment |
| amount | double | YES  |     | NULL    |                |
| discount | double | YES  |     | NULL    |                |
| service_description | varchar(255) | YES  |     | NULL    |                |
| service_name | varchar(255) | NO   |     | NULL    |                |
+-----+-----+-----+-----+-----+
```

## 6. Table of vehicle\_model

```
mysql> desc vehicle_model;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id | int | NO | PRI | NULL | auto_increment |
| image_name | varchar(255) | YES | | NULL | |
| model_name | varchar(255) | YES | | NULL | |
| quantity | int | YES | | NULL | |
| base_price | double | NO | | NULL | |
| enginecc | varchar(255) | YES | | NULL | |
| engine_cylinderinfo | varchar(255) | YES | | NULL | |
| fuel_tank_capacity | double | NO | | NULL | |
| mileage | double | NO | | NULL | |
| seating_capacity | int | NO | | NULL | |
| segment | varchar(255) | YES | | NULL | |
| transmission | varchar(255) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
```

## 7. Table of vehicle\_tb

```
mysql> desc vehicle_tb;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| chassis_no | varchar(255) | NO | PRI | NULL | |
| booking_status | bit(1) | YES | | NULL | |
| color | varchar(255) | YES | | NULL | |
| booking_date | date | YES | | NULL | |
| purchase_date | date | YES | | NULL | |
| engine_no | varchar(255) | NO | UNI | NULL | |
| model_name | varchar(255) | NO | | NULL | |
| price | double | YES | | NULL | |
| purchasing_status | bit(1) | YES | | NULL | |
| vehicle_no | varchar(255) | YES | UNI | NULL | |
| vehicle_type | varchar(255) | NO | | NULL | |
| customer_id | int | YES | MUL | NULL | |
+-----+-----+-----+-----+-----+-----+
```

8. Table of book to service\_service\_type

```
mysql> desc service_service_type;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| service_id | int | NO | PRI | NULL |
| service_type_id | int | NO | PRI | NULL |
+-----+-----+-----+-----+-----+
```

9. Table of service\_tb

```
mysql> desc service_tb;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| id | int | NO | PRI | NULL | auto_increment |
| customer_id | int | YES | | NULL |
| customer_name | varchar(30) | NO | | NULL |
| emp_id | int | YES | | NULL |
| kms_driven | double | YES | | NULL |
| model_name | varchar(30) | YES | | NULL |
| booking_date | date | NO | | NULL |
| service_date | date | YES | | NULL |
| vehicle_no | varchar(30) | NO | | NULL |
+-----+-----+-----+-----+-----+
```

10. Table of user roles

```
mysql> desc user_roles;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| user_id | int | NO | PRI | NULL |
| role_id | int | NO | PRI | NULL |
+-----+-----+-----+-----+-----+
```

### 11.Table of users

```
mysql> desc users;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id | int | NO | PRI | NULL | auto_increment |
| active | bit(1) | NO | | NULL |
| email | varchar(30) | YES | UNI | NULL |
| password | varchar(300) | YES | | NULL |
| user_name | varchar(30) | YES | | NULL |
+-----+-----+-----+-----+-----+
```

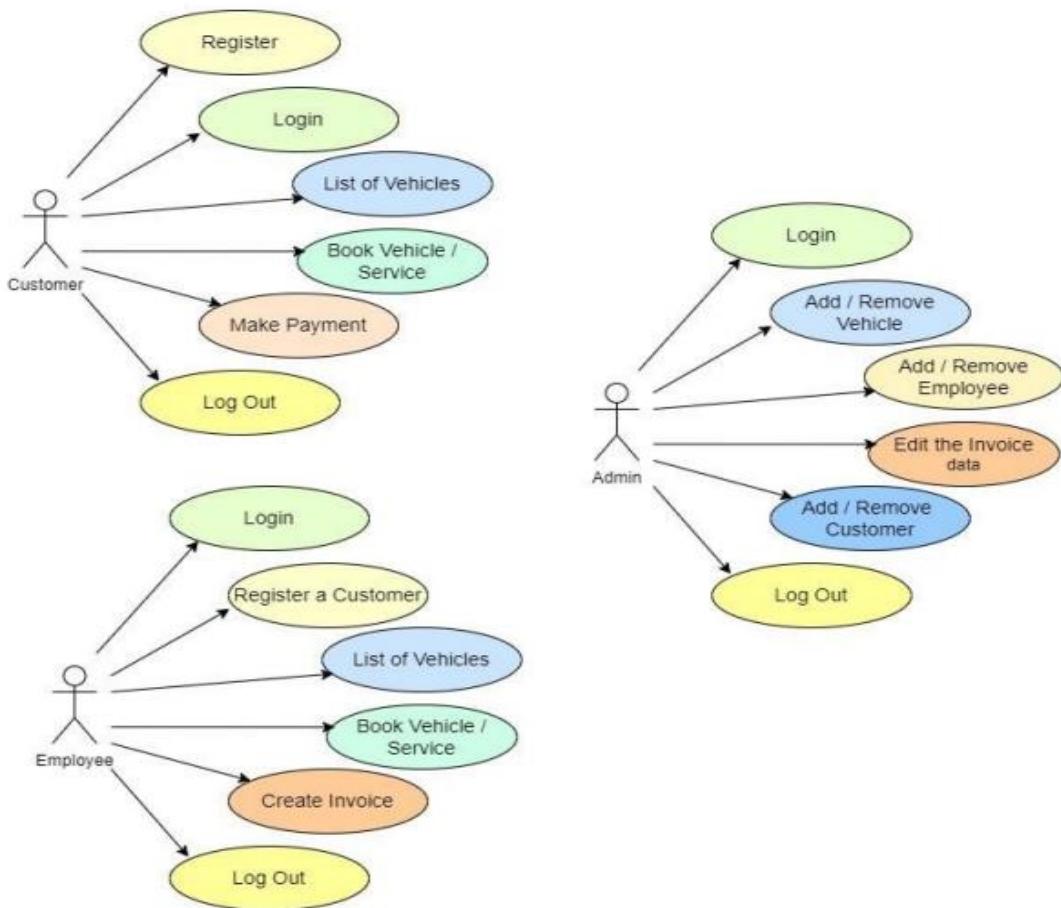
### 12. Table of Invoices

```
mysql> desc invoice;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id | int | NO | PRI | NULL | auto_increment |
| invoice_date | date | YES | | NULL |
| total_cost | double | NO | | NULL |
| typeof_invoice | varchar(255) | YES | | NULL |
| bookservice_id | int | YES | MUL | NULL |
| customer_id | int | YES | MUL | NULL |
| vehicle_chassis_no | varchar(255) | YES | MUL | NULL |
+-----+-----+-----+-----+-----+-----+
7 rows in set (1.12 sec)
```

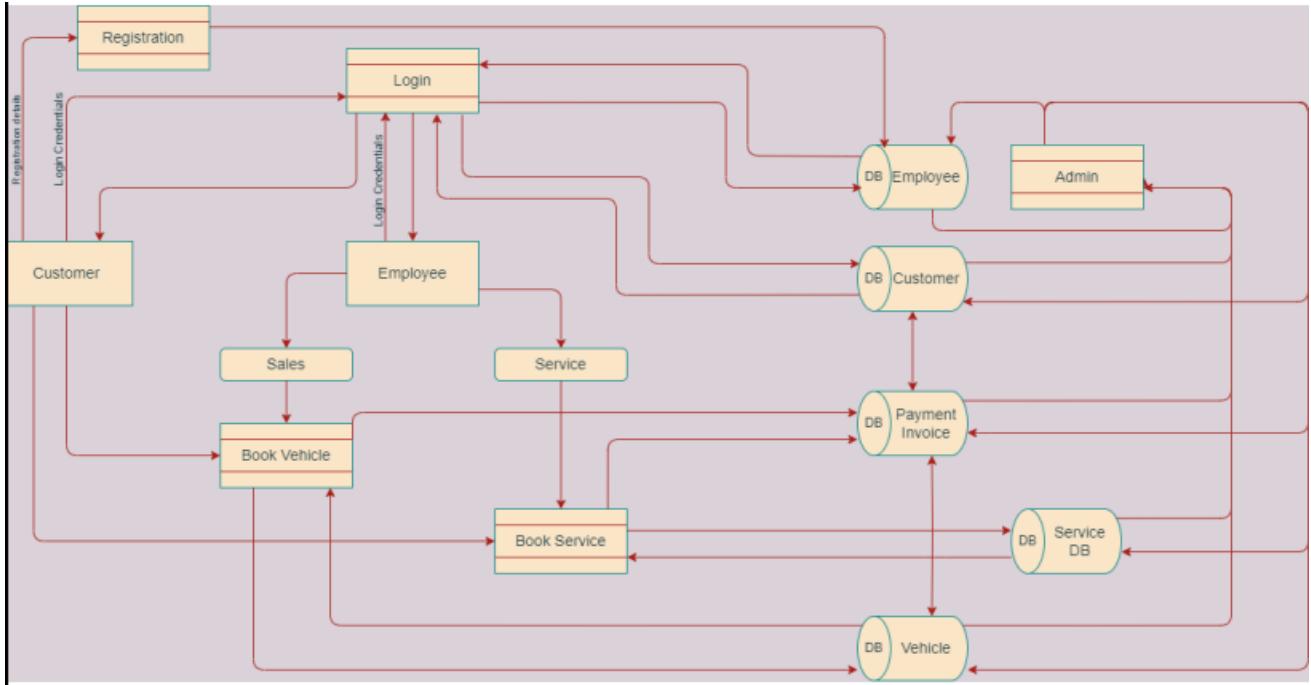
#### 4.2.1 Functional Decomposition Diagram:

This is the functional decomposition diagram of our web application.

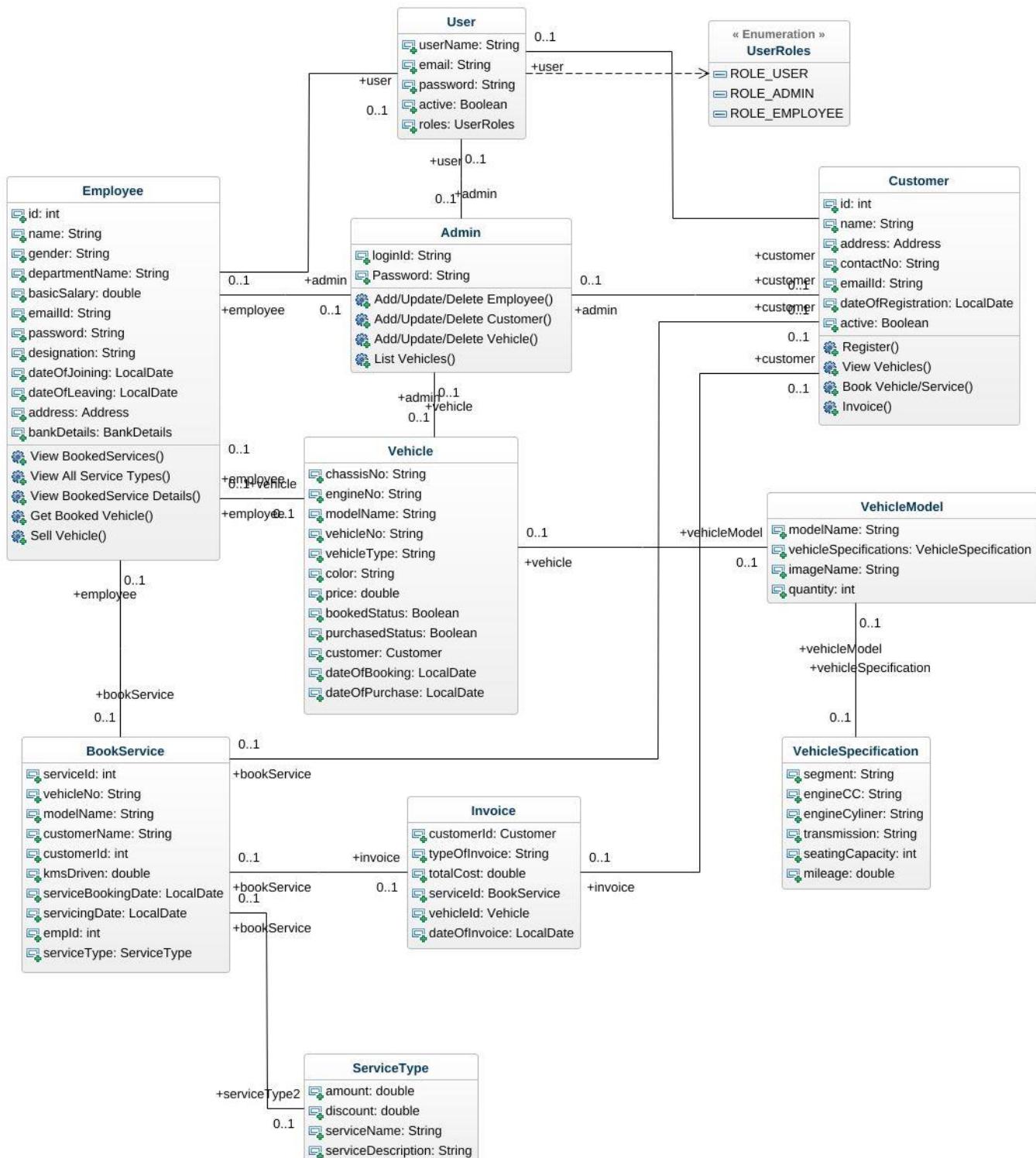
#### USECASE DIAGRAM



## DATAFLOW DIAGRAM

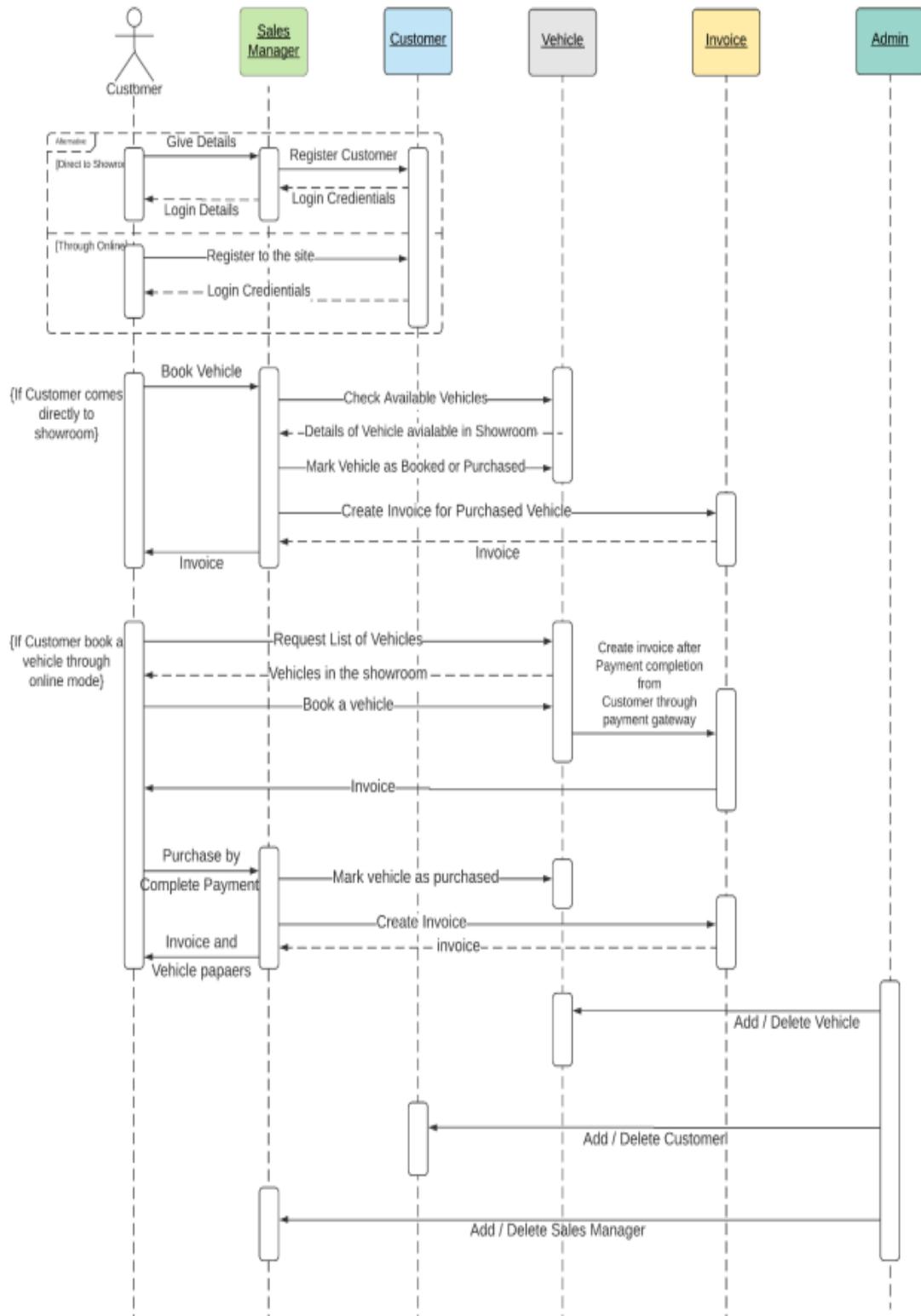


## CLASS DIAGRAM

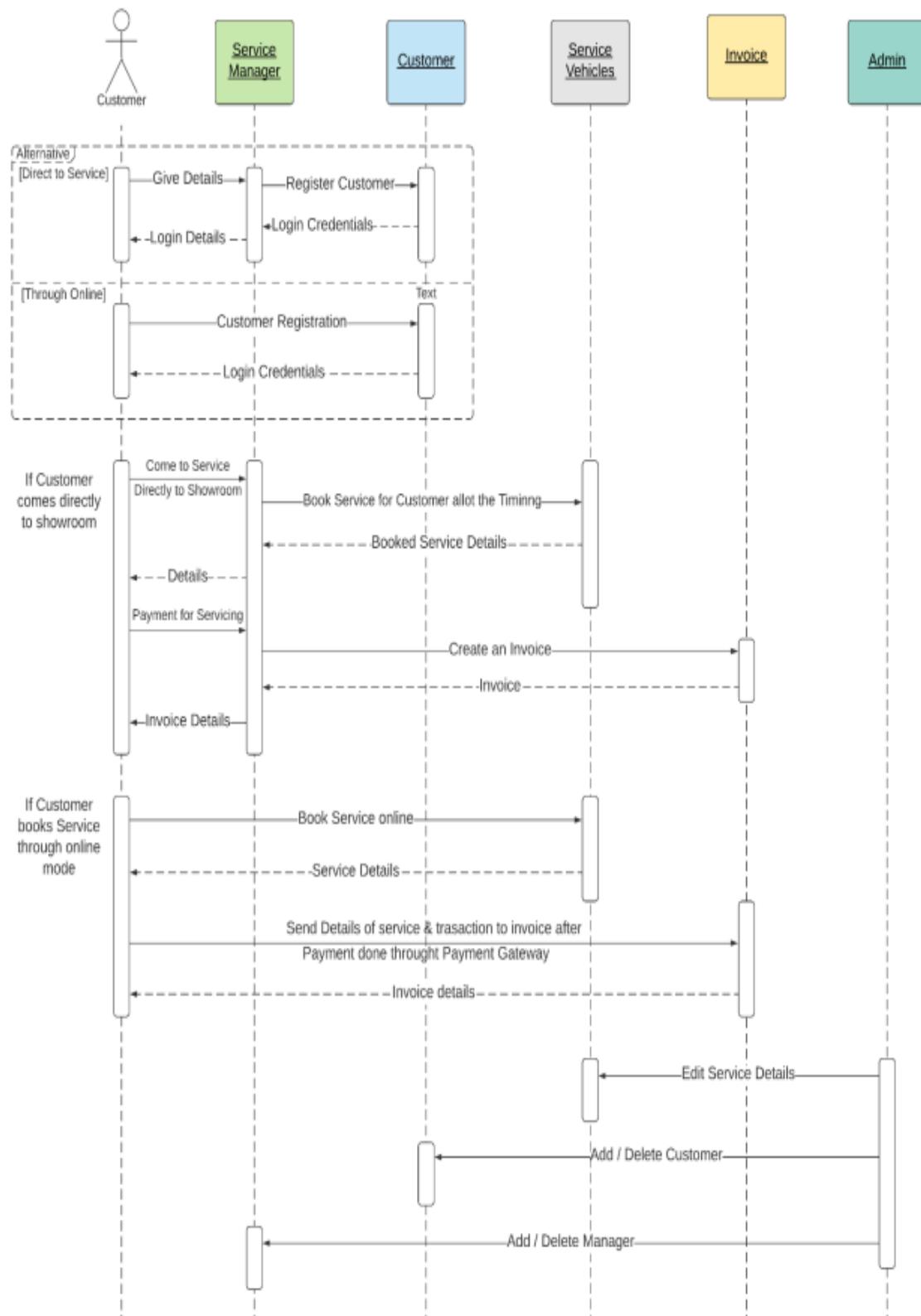


## ACTIVITY SEQUENCE

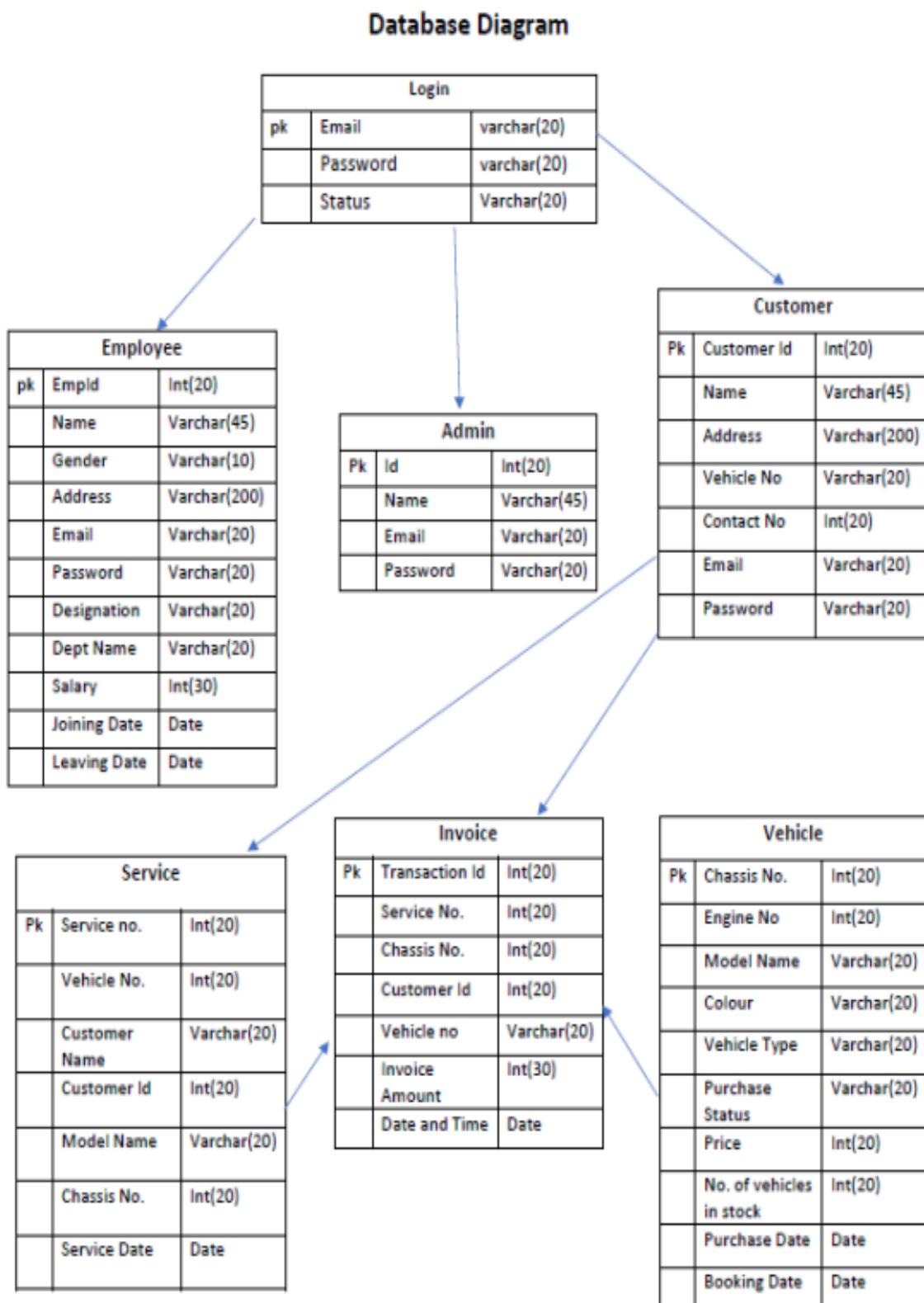
### 1. To Purchase a Vehicle



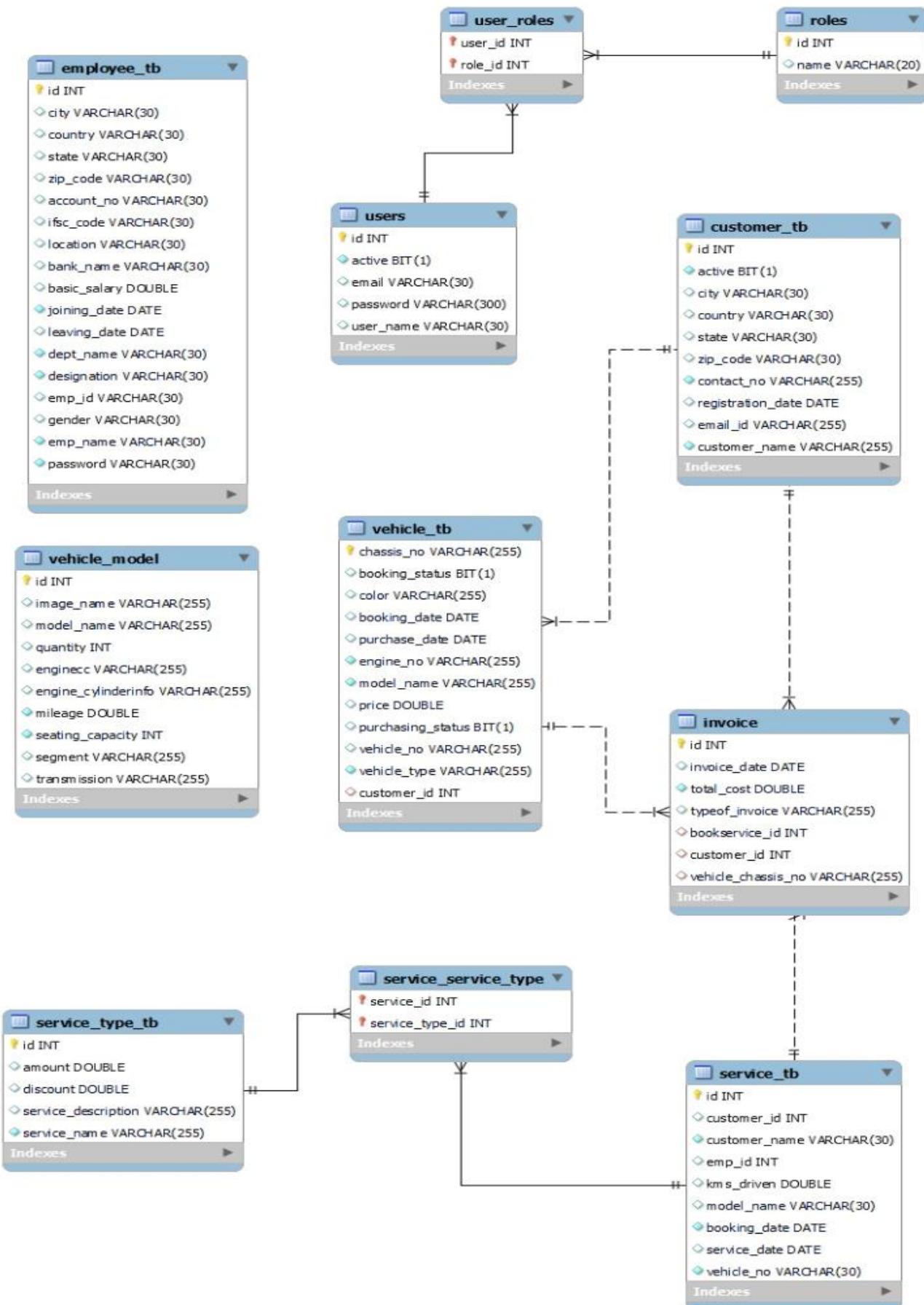
## 2.To Book a Service



## DATABASE DIAGRAM



### 4.3 E-R diagram:



## CHAPTER 5: PROJECT SCREENSHOTS

### 5.1 Admin

#### 1. Admin Home page to view list of employees

The screenshot shows a web browser window with the URL [localhost:3000/admin/employeeList](http://localhost:3000/admin/employeeList). The page title is "CarShowRoom". On the left, there is a sidebar with buttons for "Employee Management", "Vehicle Management", "Customer Management", "Service Section", and "Billing Section". The main content area is titled "List of Employees" and contains a table with three rows of employee data. The columns are "ID", "Employee Name", "Address", "Department", "View", "Update", and "Delete". The first row has ID 4, Employee Name "Nikhil Bhole", Address "Pune", Department "Showroom Manager", and links for View, Update, and Delete. The second row has ID 5, Employee Name "Akshay Patil", Address "Pune", Department "IT", and links for View, Update, and Delete. The third row has ID 8, Employee Name "Akshay Sanjay Patil", Address "Pune", Department "IT", and links for View, Update, and Delete. A "Filter Table" button is also present.

#### 2. to view details of a particular employee

The screenshot shows a web browser window with the URL [localhost:3000/admin/employeeList/details/5](http://localhost:3000/admin/employeeList/details/5). The page title is "CarShowRoom". On the left, there is a sidebar with buttons for "Employee Management", "Vehicle Management", "Customer Management", "Service Section", and "Billing Section". The main content area is titled "Information" and displays a table of employee details. The columns include Employee ID (5), Employee Name (Akshay Patil), Employee Password (123456789), Employee Email ID (patilakshay1779@gmail.com), Employee Contact No (654876516), Employee Date Of Joining (2022-03-31), Employee Address (Pune), State (Maharashtra), Country (India), Zip-Code (411033), Bank Name (STATE BANK OF INDIA), Bank Account Number (6843866487), Bank IFSC Code (IFSC456), and Branch Location (Pune). A "Back" button is located at the bottom right.

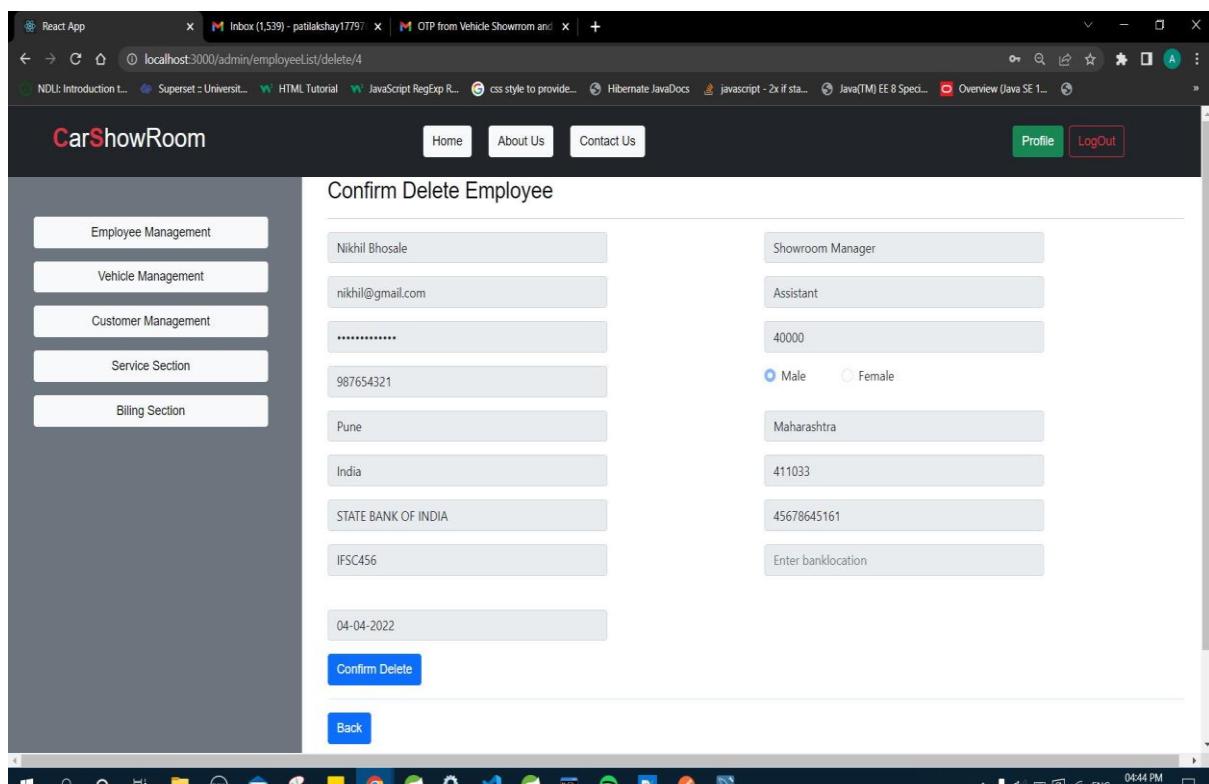
### 3 .Page for adding an employee

The screenshot shows a web browser window titled 'React App' with the URL 'localhost:3000/admin/employeeList/addEmployee'. The page is titled 'CarShowRoom' and has a navigation bar with links to 'Home', 'About Us', and 'Contact Us'. On the right, there are 'Profile' and 'LogOut' buttons. A sidebar on the left contains buttons for 'Employee Management', 'Vehicle Management', 'Customer Management', 'Service Section', and 'Billing Section'. The main content area is titled 'Add Employee' and displays a success message 'Data Saved'. It includes input fields for Name (Chetan Sukhdev), Department (IT), Email (chetanSukhdev@gmail.com), Location (SEA), Password (\*\*\*\*\*), Salary (78000), Gender (Male selected), Address (Pune), State (Maharashtra), Pincode (411033), Bank (STATE BANK OF INDIA), IFSC (IFSC456), and Date of Joining (12-04-2022). There is also a 'Save' button and a 'Back' button.

### 4. To update details of existing employee

The screenshot shows a web browser window titled 'React App' with the URL 'localhost:3000/admin/employeeList/edit/5'. The page is titled 'CarShowRoom' and has a navigation bar with links to 'Home', 'About Us', and 'Contact Us'. On the right, there are 'Profile' and 'LogOut' buttons. A sidebar on the left contains buttons for 'Employee Management', 'Vehicle Management', 'Customer Management', 'Service Section', and 'Billing Section'. The main content area is titled 'Update data of Employee Akshay Patil' and displays a success message 'Data Updated'. It includes input fields for Name (Akshay Patil), Department (IT), Email (patilakshay17797@gmail.com), Location (SEA), Password (\*\*\*\*\*), Salary (70000), Gender (Male selected), Address (Pune), State (Maharashtra), Pincode (411033), Bank (STATE BANK OF INDIA), IFSC (IFSC456), and Date of Joining (31-03-2022). There is also an 'Update' button and a 'Back' button.

## 5 To delete an employee



## Vehicle Management Functionalities by Admin

### 1 To view list of available vehicles

The screenshot shows a web application titled "CarShowRoom" with a sidebar containing links for Employee Management, Vehicle Management, Customer Management, Service Section, and Billing Section. The main content area is titled "List of Vehicle" and displays a table of vehicle data. The table has columns for Chassis Number, Model Name, Vehicle Type, Price, View, Update, and Delete. The data in the table is as follows:

Chassis Number	Model Name	Vehicle Type	Price	View	Update	Delete
123zxc	Honda City	PETROL	452222	<a href="#">View</a>	<a href="#">Update</a>	<a href="#">Delete</a>
369ffff	Honda Amaze	PETROL	456879	<a href="#">View</a>	<a href="#">Update</a>	<a href="#">Delete</a>
456746e	Honda City	PETROL	543532	<a href="#">View</a>	<a href="#">Update</a>	<a href="#">Delete</a>
456kkk	Honda City	DIESEL	1468000	<a href="#">View</a>	<a href="#">Update</a>	<a href="#">Delete</a>
4645s6g	Honda Civic	PETROL	87894	<a href="#">View</a>	<a href="#">Update</a>	<a href="#">Delete</a>
466678a	Honda Jazz	DIESEL	464646	<a href="#">View</a>	<a href="#">Update</a>	<a href="#">Delete</a>
5214ff	Honda Civic	PETROL	45465	<a href="#">View</a>	<a href="#">Update</a>	<a href="#">Delete</a>
548af4	Honda City	PETROL	765412	<a href="#">View</a>	<a href="#">Update</a>	<a href="#">Delete</a>
789aaa	Honda Jazz	DIESEL	788954	<a href="#">View</a>	<a href="#">Update</a>	<a href="#">Delete</a>

### 2 To view Detailed information of available vehicles

The screenshot shows a web application titled "CarShowRoom" with a sidebar containing links for Employee Management, Vehicle Management, Customer Management, Service Section, and Billing Section. The main content area is titled "Information" and displays a table of vehicle details. The table has columns for Vehicle ID, Model Name, Booking Date, Vehicle Type, Engine Number, Vehicle color, and Vehicle price. The data in the table is as follows:

Vehicle ID	123zxc
Model Name	Honda City
Booking Date	
Vehicle Type	PETROL
Engine Number	456asd
Vehicle color	White
Vehicle price	452222

A "Back" button is located at the bottom right of the information table.

### 3 To add new vehicle model in the showroom

The screenshot shows a web browser window with the URL [localhost:3000/admin/vehicleList/vehicleModelList/addVehicleModel](http://localhost:3000/admin/vehicleList/vehicleModelList/addVehicleModel). The page title is "CarShowRoom". On the left, there is a sidebar with buttons for Employee Management, Vehicle Management, Customer Management, Service Section, and Billing Section. The main content area is titled "Add Vehicle Model". It contains a green header bar with the text "Data Saved". Below it, there are several input fields: "Mahindra Scorpio" (name), "54" (price), "19" (seats), "7" (fuel efficiency), "SUV" (category), "16" (milage), "2149" (model ID), "1112000" (registration number), "2.0 L 4-cylinder, 2.2 L 4-cylinder diesel" (engine type), and a file input field containing "honda\_civic.jpg". There is also a "Choose File" button. A "Manual" button is present at the bottom left, and a "Save" button is at the bottom right. At the very bottom, there is a "Back to Model List" button.

### 4 To add vehicles in bulk quantity

The screenshot shows a web browser window with the URL [localhost:3000/admin/vehicleList/addBulkVehicle](http://localhost:3000/admin/vehicleList/addBulkVehicle). The page title is "CarShowRoom". The sidebar on the left is identical to the previous screenshot. The main content area is titled "Add Vehicle List" and includes a note "(CSV FILE ONLY)". It features a "Choose File" input field with the placeholder "No file chosen" and a "Save" button below it. At the bottom, there is a "Back to Vehicle List" button.

## 5 To update vehicle details

The screenshot shows a web browser window with the URL [localhost:3000/admin/vehicleList/edit/123zxc](http://localhost:3000/admin/vehicleList/edit/123zxc). The page title is "CarShowRoom". On the left, there is a sidebar with buttons for "Employee Management", "Vehicle Management", "Customer Management", "Service Section", and "Billing Section". The main content area is titled "Update Vehicle Details" and contains several input fields: "Honda City" (in a grey box), "Enter Registration Number", "PETROL", "456asd", "123zxc", and "452222". A blue "Update" button is below these fields. At the bottom is a blue "Back to Vehicle List" button.

## 6 To delete a vehicle from showroom

The screenshot shows a web browser window with the URL [localhost:3000/admin/vehicleList/vehicleModelList/delete/13](http://localhost:3000/admin/vehicleList/vehicleModelList/delete/13). The page title is "CarShowRoom". The sidebar has buttons for "Employee Management", "Vehicle Management", "Customer Management", "Service Section", and "Billing Section". The main content area is titled "Confirm Delete Vehicle Model from List" and displays a green success message: "Model Deleted Successfully". It also shows input fields for "Model Name", "Available number of vehicles", "segment", and "Base Price". There are two blue buttons at the bottom: "Confirm Delete Model" and "Back".

# Customer Management Functionalities by Admin

## 1. To view customer list

The screenshot shows a web browser window for 'CarShowRoom' with the URL [localhost:3000/admin/customerList](http://localhost:3000/admin/customerList). The page title is 'List of Customers'. On the left, there is a sidebar with navigation links: Employee Management, Vehicle Management, Customer Management (which is highlighted in blue), Service Section, and Billing Section. The main content area displays a table titled 'List of Customers' with the following data:

ID	Customer Name	Location	Registration Date	View	update	Delete
1	Aniket	satara	2021-01-01	<a href="#">View</a>	<a href="#">Update</a>	<a href="#">Delete</a>
2	Rushi	satara	2021-01-01	<a href="#">View</a>	<a href="#">Update</a>	<a href="#">Delete</a>
3	Akshay	Pune	2022-04-05	<a href="#">View</a>	<a href="#">Update</a>	<a href="#">Delete</a>
6	Akshay Sanjay Patil	Pune	2022-04-05	<a href="#">View</a>	<a href="#">Update</a>	<a href="#">Delete</a>
7	Akshay Patil	Pune	2022-04-05	<a href="#">View</a>	<a href="#">Update</a>	<a href="#">Delete</a>
8	Akshay P	Pune	2022-04-05	<a href="#">View</a>	<a href="#">Update</a>	<a href="#">Delete</a>
9	Ruhi	satara	2021-01-01	<a href="#">View</a>	<a href="#">Update</a>	<a href="#">Delete</a>
10	patil akshay	Pune	2022-04-09	<a href="#">View</a>	<a href="#">Update</a>	<a href="#">Delete</a>

## 2. List of Available services

The screenshot shows a web browser window for 'CarShowRoom' with the URL [localhost:3000/admin/servicesList/serviceTypes](http://localhost:3000/admin/servicesList/serviceTypes). The page title is 'List of Available Services In Showroom'. On the left, there is a sidebar with navigation links: Employee Management, Vehicle Management, Customer Management (which is highlighted in blue), Service Section, and Billing Section. The main content area displays a table titled 'List of Available Services In Showroom' with the following data:

Service Name	Servicing Description	Charges	View	update	Delete
oil change	engine oil will be changed com...	1200	<a href="#">View</a>	<a href="#">Update</a>	<a href="#">Delete</a>
Wheel alignment	Wheel alignment will be check...	1500	<a href="#">View</a>	<a href="#">Update</a>	<a href="#">Delete</a>

# Billing Section

## 1. List of Invoice in Billing Section

The screenshot shows a web browser window for a React App at localhost:3000/admin/billinglist. The title bar includes a Meet - wae-seuo-tbx tab, a React App icon, and standard browser controls. Below the title bar, the address bar shows the URL. The page header features the CarShowRoom logo and navigation links for Home, About Us, Contact Us, Profile, and LogOut. On the left, a sidebar menu lists Employee Management, Vehicle Management, Customer Management, Service Section, and Biling Section, with Biling Section currently selected. The main content area is titled "List of Invoices" and contains a table with five rows of invoice data. The table has columns for ID, Type of Inoice, Date of Invoice, Amount of Invoice, View, and Delete. Each row includes a "View" link and a "Delete" link. A "Filter Table" search bar is located above the table. At the bottom, there are pagination controls for Rows per page (10), current page (1-5 of 5), and navigation arrows.

ID	Type of Inoice	Date of Invoice	Amount of Invoice	View	Delete
1	VEHICLE BOOKING	2022-04-14	11800	<a href="#">View</a>	<a href="#">Delete</a>
2	VEHICLE PURCHASING	2022-04-14	2052000	<a href="#">View</a>	<a href="#">Delete</a>
3	VEHICLE BOOKING	2022-04-14	11800	<a href="#">View</a>	<a href="#">Delete</a>
4	VEHICLE BOOKING	2022-04-14	11800	<a href="#">View</a>	<a href="#">Delete</a>
5	VEHICLE PURCHASING	2022-04-14	1452000	<a href="#">View</a>	<a href="#">Delete</a>

# Employee

## 1. To add a customer

The screenshot shows a web browser window titled "React App" with the URL "localhost:3000/employee/addCustomer". The page has a dark header with the "CarShowRoom" logo and navigation links for "Home", "About Us", and "Contact Us". On the right, there are "Profile" and "LogOut" buttons. The main content area is titled "Add Customer" and contains a form for adding a new customer. The form fields are: Name (Akshay Sanjay Patil), Email (patilakshay17097@gmail.com), Password (\*\*\*\*\*), Phone (09422384715), Address (Pune), City (Maharashtra), State (India), and Pincode (411033). Below the form are "Save" and "Back" buttons.

## 2. List of booked vehicles

The screenshot shows a web browser window titled "React App" with the URL "localhost:3000/employee/sellVehicle". The page has a dark header with the "CarShowRoom" logo and navigation links for "Home", "About Us", and "Contact Us". On the right, there are "Profile" and "LogOut" buttons. The main content area is titled "List of Booked Vehicles" and displays a table of booked vehicles. The table has columns: ID, Customer Name, Booking Date, Purchasing Date, View, and Purchase Vehicle. There are two rows of data:

ID	Customer Name	Booking Date	Purchasing Date	View	Purchase Vehicle
abc12345	Aniket Gorakh Metkari	2022-01-01		<a href="#">View</a>	<a href="#">Purchase Vehicle</a>
abcdefg1235	Ruhi	2022-01-01		<a href="#">View</a>	<a href="#">Purchase Vehicle</a>

### 3 To view details of booked vehicles

The screenshot shows a web browser window with the URL [localhost:3000/employee/sellVehicle/details/abcd12345](http://localhost:3000/employee/sellVehicle/details/abcd12345). The page title is "CarShowRoom". The left sidebar has buttons for "Welcome Employee", "Add Customer", "Book Vehicle for Customer", "Sell Vehicle", and "Booked Services". The main content area is titled "Information" and displays the following details:

Vehicle ID	abcd12345
Model Name	MAHINDRA XUV 700
Booking Date	2022-01-01
Vehicle Type	PETROL
Engine Number	fbjsdbf449
Vehicle color	red
Vehicle price	18000000

A blue "Back" button is at the bottom left, and "Profile" and "LogOut" buttons are at the top right.

### 4 . To purchase booked vehicle

#### 4.1 Booking vehicle

The screenshot shows a web browser window with the URL [localhost:3000/employee/sellVehicle/purchaseVehicle/abcdefg1235](http://localhost:3000/employee/sellVehicle/purchaseVehicle/abcdefg1235). The page title is "CarShowRoom". The left sidebar has buttons for "Welcome Employee", "Add Customer", "Book Vehicle for Customer", "Sell Vehicle", and "Booked Services". The main content area is titled "Information" and displays the following details:

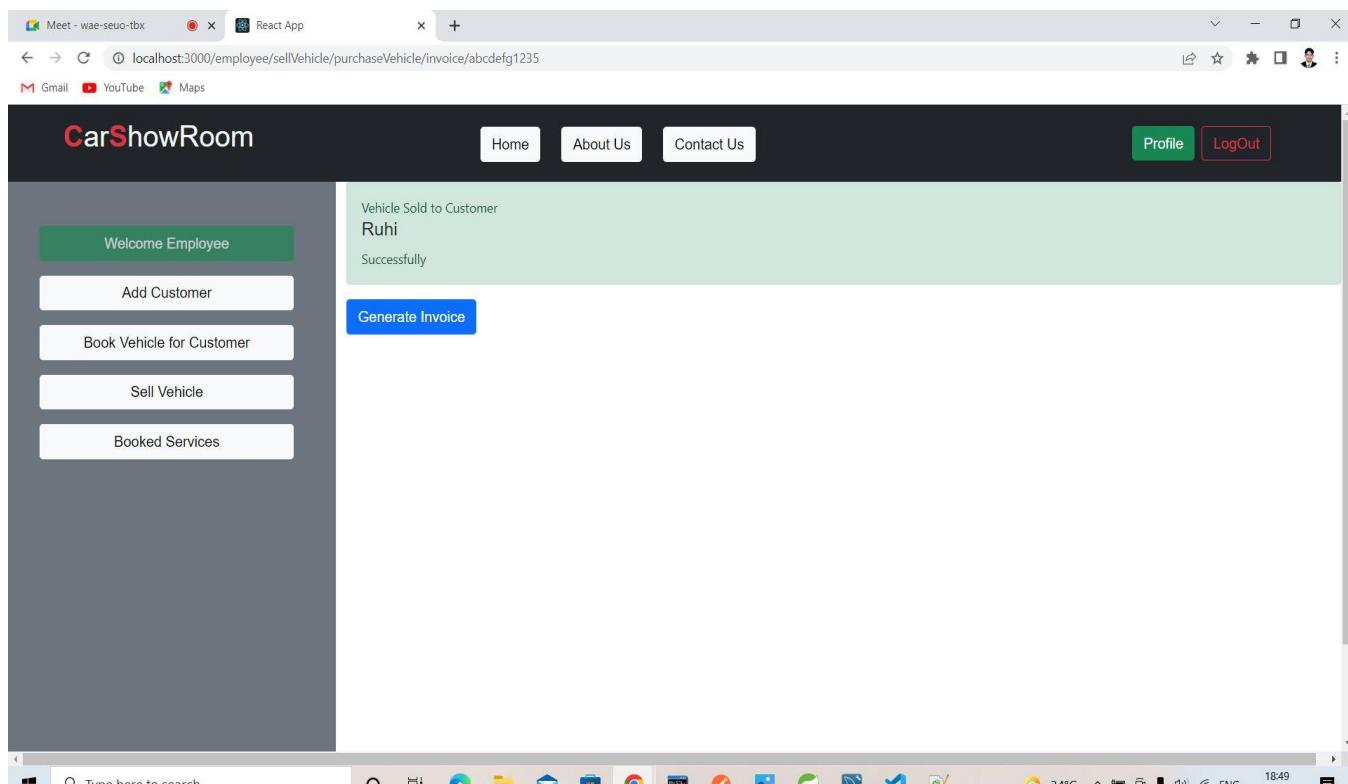
Vehicle ID	abcdefg1235
Model Name	Mahindra Bolero
Booking Date	2022-01-01
Vehicle Type	PETROL
Engine Number	2222bbbbba
Vehicle color	White finish
Vehicle price	1100000

Below the information table is a section titled "Additional Charges" with three items:

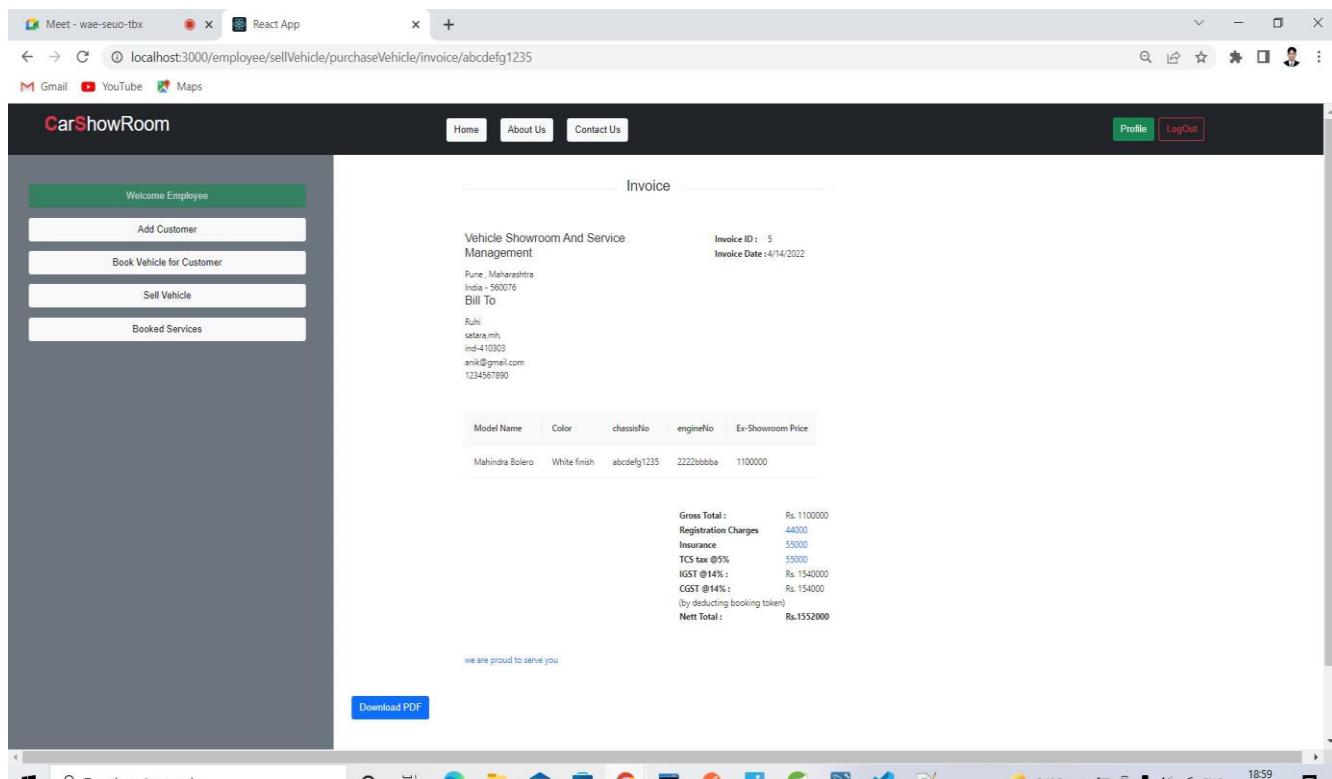
Registration Charges	44000
Insurance	55000
TCS tax @5%	55000

The total cost is listed as 1254000. A blue "Back" button is at the bottom left, and a blue "Continue to Purchase" button is at the bottom right.

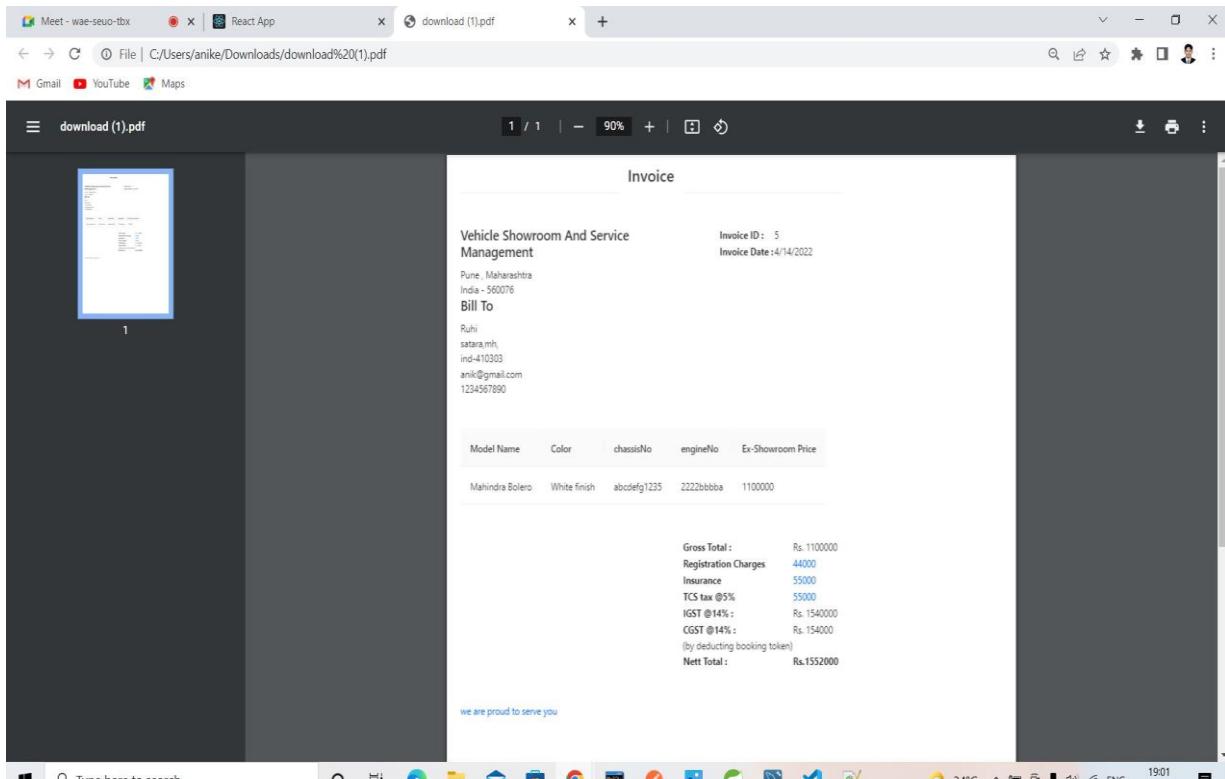
## 4.2 Generated invoice for sold vehicles (payment by cash/loan)



## 4.3 Generated invoice for sold Vehicles



## 4.4 Invoice PDF



## 5 List of booked services

## 6 To view details of booked service

The screenshot shows a web browser window with the URL [localhost:3000/employee/bookedServiceList/details/5](http://localhost:3000/employee/bookedServiceList/details/5). The page title is "CarShowRoom". The left sidebar has buttons for "Welcome Employee", "Add Customer", "Book Vehicle for Customer", "Sell Vehicle", and "Booked Services". The main content area is titled "Information" and displays the following details:

Customer Name	Akshay Patil
Vehicle Registration No	MH-14-HQ-7082
Vehicle Model Name	Celerio
Services Included	Service Name: oil change Service Description: engine oil will be changed completely with new efficient Service charges: 1200
Date of Servicing	2022-04-10
Date of Booking	2022-04-14

Buttons at the bottom are "Send Invoice" and "Back".

## 7 Add Service types to already booked service.

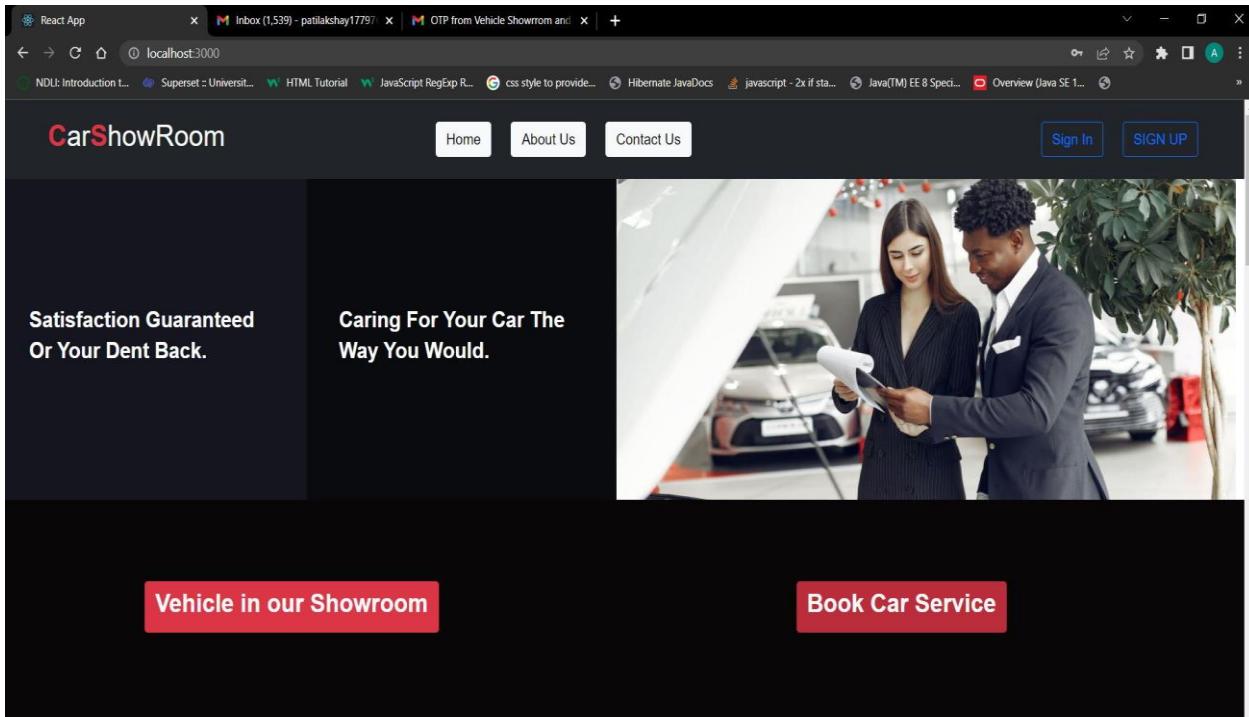
The screenshot shows a web browser window with the URL [localhost:3000/employee/bookedServiceList/addServices/5](http://localhost:3000/employee/bookedServiceList/addServices/5). The page title is "CarShowRoom". The left sidebar has buttons for "Welcome Employee", "Add Customer", "Book Vehicle for Customer", "Sell Vehicle", and "Booked Services". The main content area is titled "Add Service Types To Services" and displays a table of services added:

Services Added		
<input checked="" type="checkbox"/> oil change	engine oil will be changed completely with new efficient	1200
<input checked="" type="checkbox"/> Wheel alignment	Wheel alignment will be checked and set for correct values	1500

Buttons at the bottom are "Add Services" and "Back".

### 3 Customer Flow

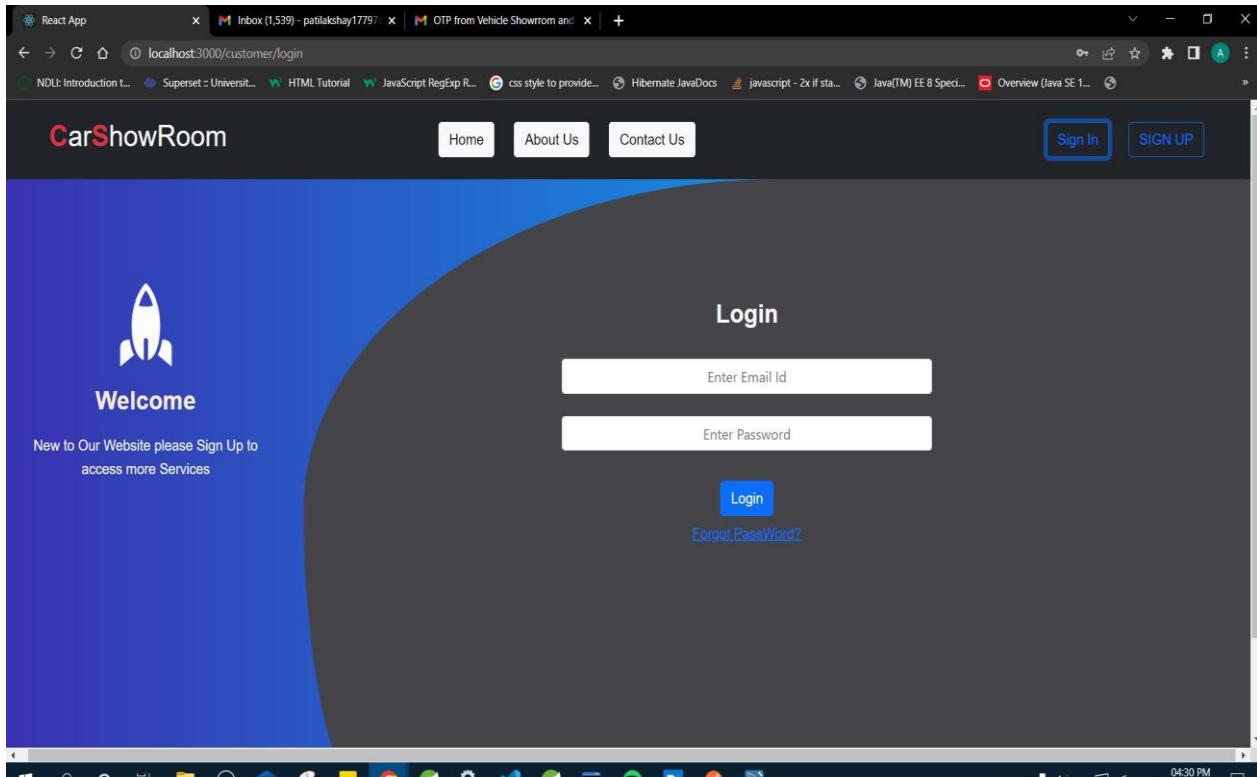
#### 1. Home Page



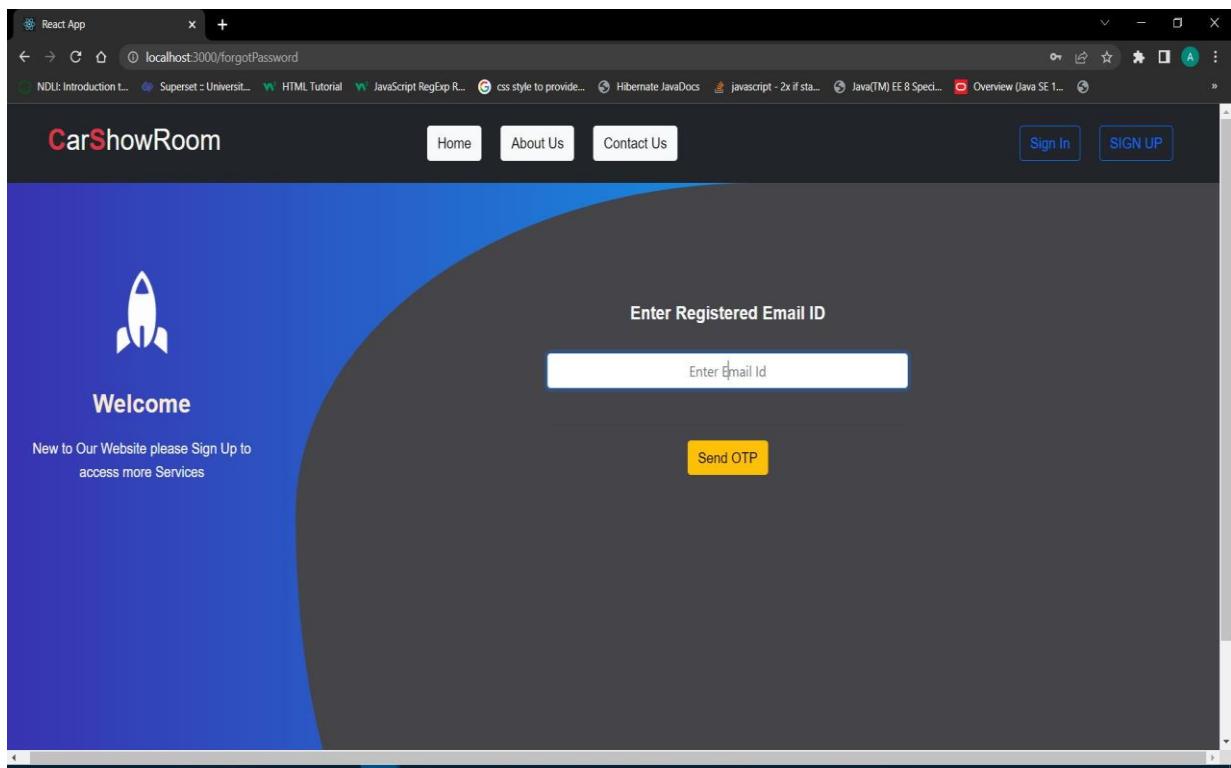
#### 2. Sign up page for new customer to register

A screenshot of a web browser showing the sign-up page for new customers. The title bar says "localhost:3000/customer/registration". The page has a dark header with "CarShowRoom" logo, "Home", "About Us", "Contact Us", "Sign In", and "SIGN UP" buttons. The main area is titled "Sign UP" and contains several input fields: "Enter Full Name" (with placeholder "Address :"), "Enter Email Id" (with placeholder "Enter City"), "Enter Password" (with placeholder "Enter State"), "Confirm Password" (with placeholder "Enter Country"), "Enter Phone Number" (with placeholder "Enter ZipCode"), and a "Register" button.

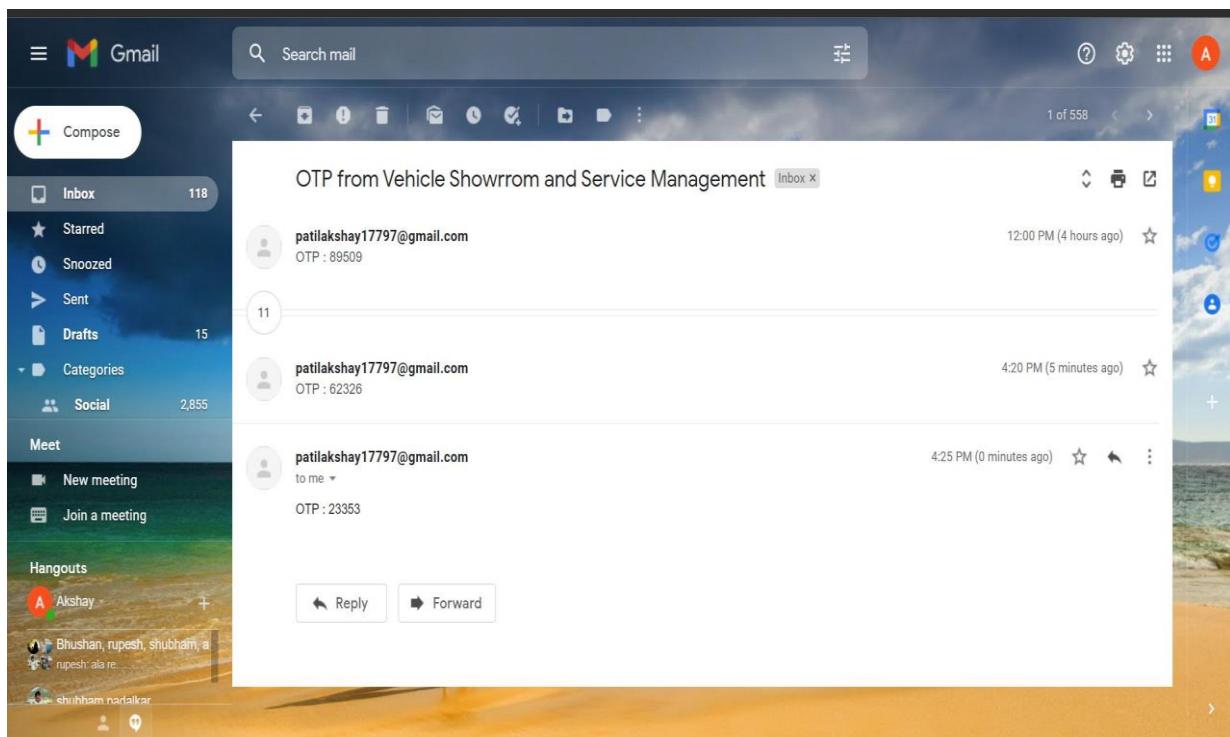
### 3. Login Page for existing customer



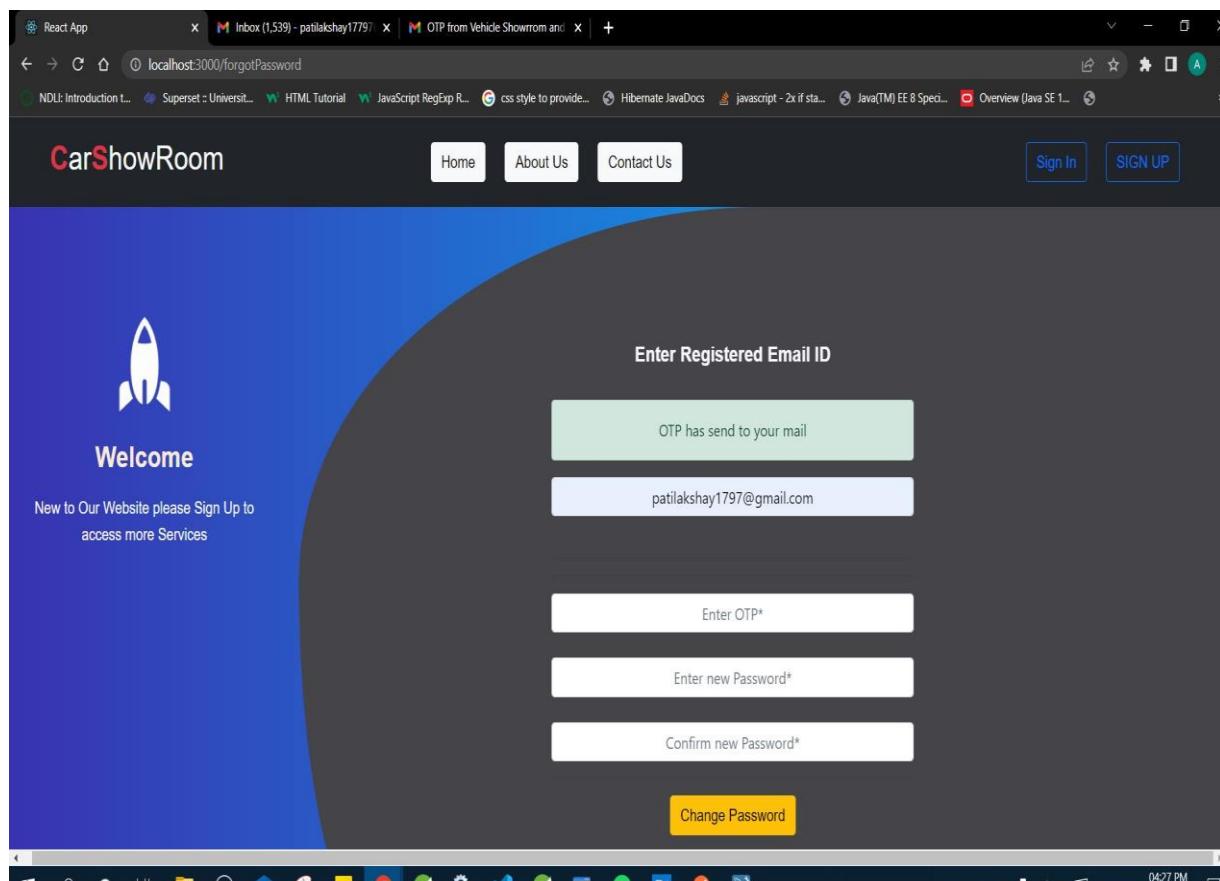
### 4. Redirected to Forgot Password page



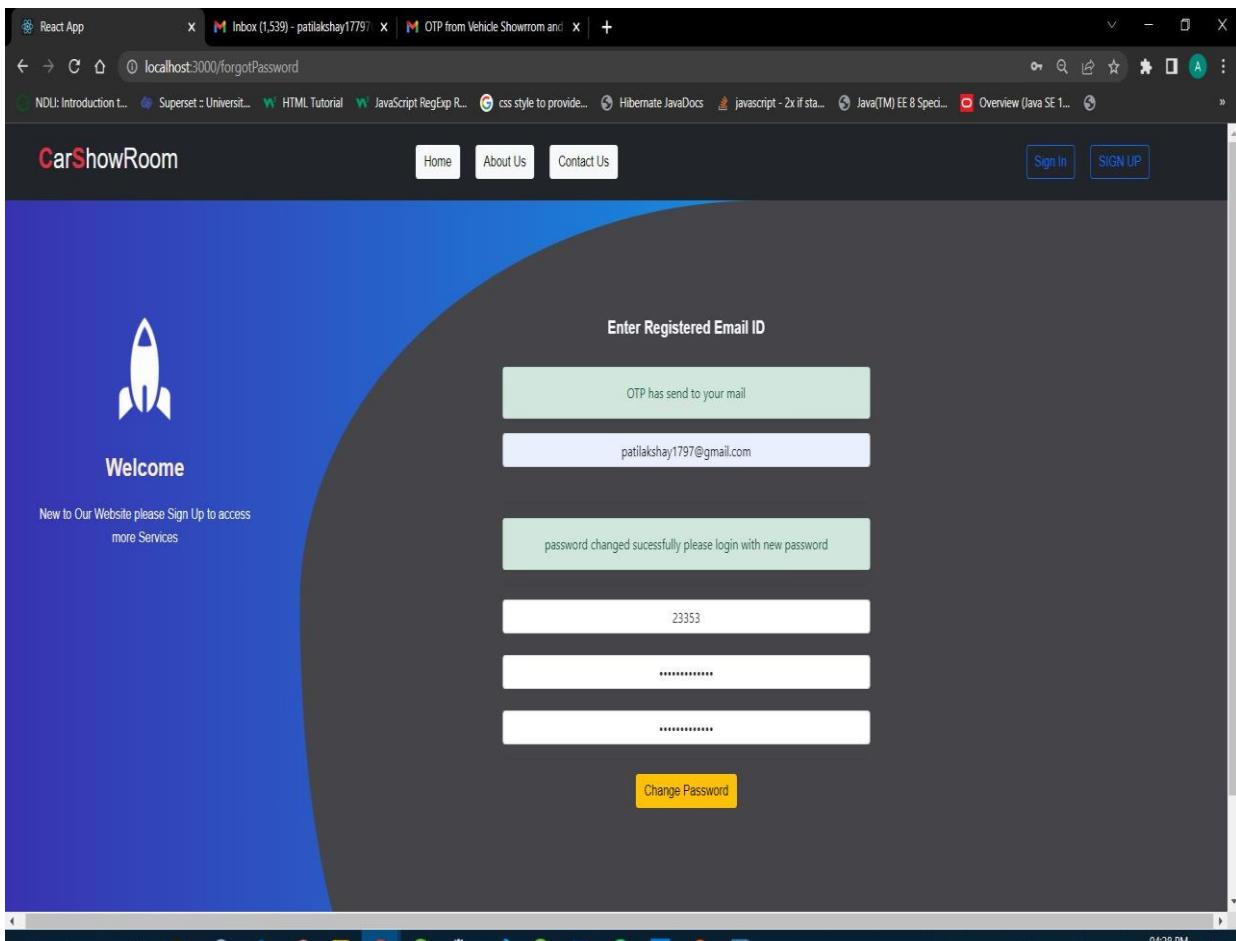
## 5. Mail received by customer for entering OTP



## 6. Page for entering the OTP received by mail



## 7. Password changed successfully



### 3.1 Customer

#### 1. Book Service

##### Service Booking Page for Customer

The screenshot shows a web browser window with the URL [localhost:3000/customer/customerBookService](http://localhost:3000/customer/customerBookService). The page title is "CarShowRoom". On the left sidebar, there are four buttons: "Vehicles", "Book Vehicle", "Book Service" (which is highlighted in blue), and "Book Test Drive". The main content area has a heading "Information". It contains five input fields: "Customer Name" (placeholder "Enter Customer Name."), "Vehicle Registration Number" (placeholder "Enter Vehicle Registration No."), "Vehicle Model Name" (placeholder "Enter Model Name."), "Vehicle Kms Driven" (placeholder "Enter Kms Driven."), and "Select Servicing Date" (placeholder "dd-mm-yyyy", with a calendar icon). At the bottom are two buttons: "Book Service" (blue) and "Back".

Service booking Success by customer

The screenshot shows the same web browser window after a booking. A green success message at the top says "Service Booked for date 19-04-2022". The rest of the page is identical to the previous screenshot, showing the "Information" form with the same fields and values filled in: Customer Name (Akshay Patil), Vehicle Registration Number (MH-14-HQ-7082), Vehicle Model Name (Mahindra Thar), Vehicle Kms Driven (5420), and Select Servicing Date (19-04-2022).

## 2.Book Vehicle

- Vehicle List for Customer to book

The screenshot shows a web browser window with the URL [localhost:3000/customer/availVehicleList](http://localhost:3000/customer/availVehicleList). The page title is "CarShowRoom". On the left sidebar, there are buttons for "Vehicles", "Book Vehicle", "Book Service", and "Book Test Drive". The main content area is titled "Vehicles in Showroom" and displays two vehicle models:

- Mahindra : THAR**
  - Segment : Compact-SUV
  - Engine CC : 2350
  - Engine Info : 3 Cylinder High Performance Engine
  - Transmission : Manual
  - Seating Capacity : 4
  - Mileage : 21 Km/litre
- Mahindra : Scorpio**
  - Segment : SUV
  - Engine CC : 2179
  - Engine Info : 4 Hybrid engine
  - Transmission : Manual
  - Seating Capacity : 7
  - Mileage : 15.4 Km/litre

Each vehicle listing includes a "Book Vehicle" button.

Vehicle details page after selecting vehicle

The screenshot shows a web browser window with the URL [localhost:3000/customer/availVehicleList/book/1](http://localhost:3000/customer/availVehicleList/book/1). The page title is "CarShowRoom". The left sidebar has the same buttons as the previous screenshot. The main content area is titled "Information" and displays the following details for the selected vehicle:

Vehicle ID	1
Model Name	THAR
Quantity Available	10
Segment	Compact-SUV
Engine CC	2350
Vehicle Cylinder Info	3 Cylinder High Performance Engine
Fuel Tank Capacity	55 Litre
Mileage	21 km/litre
Seating Capacity	4
Transmission Type	Manual
Vehicle Base price	1397000
select Vehicle Color	<input checked="" type="radio"/> RED <input type="radio"/> WHITE <input type="radio"/> BLUE <input type="radio"/> BLACK

At the bottom of the form are "Back" and "Proceed to Book" buttons.

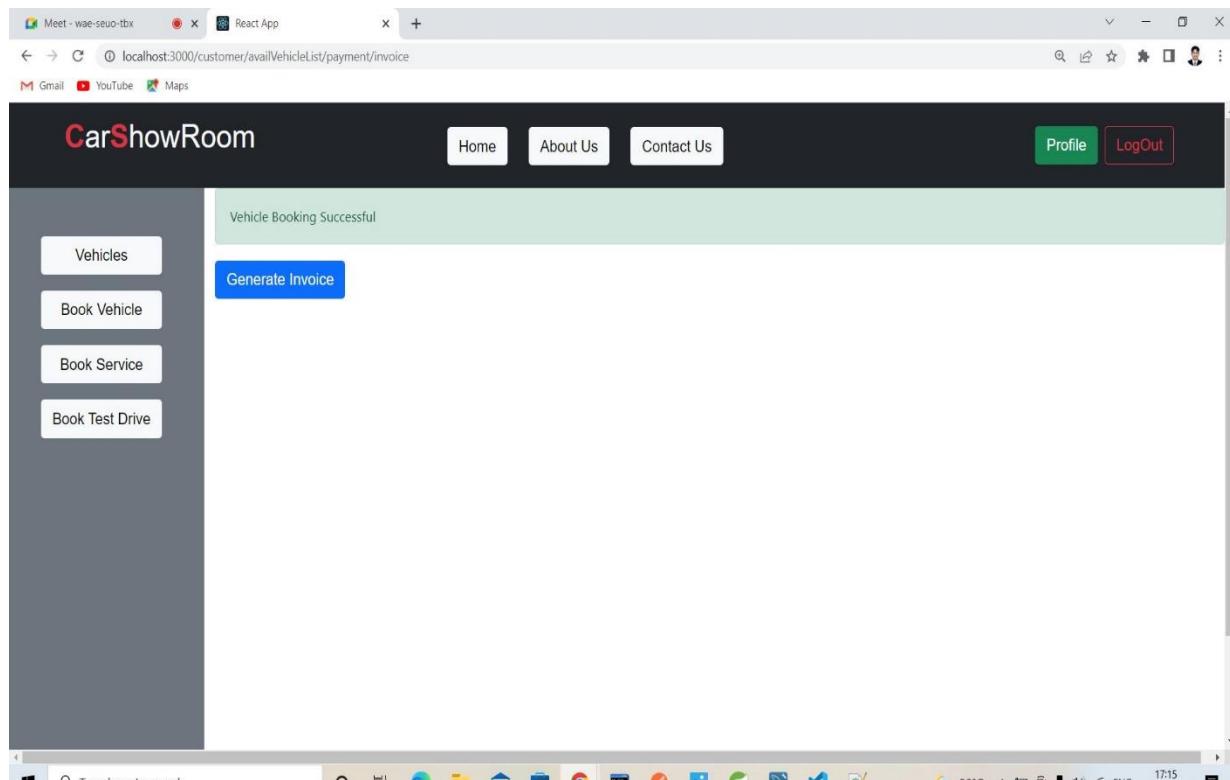
## Redirected Customer to payment page

The screenshot shows a web browser window with the URL `localhost:3000/customer/availVehicleList/payment`. The page has a dark header with the "CarShowRoom" logo and navigation links for "Home", "About Us", "Contact Us", "Profile", and "LogOut". On the left, there's a sidebar with buttons for "Vehicles", "Book Vehicle", "Book Service", and "Book Test Drive". The main content area displays booking details: "Booking Amount Rs. 10000", "SGST @14% Rs. 1400", "CGST @14% Rs. 1400", and "Total Amount to pay Rs. 12800". Below this, a button says "Click Below for Payment" with options for "G Pay" and "VISA ..... 6948".

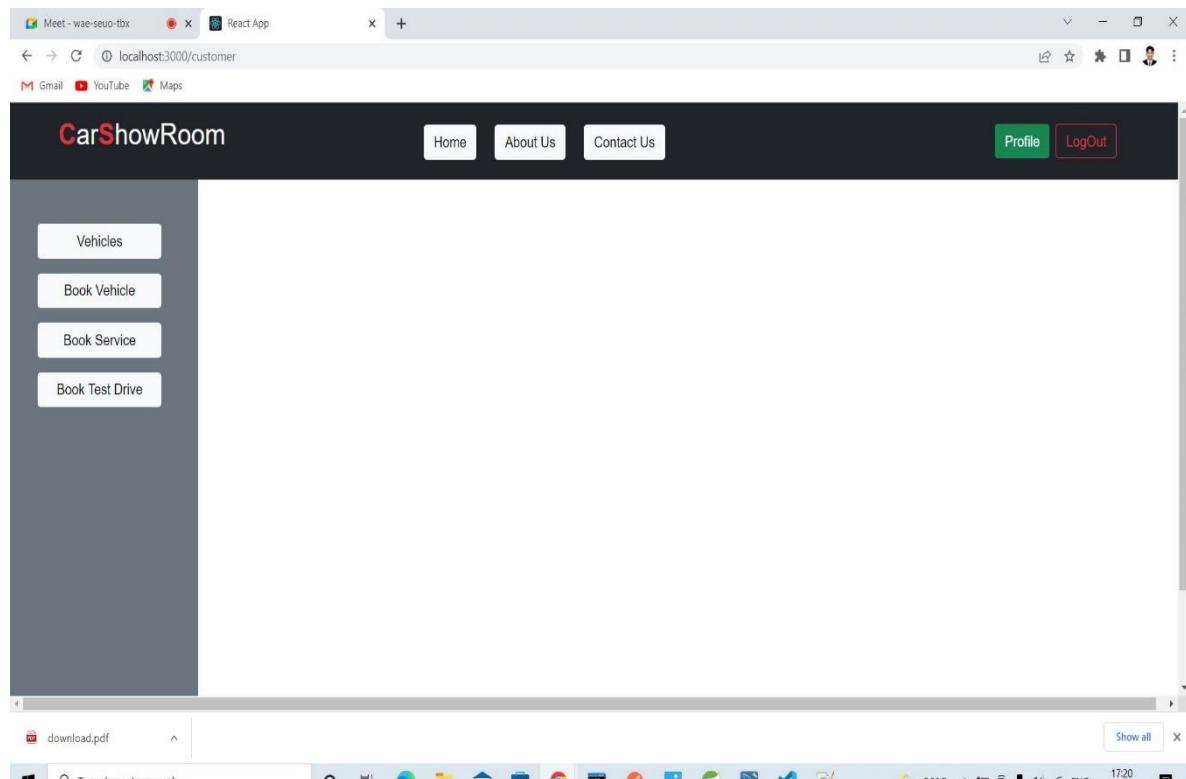
## Page for entering card details for payment

The screenshot shows a web browser window with the same URL `localhost:3000/customer/availVehicleList/payment`. The "CarShowRoom" header and sidebar are visible. The main content is a Google Pay interface. It shows a profile for "Aniket Metkari" with the email "aniketmetkari19@gmail.com". A dropdown menu says "Add new credit or debit card". Below it, there's a form for entering card details: "Card number" (with placeholder "Card number is required"), "Cardholder name" (filled with "Aniket Gorakh Metkari"), and "Billing address". At the bottom, a note states "By continuing, you agree to the Google Payments Terms of Service. The Privacy Notice describes how your data is handled." A "CONTINUE" button is at the bottom right.

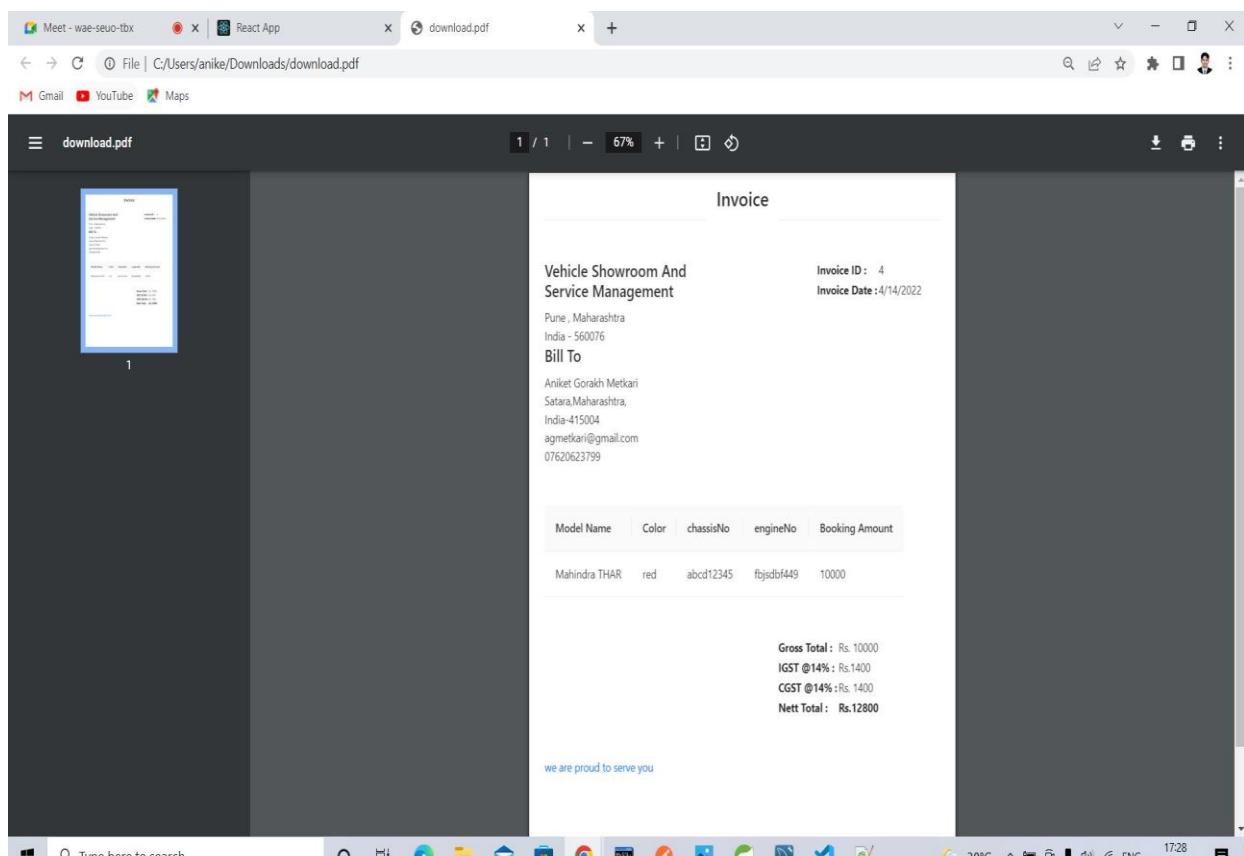
Vehicle booking successful by Customer and to generate Invoice



Invoice Downloaded successfully



## Viewing Downloaded Invoice PDF by Customer



## **CHAPTER 6: TESTING**

One of the purposes of the testing is to validate and verify the system. Verification means checking the system to ensure that it is doing what the function is supposed to do and Validation means checking to ensure that system is doing what the user wants it to do.

No program or system design is perfect; communication between the user and the designer is not always complete or clear, and time is usually short. The result is errors and more errors. Theoretically, a newly designed system should have all the pieces in working order, but in reality, each piece works independently. Now is the time to put all the pieces into one system and test it to determine whether it meets the user's requirements. This is the best chance to detect and correct errors before the system is implemented. The purpose of system testing is to consider all the likely variations to which it will be subjected and then push the system to its limits. If we implement the system without proper testing then it might cause the problems.

## SERVICE LAYER TESTING

<i>Sr no</i>	<i>Service Name</i>	<i>Method</i>	<i>Description</i>	<i>Result</i>
1	<i>Admin Service Impl</i>	<i>Login Admin</i>	<i>Fetch authenticated admin details.</i>	<i>Passed.</i>
2	<i>Admin Service Impl</i>	<i>Admin List</i>	<i>Fetch Admin List</i>	<i>Passed.</i>
3	<i>Employee Service Impl</i>	<i>EmployeeDetailsById</i>	<i>Fetch Employee details as per id provided.</i>	<i>Passed.</i>
4	<i>Customer Service Impl</i>	<i>AddCustomerDetails</i>	<i>For Registering Customer Details</i>	<i>Passed.</i>
5	<i>Book Service Impl</i>	<i>GetServiceDetails</i>	<i>Fetch Service Details</i>	<i>Passed.</i>
6	<i>Service Type Impl</i>	<i>AddServiceType</i>	<i>Method to book a service</i>	<i>Passed.</i>
7	<i>Vehicle model service Impl test</i>	<i>VehicleModelDetails</i>	<i>Fetch vehicle model details</i>	<i>Passed.</i>
8	<i>Vehicle Service Impl</i>	<i>VehicleDetailsByChassis no</i>	<i>Fetch Vehicle details by chassis number</i>	<i>Passed.</i>

## **CHAPTER 7: FUTURE SCOPES**

- We can further integrate our system with local road transport office for registration the vehicle from R.T.O.
- We can also add a pick up and delivery option for more comfort of customer.

## CHAPTER 8: CONCLUSION

It has been a great pleasure for me and my team to work on this exciting and challenging project. This project proved good for me as it provided practical knowledge of not only programming in **Spring Boot** web based application ,**React** and **MySQL**, but also about all handling procedure related with “**Vehicle showroom and service management System**”. It also provides knowledge about the latest technology used in developing web enabled application and client server technology that will be great demand in future. This will provide better opportunities and guidance in future in developing projects independently.

**At the end it is concluded that we have made efforts on following points...**

- Automation of the entire system improves the efficiency
- It provides a friendly graphical user interface which proves to be better when compared to the existing system as it offers user to enter the data through simple and interactive forms.
- It gives appropriate access to the authorized users depending on their permissions.
- Data storage and retrieval will become faster and easier to maintain because data is stored in a systematic manner and in a single database to effectively overcomes the delay in communications.
- Updating of information becomes so easier.
- System security, data security and reliability are the striking features.
- Through these features it will increase the efficiency, accuracy and transparency.
- The System has adequate scope for modification in future if it is necessary.

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