

Vehicle Reservation System

Technical Design Document

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1.0 Introduction

1.1 Purpose of this document

The purpose of the document is to add necessary details of the project description to represent a suitable model for coding. It also provides an overview of a solution, platform, system and process used in the project.

1.2 Project overview

Below are the objectives that shall be fulfilled post the execution of this project:

- User(Admin & Customer) registration & credential authentication
- Adding vehicle details in the database by admin for booking purpose.
- Allows the user to search for a vehicle and book.

2.0 Solution Summary

2.1 Scope

Vehicle Reservation System helps the user to book the available vehicles. It creates more easy way to find the vehicle using searching and sorting methods.

- User registration & credential authentication
- Admin will add the vehicle into the database and edit the existing vehicle details.
- User can be able to book the vehicle by searching for a specific vehicle according to their requirement.
- It also displays the searched vehicle for the user.
- It also contains various discounts available for the user when booking a vehicle.

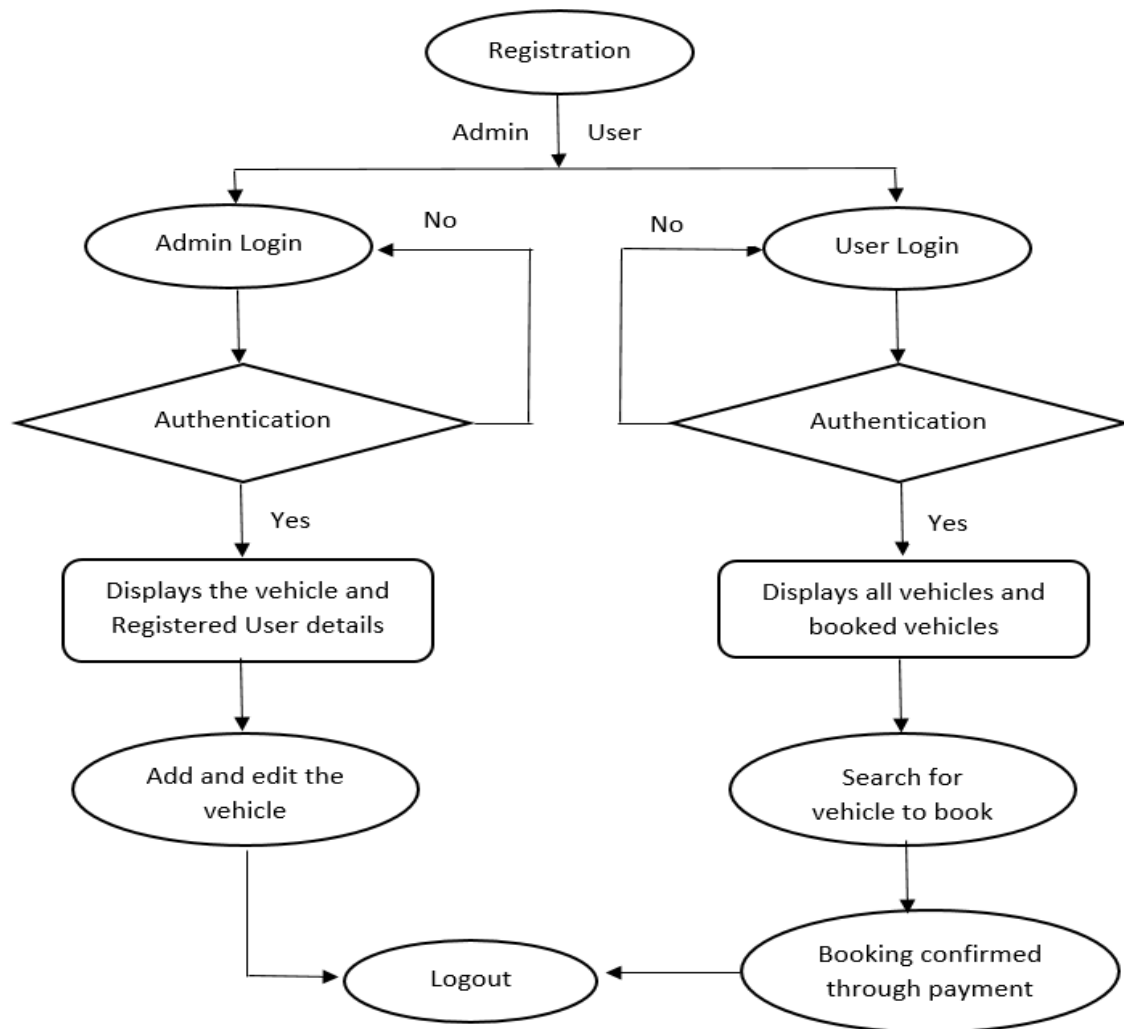
2.2 Assumptions

1. Users can easily register and book their vehicle using various methods like search and sort based on their requirement.
2. User registration were by default made pending "Pending" in status and are changed late by admin's approval page.

2.3 Dependencies

- MySQL
- Eclipse IDE

3.0 Schematic Diagram



4.0 System Design

4.1 Proposed design

“Vehicle Reservation System” is an online vehicle booking application which helps in management of vehicles and allows the user to search for a vehicle and book based on their requirement.

- Admin
 - Can register and login using the credentials
 - Can approve registered users to continue their vehicle reservation

process.

- Can add vehicle to the database.
- Can edit the existing details of the vehicle.
- Users
 - Can register and login by using his credentials.
 - Can view the available vehicles and also can view the booked vehicles.
 - Allows the user to book the required vehicle

4.2 ConnectionHandler.java

This class will be used by each Dao implementation class for getting the connection.

```
driver=com.mysql.cj.jdbc.Driver
```

```
connection-
```

```
url=jdbc:mysql://10.229.50.55:3306/vrsystem?useSSL=false
```

```
user=vregsystem
```

```
password=root
```

4.3 Component Inventory

The following components make up this project:

4.3.1 Entity Classes

- User.java
- Vehicle.java
- BookingVehicle.java

4.3.2 Controller

- UserDao.java
- UserDaoImpl.java
- VehicleDao.java
- VehicleDaoImpl.java
- BookingDao.java
- BookingDaoImpl.java

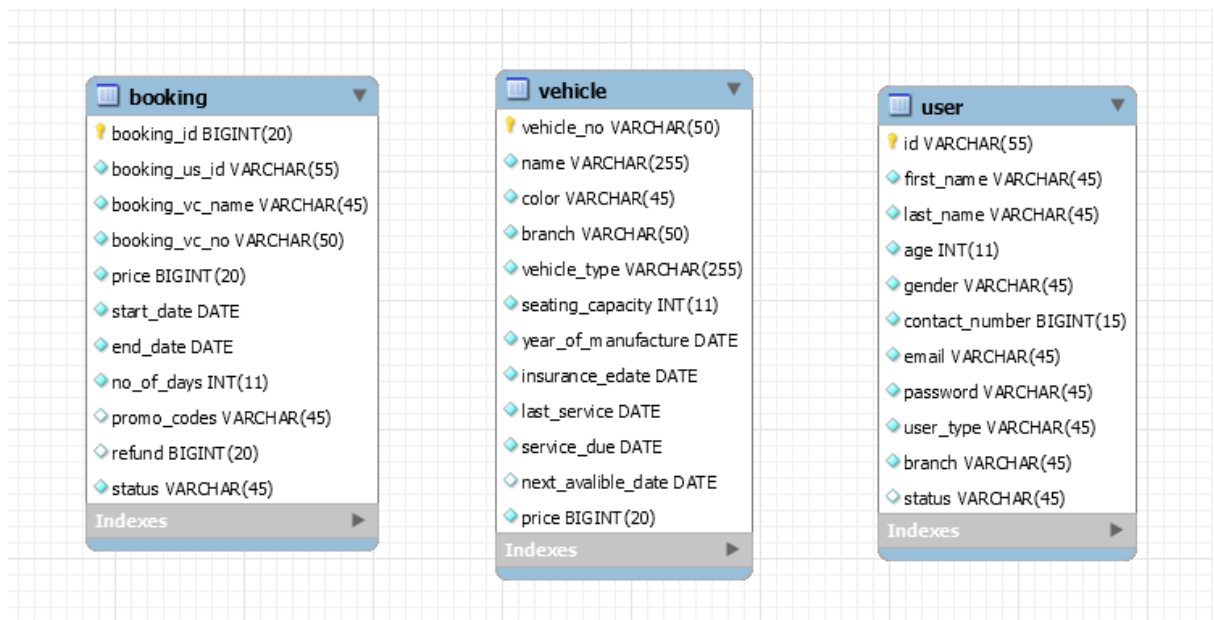
4.3.3 Service

- AddVehicleServlet.java
- AdminApproveServlet.java
- AdminRejectServlet.java
- AdminSearchVehicleServlet.java

- AdminViewBookingDetailsServlet.java
- AdminViewCancelDetails.java
- BookVehicleServlet.java
- CustomerSearchVehicleServlet.java
- CustomerViewBookedVehicleServlet.java
- CustomerViewVehicleServlet.java
- EditVehicleServlet.java
- LoginServlet.java
- RegisterServlet.java
- RemoveVehicleServlet.java
- ServiceDueDateServlet.java
- ShowBookingConfirmationServlet.java
- ShowBookServlet.java
- ShowPendingListServlet.java

5.0 Design

5.1 Data Model



5.2 Tables Structure

5.2.1 User Table

Column Name	Data Type	Length	Nulls
id	VARCHAR	55	NO
first_name	VARCHAR	45	NO
last_name	VARCHAR	45	NO

age	INT	11	NO
gender	VARCHAR	45	NO
contact_number	BIGINT	15	NO
email	VARCHAR	45	NO
password	VARCHAR	45	NO
user_type	VARCHAR	45	NO
branch	VARCHAR	45	NO
status	VARCHAR	45	NO

5.2.2 Vehicle Table

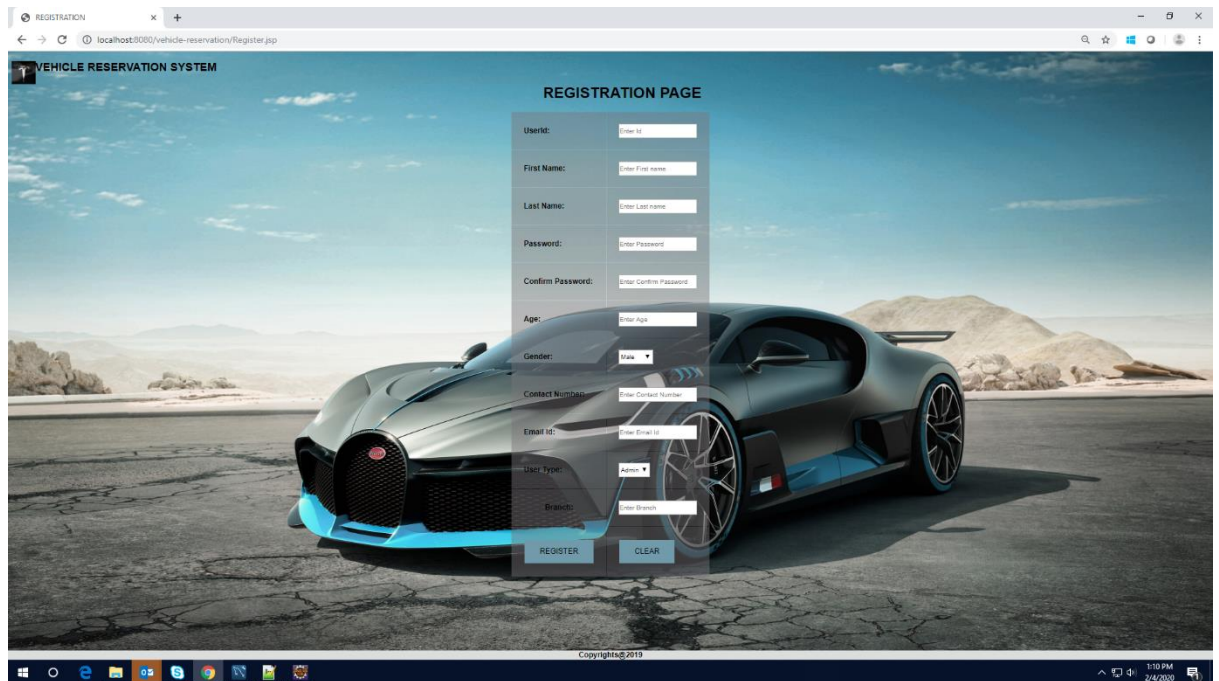
Column Name	Data Type	Length	Nulls
vehicle_no	VARCHAR	50	NO
name	VARCHAR	255	NO
color	VARCHAR	45	NO
branch	VARCHAR	50	NO
vehicle_type	VARCHAR	255	NO
seating_capacity	INT	11	NO
year_of_manufacture	DATE	NA	NO
insurance_date	DATE	NA	NO
last_service	DATE	NA	NO
service_due	DATE	NA	NO
next_available_date	TIMESTAMP	NA	NO
price	BIGINT	20	NO

5.2.3 Booking Table

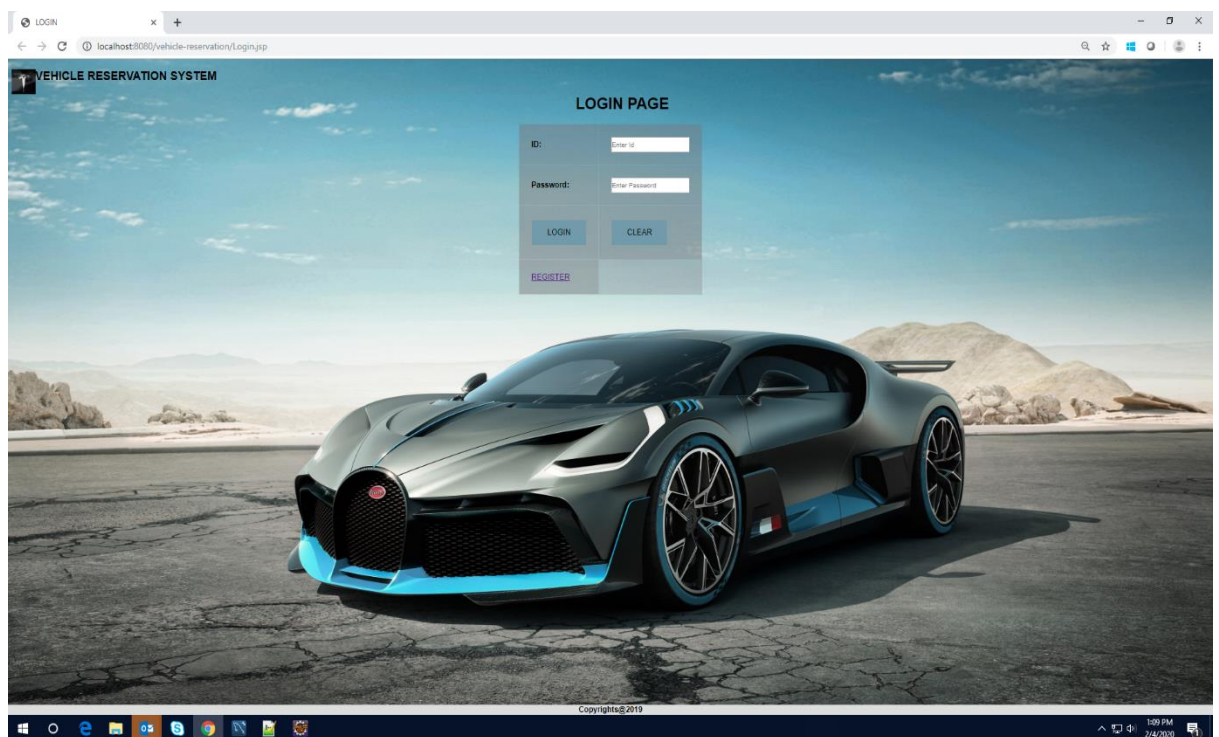
Column Name	Data Type	Length	Nulls
booking_id	BIGINT	20	NO
booking_us_id	VARCHAR	45	NO
booking_vc_Name	VARCHAR	45	NO
booking_vc_no	INT	45	NO
Price	INT	20	NO
start_date	DATE	NA	NO
end_date	DATE	NA	NO
No_of_days	INT	11	NO
promo_codes	VARCHAR	45	NO
booking_status	VARCHAR	45	NO
refund	BIGINT	20	NO

5.3 Screen Flow:

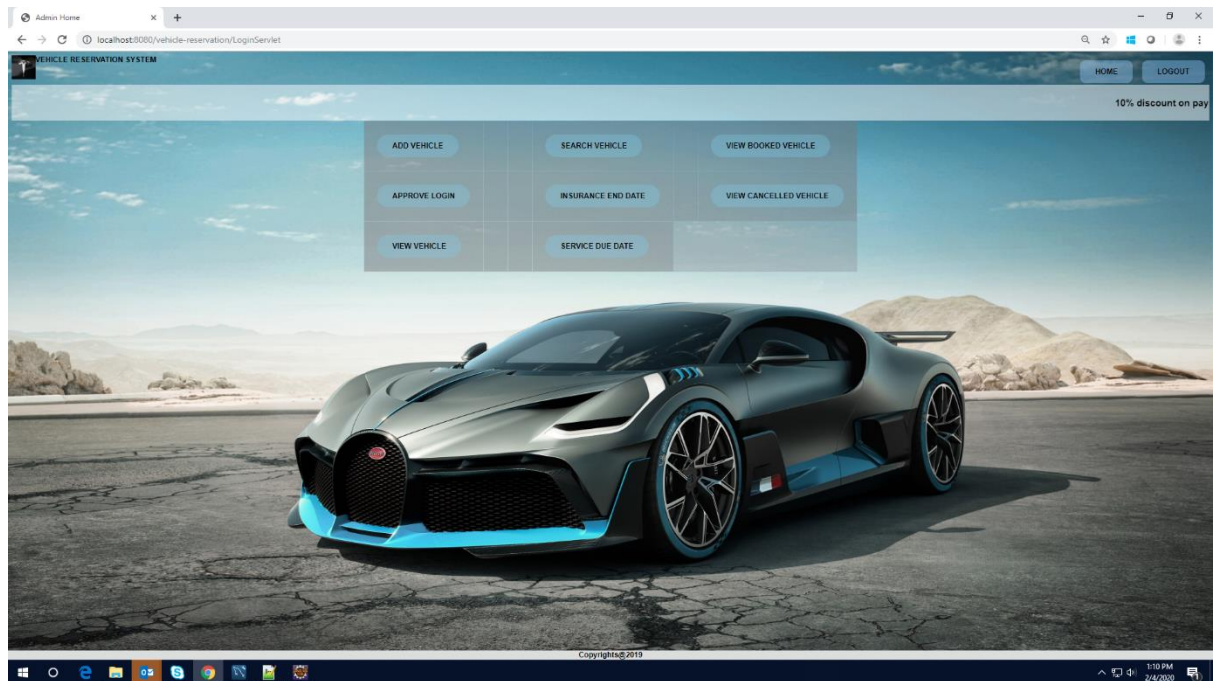
Registration Form:



Admin Login Form:



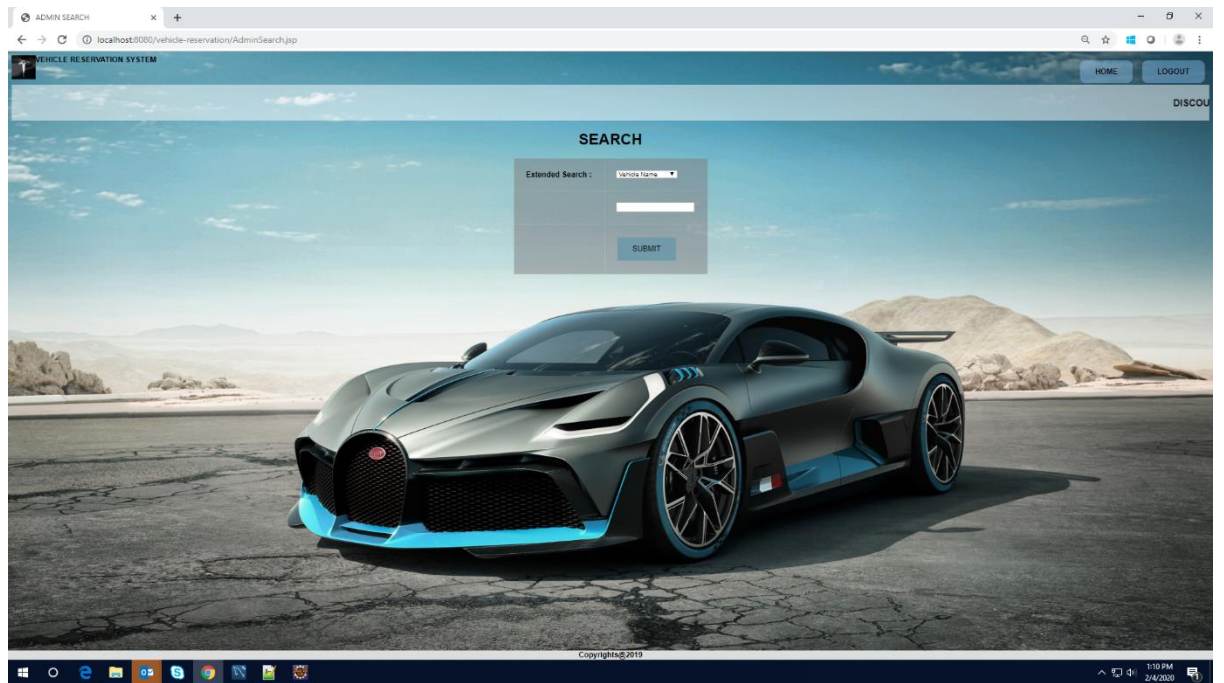
Admin Home Page:



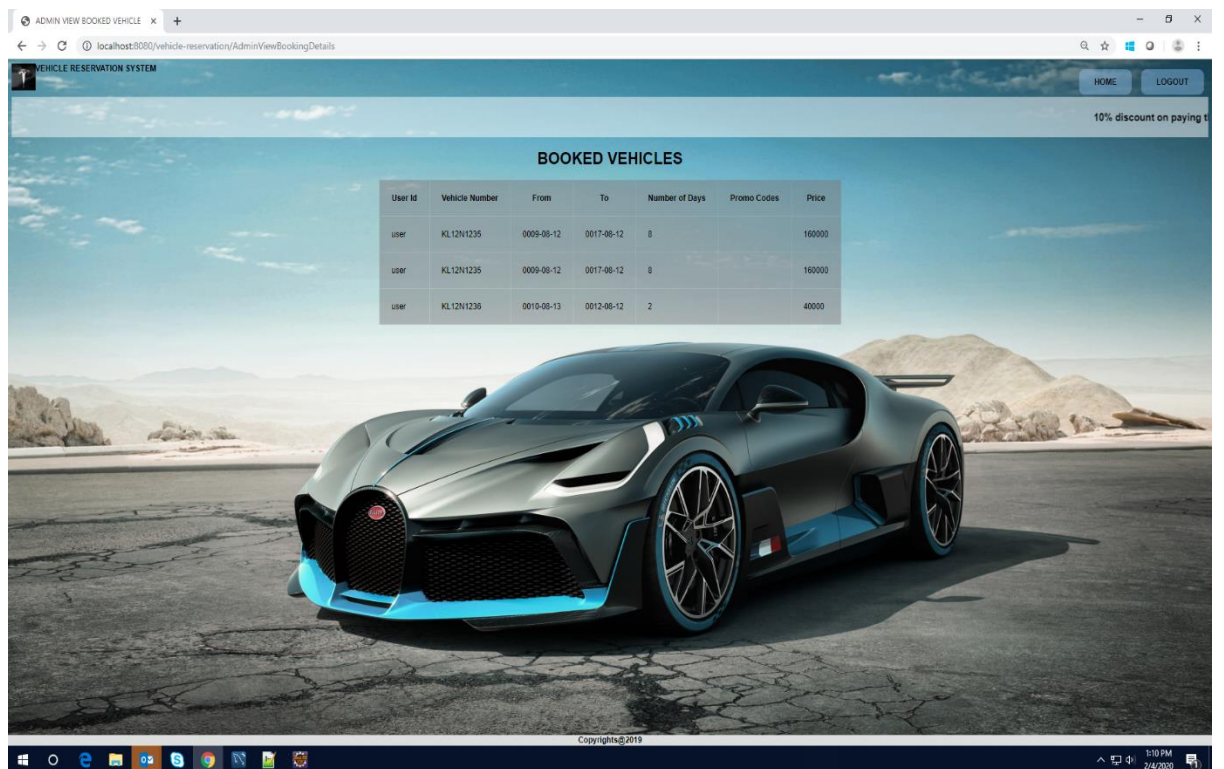
Add Vehicle Form for Admin:

The screenshot displays the 'ADD VEHICLE' form within the Admin interface. The form is titled 'ADD VEHICLE' and contains the following input fields: 'Vehicle Name', 'Vehicle Type', 'Vehicle Number', 'Color', 'Seating Capacity', 'Price per Day', 'Branch', 'Year of Manufacturing', 'Insurance Renewal Date', 'Last Service Date', and 'Next Service Date'. Each field has a placeholder text indicating the required information. At the bottom of the form, there are 'ADD' and 'CLEAR' buttons. The background of the page features the same Bugatti sports car image as seen in the previous screenshot. The browser address bar shows 'localhost:8080/vehicle-reservation/AddVehicle.jsp'.

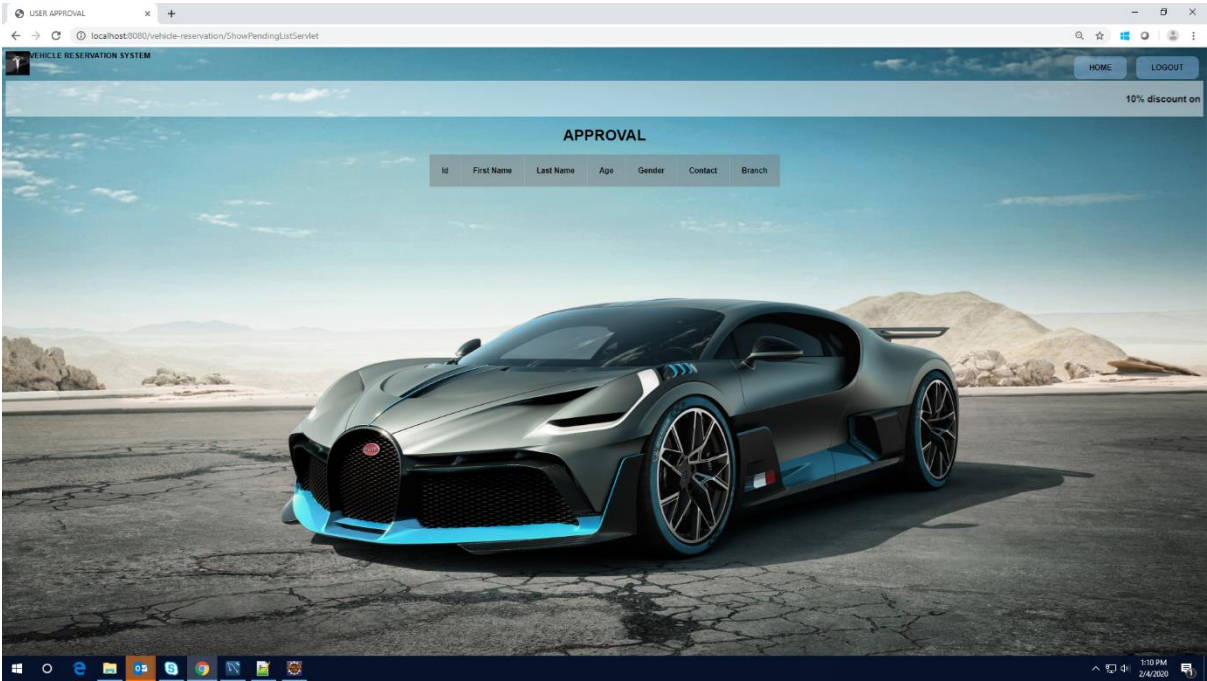
Admin's Search vehicle form:



Booked vehicle form:



Admin's view user form:



Vehicle Insurance End date Form:

VIEW VEHICLE

localhost:8080/vehicle-reservation/InsuranceEndDate

VEHICLE RESERVATION SYSTEM

HOME LOGOUT

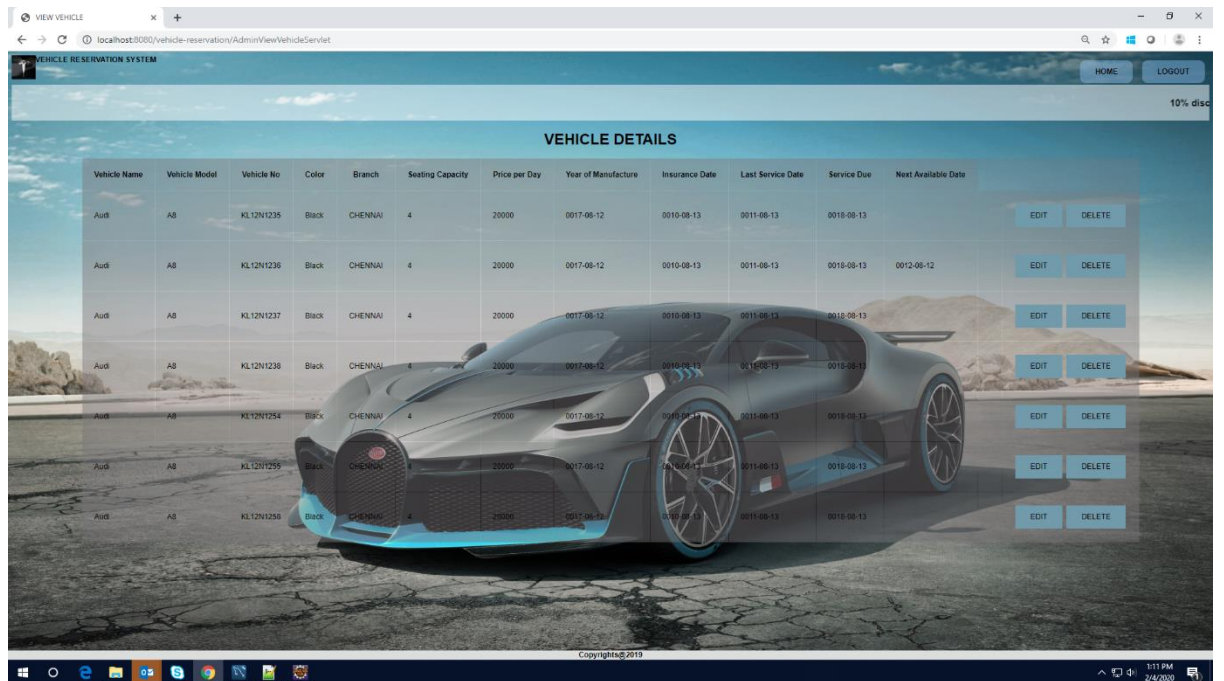
10% discount on

INSURANCE END DATE VEHICLE DETAILS

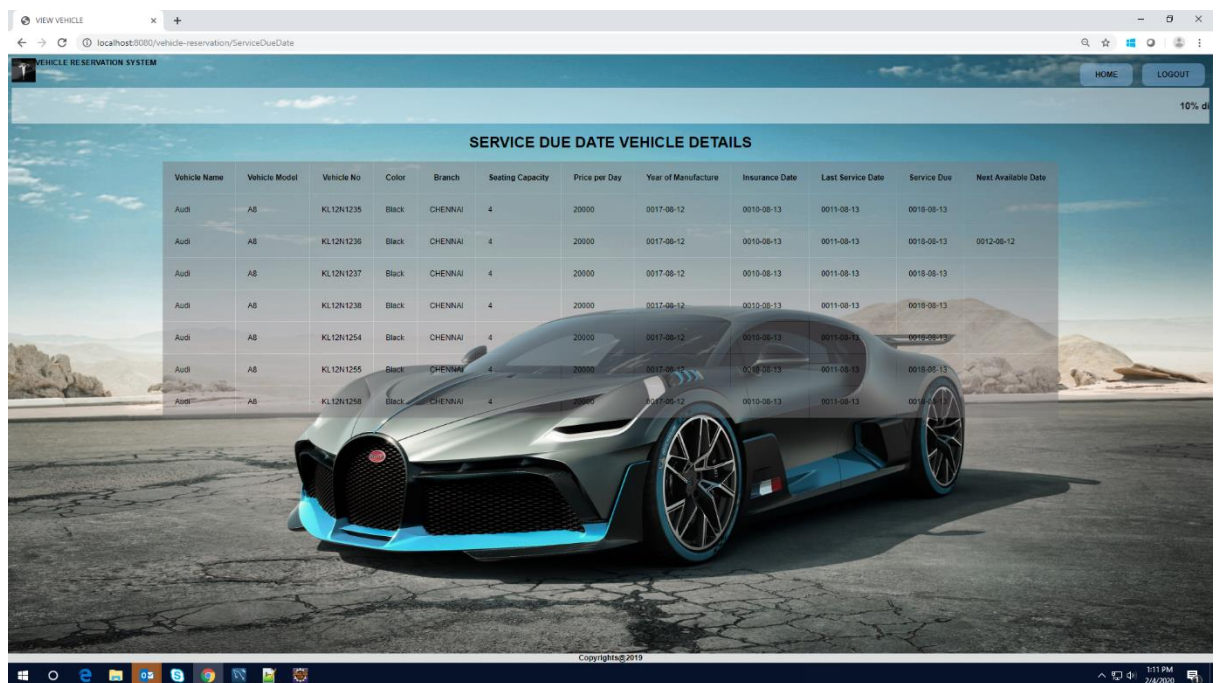
Vehicle Name	Vehicle Model	Vehicle No	Color	Branch	Seating Capacity	Price per Day	Year of Manufacture	Insurance Date	Last Service Date	Service Due	Next Available Date
Audi	A8	KL12N1235	Black	CHENNAI	4	20000	0017-08-12	0010-08-13	0011-08-13	0019-08-13	
Audi	A8	KL12N1236	Black	CHENNAI	4	20000	0017-08-12	0010-08-13	0011-08-13	0019-08-13	0012-08-12
Audi	A8	KL12N1237	Black	CHENNAI	4	20000	0017-08-12	0010-08-13	0011-08-13	0019-08-13	
Audi	A8	KL12N1238	Black	CHENNAI	4	20000	0017-08-12	0010-08-13	0011-08-13	0019-08-13	
Audi	A8	KL12N1254	Black	CHENNAI	4	20000	0017-08-12	0010-08-13	0011-08-13	0019-08-13	
Audi	A8	KL12N1255	Black	CHENNAI	4	20000	0017-08-12	0010-08-13	0011-08-13	0019-08-13	
Audi	A8	KL12N1258	Black	CHENNAI	4	20000	0017-08-12	0010-08-13	0011-08-13	0019-08-13	

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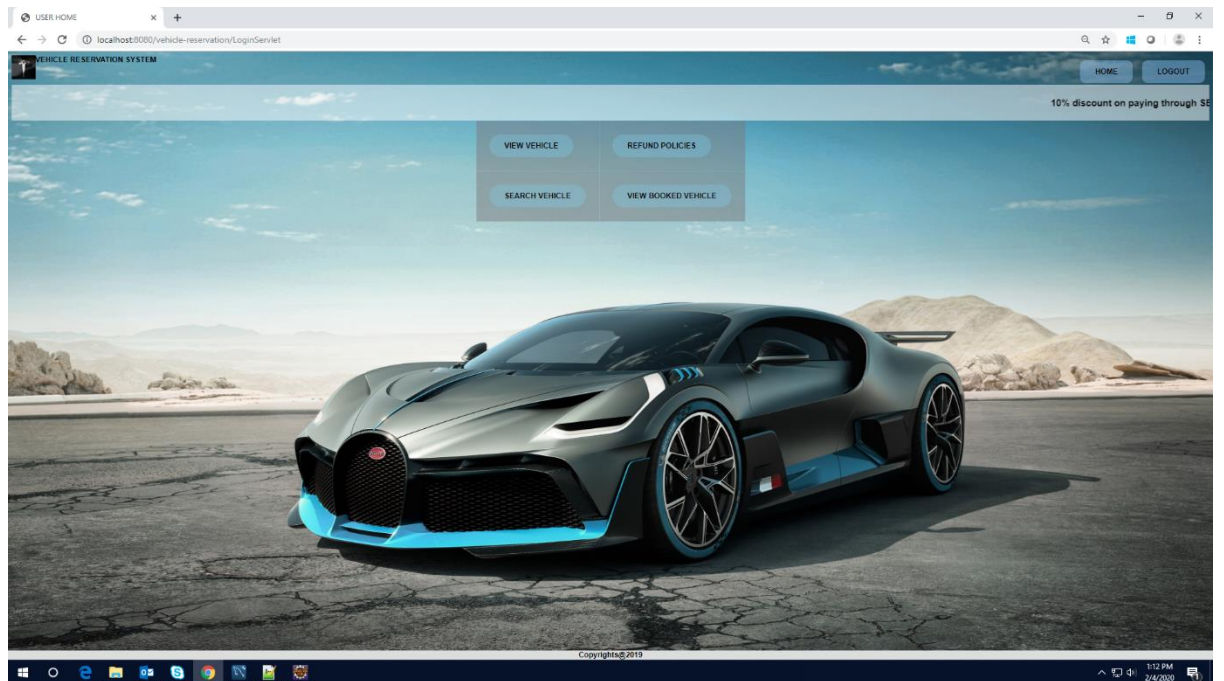
View Vehicle Form for admin:



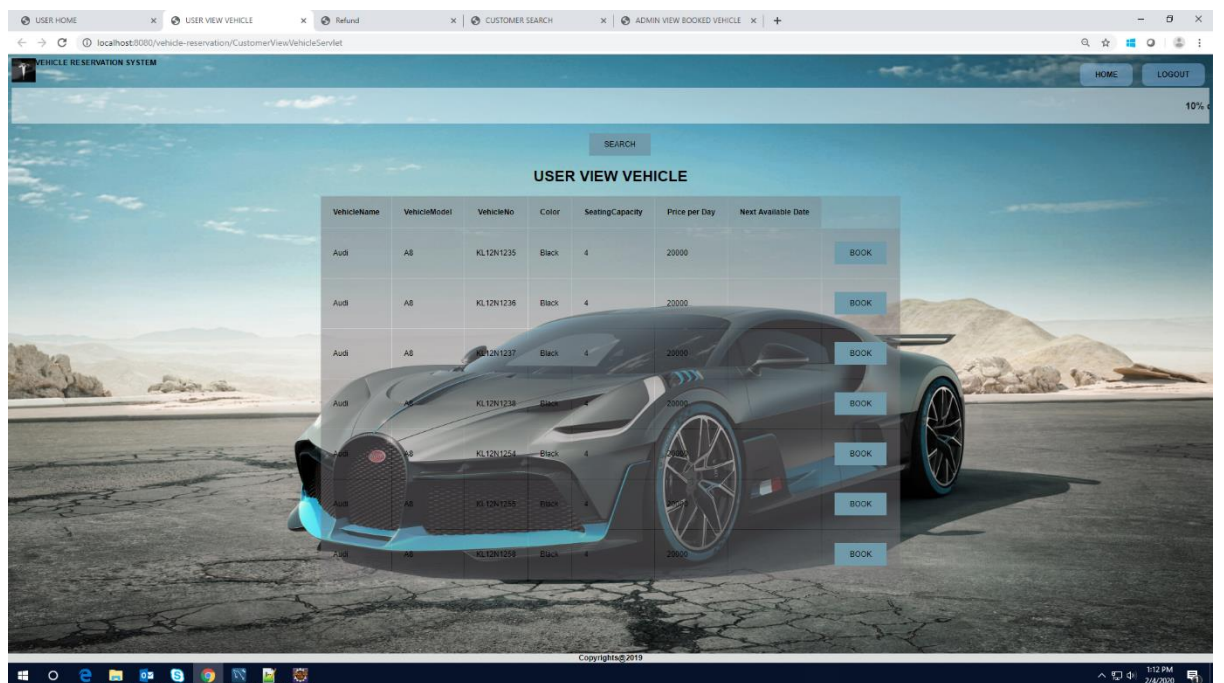
Service Due Date form:



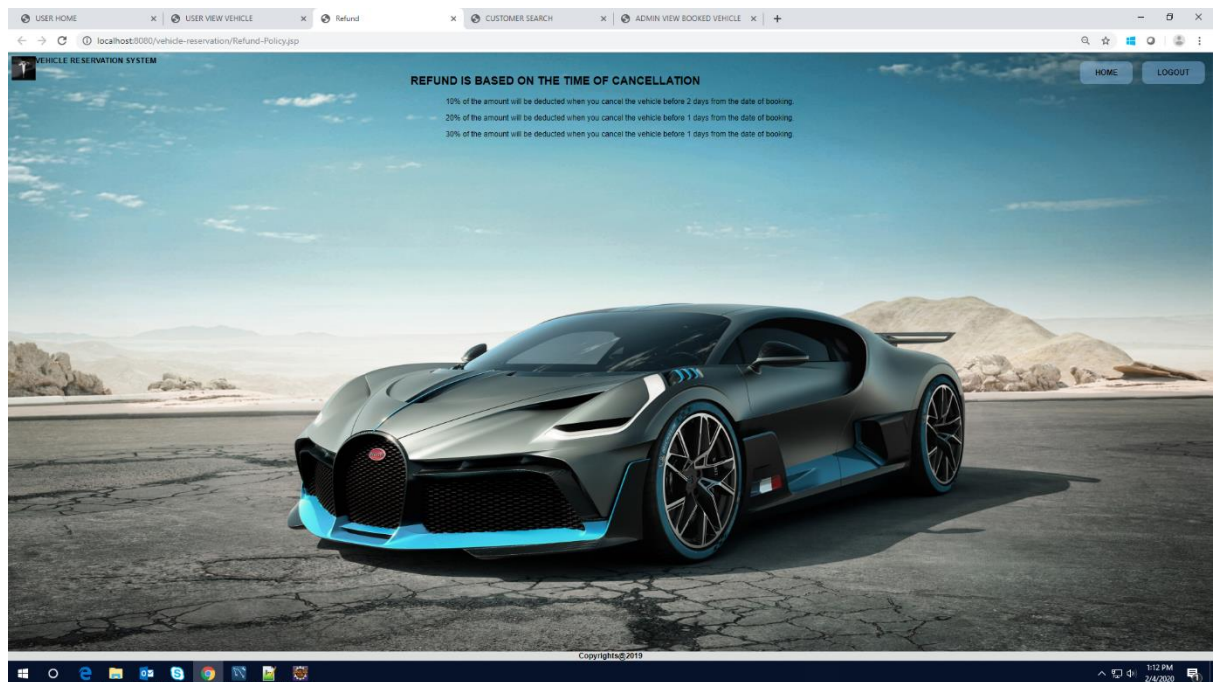
User Home Page:



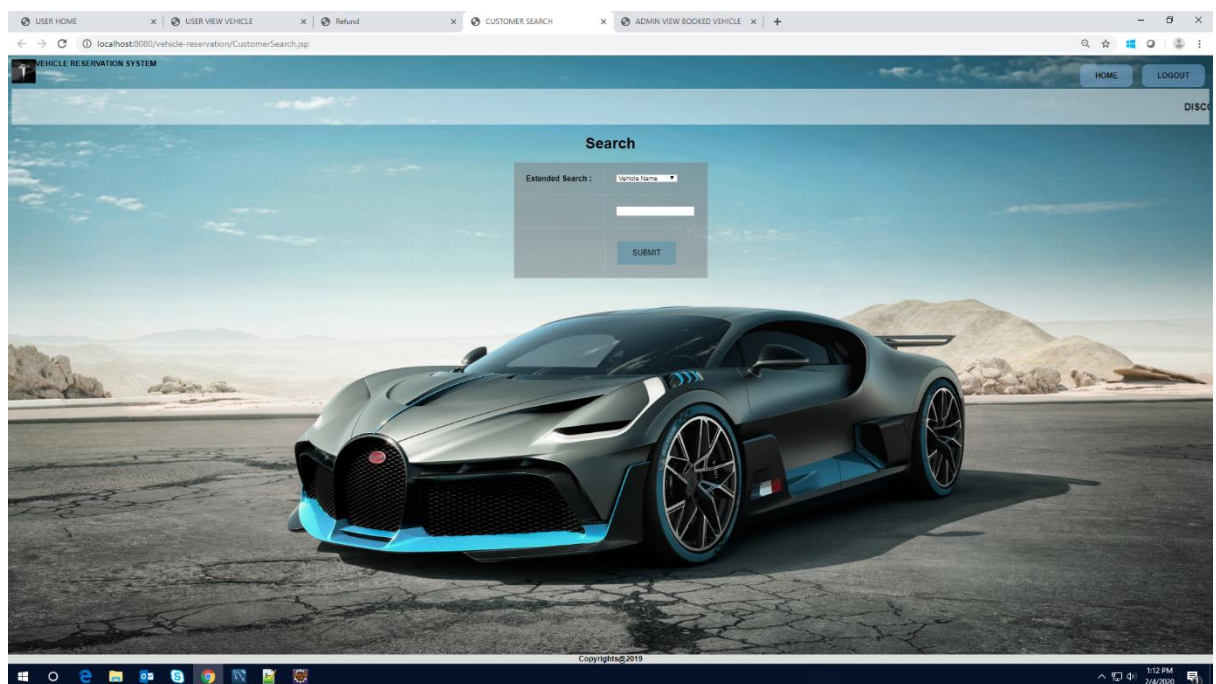
View Vehicle for User:



Refund policy form for user:



Search Vehicle form for user:



Booked Vehicle Form for User:

USER HOME | USER VIEW VEHICLE | Refund | CUSTOMER SEARCH | ADMIN VIEW BOOKED VEHICLE

localhost:8080/vehicle-reservation/CustomerViewBookedVehicleServlet

VEHICLE RESERVATION SYSTEM

HOME | LOGOUT

10% discount on paying through

BOOKED VEHICLES

User id:

Vehicle Number	From	To	Number of Days	Promo Codes	Price	
KL12N1234	0009-08-12	0011-08-13	2		40000	<input type="button" value="CANCEL"/>
KL12N1235	0009-08-12	0017-08-12	6		100000	<input type="button" value="CANCEL"/>
KL12N1235	0009-08-12	0017-08-12	6		100000	<input type="button" value="CANCEL"/>
KL12N1236	0010-08-13	0012-08-12	2		15000	<input type="button" value="CANCEL"/>

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5:12 PM 2/4/2020

LogOut Form for user:

USER HOME | USER VIEW VEHICLE | Refund | CUSTOMER SEARCH | LOGOUT

localhost:8080/vehicle-reservation/Logout.jsp

VEHICLE RESERVATION SYSTEM

Logged Out Successfully.

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5:13 PM 2/4/2020

6.0 Terms & Conditions

7.0 Change Log

Please note that this table needs to be maintained even if a Configuration Management tool is used.

Version Number	Changes made			
V<n.n>	<If the change details are not explicitly documented in the table below, reference should be provided here>			
	Page no	Changed by	Effective date	Changes effected