

# **A PROJECT ON WHEELS ON DEMAND**

SUBMITTED IN  
PARTIAL FULFILLMENT OF THE REQUIREMENT  
FOR THE COURSE OF DIPLOMA IN ADVANCED COMPUTING FROM CDAC



**SUNBEAM INSTITUTE OF INFORMATION TECHNOLOGY**  
Hinjawadi

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## **ACKNOWLEDGEMENT**

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### **CERTIFICATE**

This is to certify that the project work under the title **'WHEELS ON DEMAND'** is done by Aditya Abhay Yadav, Aditya T A, Anuj Tiwari, Bagul Ashish Suresh, Kalyankar Vedant Parvin in partial fulfillment of the requirement for award of Diploma in Advanced Computing Course.

**Project Guide**

Date: 11-02-2025

**Mr. Yogesh Kolhe**

**Course Co-Coordinator**



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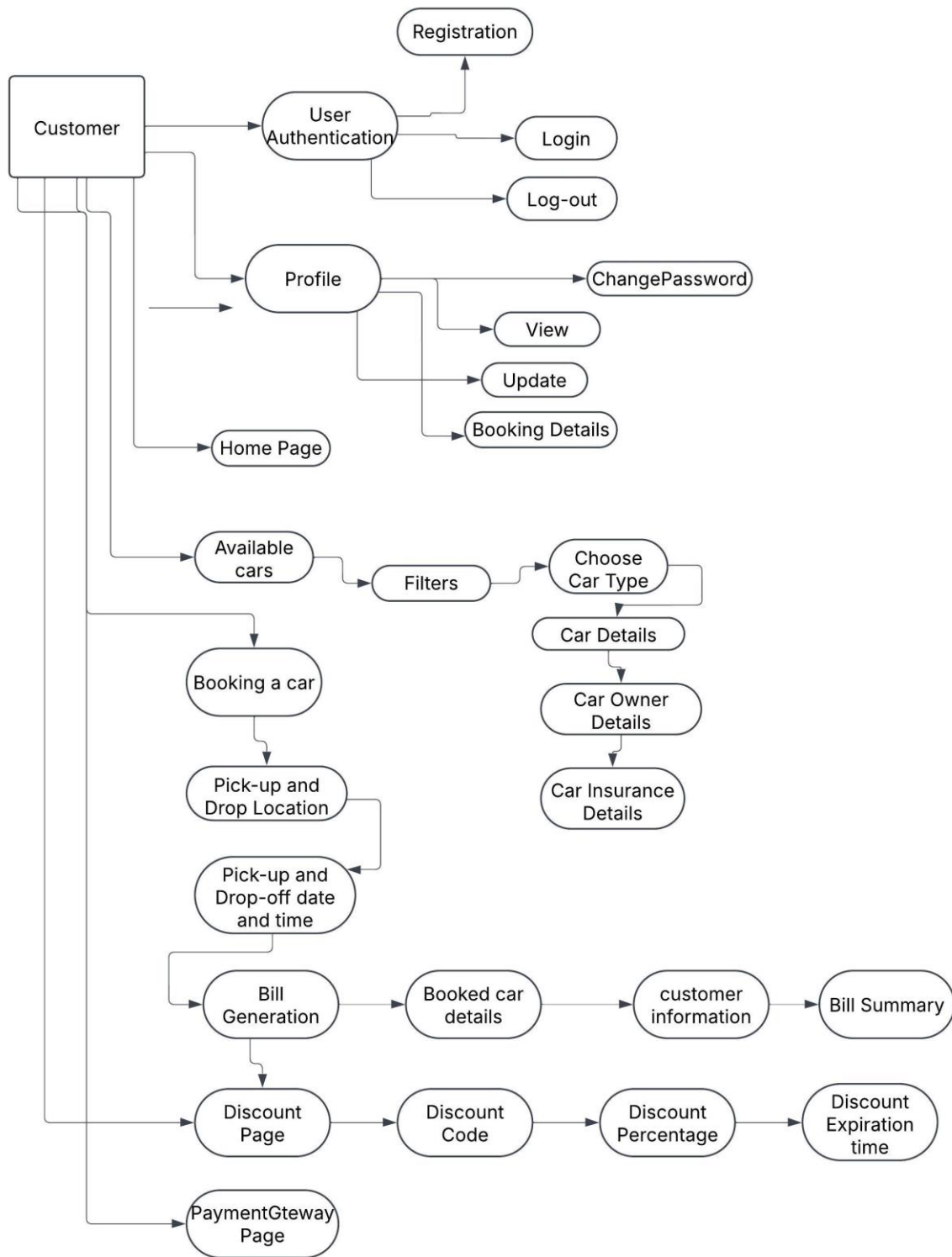
## INTRODUCTION TO PROJECT

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This project "WHEELS ON DEMAND" is a web-based online vehicle rental system for the customers to rent a car. This project "WHEELS ON DEMAND" has been provided vehicle details such as their engine specifications, insurance registration and expiration details, engine check in and check out details, vehicle number, payment details etc. This project also have to facility for the user to add vehicle for renting purpose .First time customers will have to create a profile if they are taking a vehicle on rent and select the appropriate payment mode. First the user i.e. the vehicle owner will add the vehicle for renting, add insurance and other details. Now customers will have the facility to select any type of vehicle, search vehicle by their brand name. Upon selection of particular type customers will able to get their entire details like rent type, cost for taking a particular vehicle, mileage details in kilometer an hour. This system can also help for customers to fill the basic information details like name, address, number of days to take service, location to travel etc. The main aim of this project Online Vehicle Rental system project is to provide the facility of renting vehicle espicially for the tourists according to their requirement.

This system work 24×7 because of it's online existence. Customer can use this system from anywhere and anytime. Customers can book vehicle from any were in the world and take service when they visit that city.

## 2.Requirements



## 2.1 Customer Flow

### 2.1.1 Home Page

- Objective : Display the Welcome page.
- Features :

-View a Welcome page and clicking on it , it will navigate to login page .

### 2.1.2 User Login Page

- Objective : Allow customers to login and in case of new customer navigate them to registration page.
- Features :
  - Click on Home page to navigate into login page for existing customers and new customers can click on a register now link to navigate to the registration page.

### 2.1.3 User Registration Page

- Objective : Display page for registration .
- Features :
  - Enter the First Name.
  - Enter the Last Name.
  - Enter the Email Address.
  - Enter the Phone Number.
  - Enter the Password.
  - Enter the Confirm Password.
  - Select the Security Question and enter the answer of it.
  - Click on Already have an account link , if there is a existing user.
  - Click Register button for registration .



#### 2.1.4 Car Page

- Objective : View the available cars and click on a book now button to book a particular car .
- Features :
  - View all available cars.
  - Search cars based upon filters and search option
  - View car details.
  - View owner details.
  - View car insurance details
  - Click on Rent now button to book the car.

#### 2.1.5 Booking Details Page

- Objective : Finalize the purchase process.
- Features :
  - Enter the pick up location and drop location
  - Enter the Pick up and drop date and time.

#### 2.1.6 Bill Generation Page

- Objective : Generate the Bill overview for verification purpose.
- Features :
  - Displaying the booked car details.
  - Displaying the customer entered information.
  - Displaying the Billing Summary.
  - Click on Cancel Order Button or Proceed to Payment Button.

### 2.1.7 Discount Page

- Objective : Displaying the Available Discount.
- Features:
  - Displaying the discount code.
  - Displaying the discount percentage.
  - Displaying the discount expiration time.
  - Click on the select discount button for selecting a particular discount.

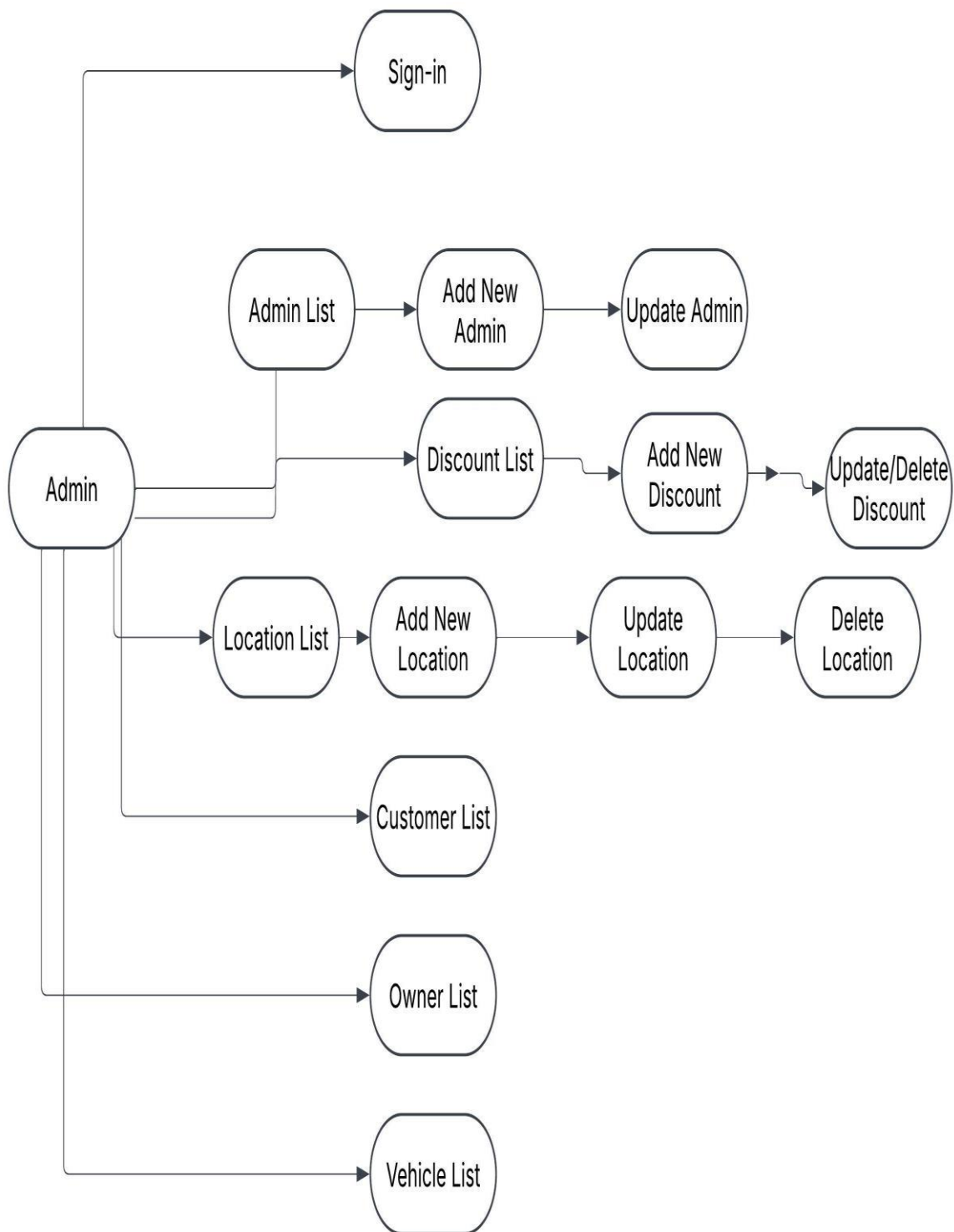
### 2.1.8 PaymentGateway Page

- Objective : Make the Payment for booking the car.
- Features :
  - Displaying the Booking details.
  - Displaying the Booking Date.
  - Displaying the Amount to be paid.
  - Click on pay now for completing the paying.

### 2.1.9 Profile Page

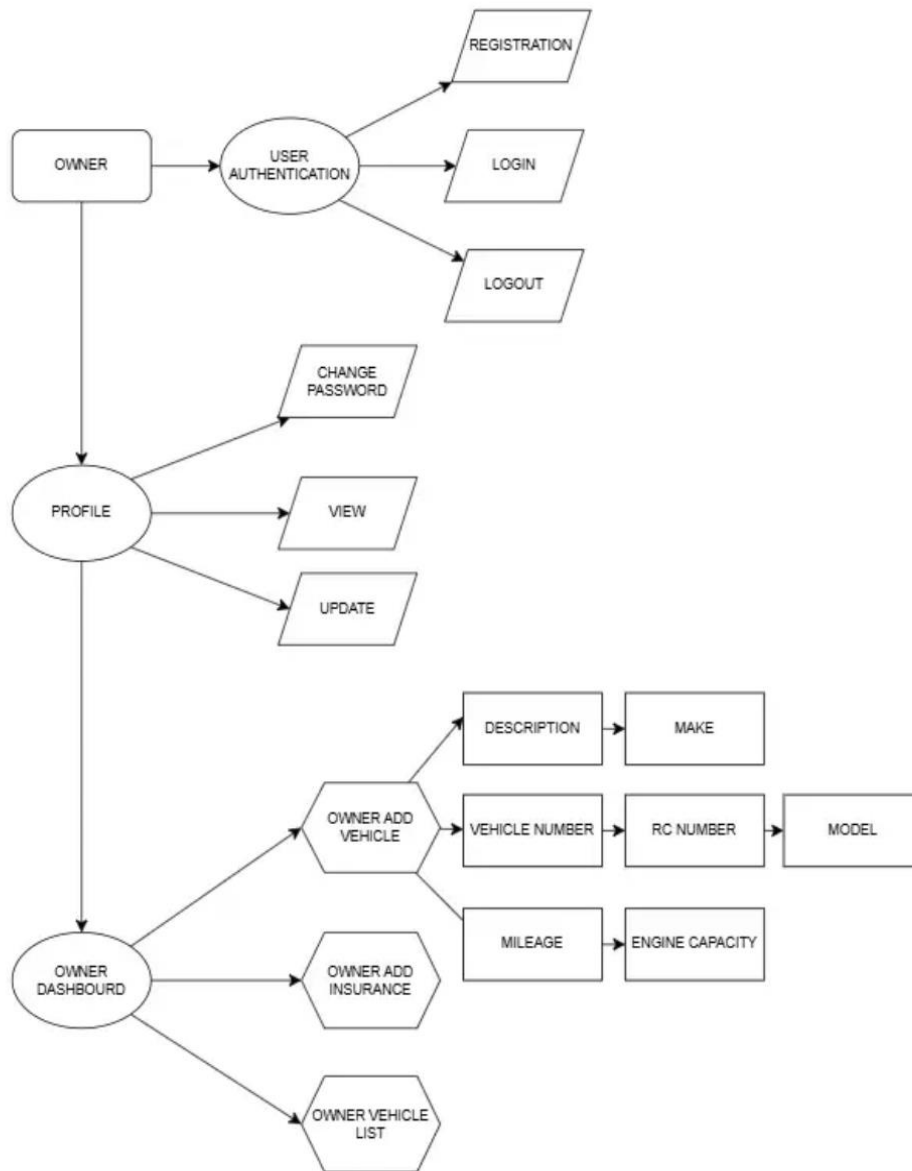
- Objective : Manage user profile and view booking history.
- Features :
  - View an update profile details.
  - View booking details.
  - Back to Dashboard .
  - Changepassword.

## 2.2 Admin Flow



### 2.2.1 Admin Home Page

- Objective : Oversee and manage system operations.
- Features :
  - View Customer List
  - View Owner's List
  - View Vehicles List
  - Add New Location
  - Update Location
  - Delete Location
  - View Admin List
  - Update Admin
  - View Discount List
  - Add New Discount
  - Update/Delete Discount



## 2.3 Owner Flow

### 2.3.1 Owner page

- Objective : Display the Welcome page.
- Features :
  - View a Welcome page and clicking on it , it will navigate to login page .

### 2.3.2 User Login Page

- Objective : Allow owner to login and in case of new owner, navigate them to registration page.
- Features :
  - Click on Home page to navigate into login page for existing owners and new owners can click on a register now link to navigate to the registration page.

### 2.3.3 User Registration Page

- Objective : Display page for registration .
- Features :
  - Enter the First Name.
  - Enter the Last Name.
  - Enter the Email Address.
  - Enter the Phone Number.
  - Enter the Password.
  - Enter the Confirm Password.
  - Select the Security Question and enter the answer of it.
  - Click on Already have an account link , if there is a existing user.
  - Click Register button for registration .

### 2.3.4 Owner Dashboud

- Objective : To add vehicle for renting purpose .
- Features :
  - View all categories of vehicles owner can add.
  - View owner details.
  - Add car insurance details
  - Click on Add Vehicle to add the vehicle for renting purpose.

### 2.3.5 Owner profile Page

- Objective : View his/her details.

## 1.1 Other Requirements

### 1.1.1 Hardware Interfaces

**Requirements:** Intel Core i5 or higher (or AMD equivalent), 8 GB RAM, 512 GB SSD or larger.



### 1.1.2 Software Interfaces

- **Operating Systems:** MS Windows 13, Ubuntu 22.04.
- **Database:** MySQL.
- **Server:** Embedded Tomcat.
- **Browsers:** Compatible with modern web browsers.

## 2. System Design

### 2.1 Architecture

- **Front-End:** Developed using React.js and Redux for state management.
- **Back-End:** Built with Spring Boot for server-side logic.
- **Database:** MySQL for storing user data, orders, and other system information.
- **Server:** Embedded Tomcat for hosting the application.

## TABLE DESIGN

### 1. Tables

```
D4_87082_ANUJ@>show tables;
```

Tables_in_vehiclerental
address
billing
discount
insurance
location
orders
user
vehicle

```
D4_87082_ANUJ@>desc address;
```

Field	Type	Null	Key	Default	Extra
id	bigint	NO	PRI	NULL	auto_increment
created_on	date	YES		NULL	
status	tinyint(1)	YES		1	
updated_on	datetime(6)	YES		NULL	
area	varchar(50)	YES		NULL	
building	varchar(50)	YES		NULL	
city	varchar(30)	YES		NULL	
house_no	varchar(5)	YES		NULL	
state	varchar(30)	YES		NULL	
street	varchar(50)	YES		NULL	
zip_code	varchar(6)	YES		NULL	

11 rows in set (0.01 sec)

```
D4_87082_ANUJ@>desc billing;
```

Field	Type	Null	Key	Default	Extra
id	bigint	NO	PRI	NULL	auto_increment
created_on	date	YES		NULL	
status	tinyint(1)	YES		1	
updated_on	datetime(6)	YES		NULL	
bill_date	datetime(6)	YES		NULL	
bill_status	enum('DUE','PAID')	YES		NULL	
rent_hours	double	YES		NULL	
tax_amount	double	YES		NULL	
total_amount	double	YES		NULL	
total_rent_amount	double	YES		NULL	
customer_id	bigint	YES	MUL	NULL	
discount_id	bigint	YES	MUL	NULL	
order_id	bigint	YES	UNI	NULL	
vehicle_id	bigint	YES	MUL	NULL	

14 rows in set (0.00 sec)



```

mysql> desc discount;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| id     | bigint | NO   | PRI | NULL    | auto_increment |
| created_on | date | YES  |     | NULL    |               |
| status | tinyint(1) | YES  |     | 1       |               |
| updated_on | datetime(6) | YES  |     | NULL    |               |
| discount_code | varchar(10) | YES  |     | NULL    |               |
| discount_name | varchar(20) | YES  |     | NULL    |               |
| expiry_date | date | YES  |     | NULL    |               |
| percentage | double | YES  |     | NULL    |               |
+-----+-----+-----+-----+-----+
8 rows in set (0.00 sec)

```

```

D4_87082_ANUJ@>desc insurance;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| id     | bigint | NO   | PRI | NULL    | auto_increment |
| created_on | date | YES  |     | NULL    |               |
| status | tinyint(1) | YES  |     | 1       |               |
| updated_on | datetime(6) | YES  |     | NULL    |               |
| cost_per_month | double | YES  |     | NULL    |               |
| coverage_type | enum('Comprehensive','OwnDamage','PersonalAccident','ThirdPartyLiability','UninsuredMotorist') | YES  |     | NULL    |               |
| insurance_code | varchar(10) | YES  |     | NULL    |               |
| insurance_company | varchar(20) | YES  |     | NULL    |               |
| insurance_name | varchar(20) | YES  |     | NULL    |               |
+-----+-----+-----+-----+-----+
9 rows in set (0.00 sec)

```

```

D4_87082_ANUJ@>desc location;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| id     | bigint | NO   | PRI | NULL    | auto_increment |
| created_on | date | YES  |     | NULL    |               |
| status | tinyint(1) | YES  |     | 1       |               |
| updated_on | datetime(6) | YES  |     | NULL    |               |
| area    | varchar(30) | YES  |     | NULL    |               |
| city    | varchar(30) | YES  |     | NULL    |               |
| landmark | varchar(30) | YES  |     | NULL    |               |
| state   | varchar(30) | YES  |     | NULL    |               |
| street  | varchar(30) | YES  |     | NULL    |               |
| zip_code | varchar(6) | YES  |     | NULL    |               |
+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

```

```
D4_87082_ANUJ@>desc orders;
```

Field	Type	Null	Key	Default	Extra
id	bigint	NO	PRI	NULL	auto_increment
created_on	date	YES		NULL	
status	tinyint(1)	YES		1	
updated_on	datetime(6)	YES		NULL	
drop_time	datetime(6)	YES		NULL	
order_date	date	YES		NULL	
pick_up_time	datetime(6)	YES		NULL	
billing_id	bigint	YES	UNI	NULL	
customer_id	bigint	YES	MUL	NULL	
drop_location_id	bigint	YES	MUL	NULL	
owner_id	bigint	YES	MUL	NULL	
pick_up_location_id	bigint	YES	MUL	NULL	
vehicle_id	bigint	YES	MUL	NULL	

```
13 rows in set (0.00 sec)
```

```
D4_87082_ANUJ@>desc user;
```

Field	Type	Null	Key	Default	Extra
id	bigint	NO	PRI	NULL	auto_increment
created_on	date	YES		NULL	
status	tinyint(1)	YES		1	
updated_on	datetime(6)	YES		NULL	
email	varchar(50)	NO	UNI	NULL	
first_name	varchar(20)	YES		NULL	
last_name	varchar(20)	YES		NULL	
middle_name	varchar(20)	YES		NULL	
mobile_no	varchar(10)	YES	UNI	NULL	
password	varchar(255)	NO		NULL	
photo	longblob	YES		NULL	
role	enum('ROLE_ADMIN', 'ROLE_CUSTOMER', 'ROLE_OWNER')	YES		NULL	
username	varchar(20)	NO	UNI	NULL	
address_id	bigint	YES	UNI	NULL	

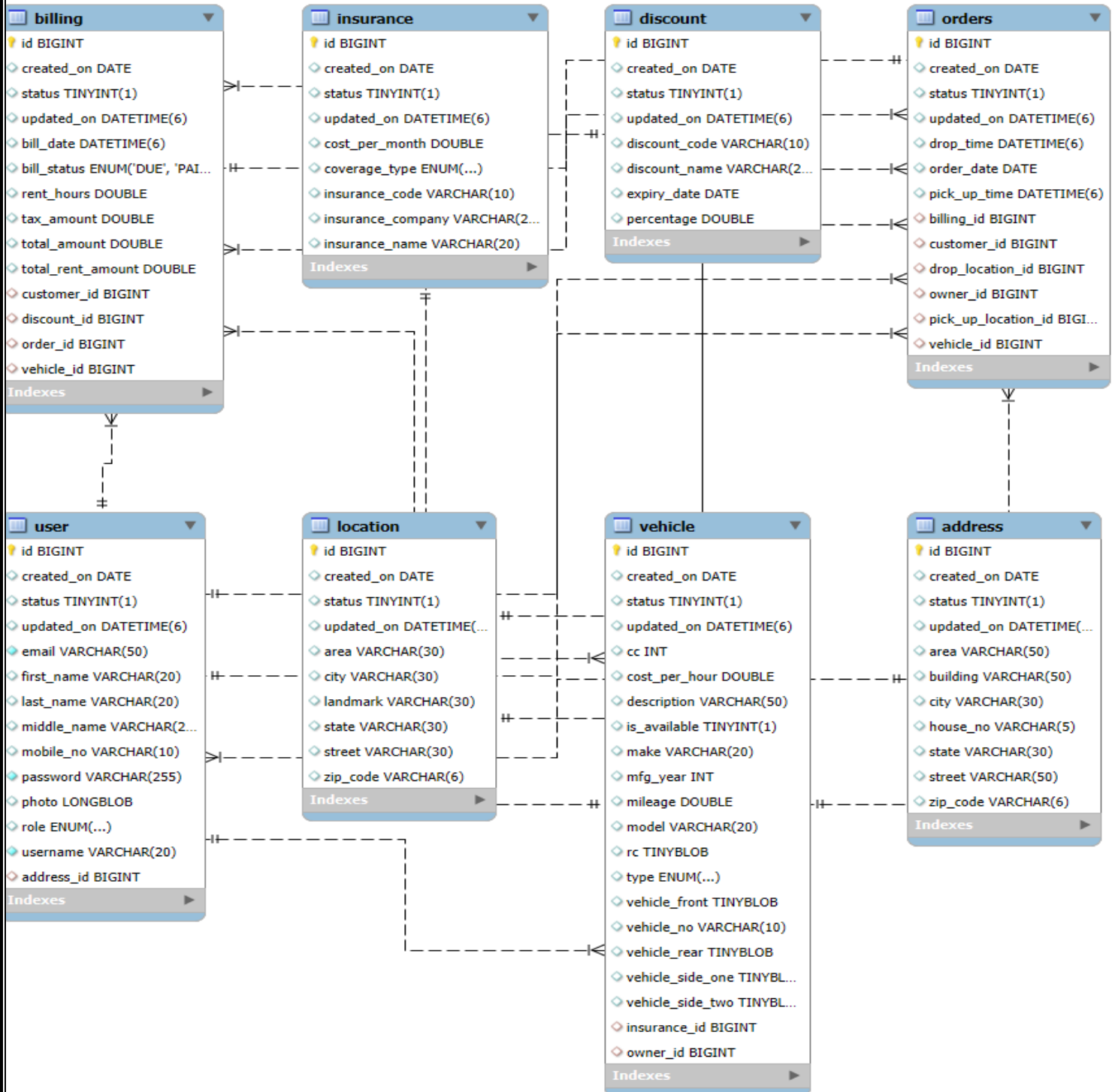
```
14 rows in set (0.00 sec)
```

```
D4_87082_ANUJ@>desc vehicle;
```

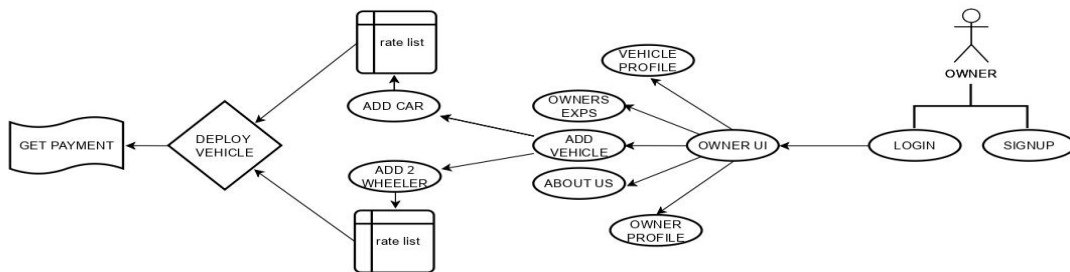
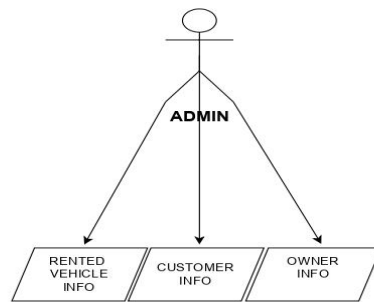
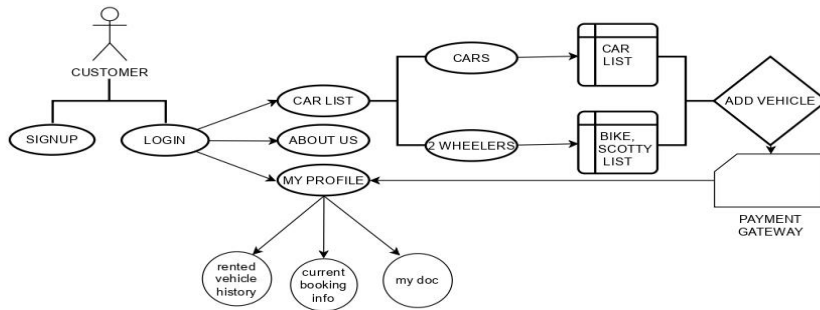
Field	Type	Null	Key	Default	Extra
id	bigint	NO	PRI	NULL	auto_increment
created_on	date	YES		NULL	
status	tinyint(1)	YES		1	
updated_on	datetime(6)	YES		NULL	
cc	int	YES		NULL	
cost_per_hour	double	YES		NULL	
description	varchar(50)	YES		NULL	
is_available	tinyint(1)	YES		1	
make	varchar(20)	YES		NULL	
mfg_year	int	YES		NULL	
mileage	double	YES		NULL	
model	varchar(20)	YES		NULL	
rc	tinyblob	YES		NULL	
type	enum('BIKE', 'HATCHBACK', 'SCOOTY', 'SEDAN', 'SUV')	YES		NULL	
vehicle_front	tinyblob	YES		NULL	
vehicle_no	varchar(10)	YES		NULL	
vehicle_rear	tinyblob	YES		NULL	
vehicle_side_one	tinyblob	YES		NULL	
vehicle_side_two	tinyblob	YES		NULL	
insurance_id	bigint	YES	MUL	NULL	
owner_id	bigint	YES	MUL	NULL	

```
21 rows in set (0.00 sec)
```

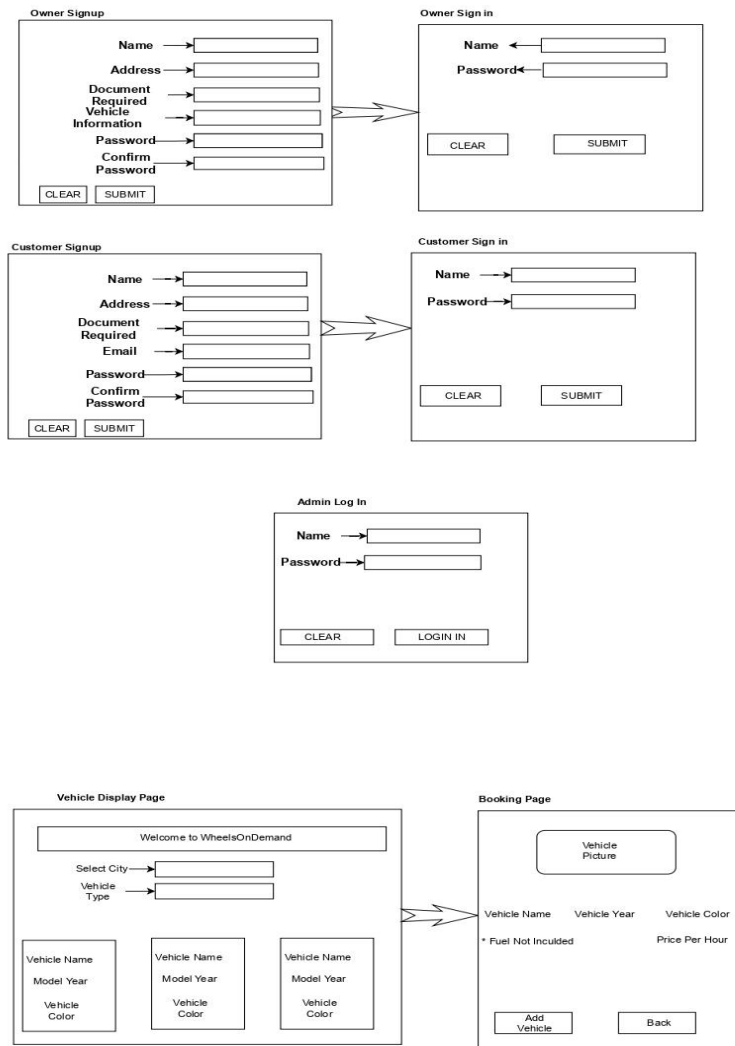
# ER DIAGRAM



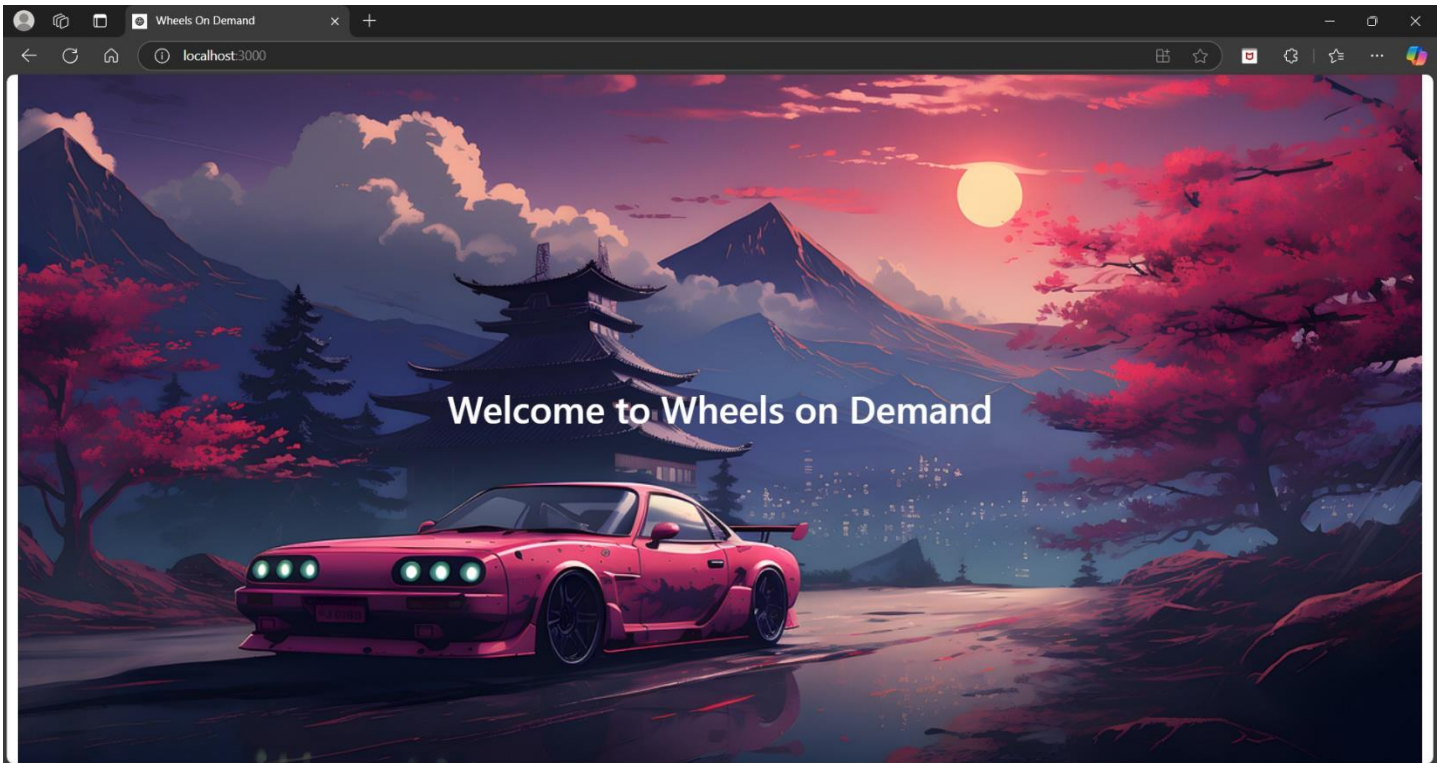
# FUNCTIONAL DIAGRAM



# UI DIAGRAM

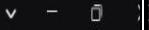


## HOME PAGE



## SIGNUP

Wheels On Demand



localhost:3000/login



How to setup VS co...



Strivers A2Z DSA Co...



Log in to the site | S...



Acer



ChatGPT



A Docker Tutorial fo...



IndiaPost GDS Online



Hello Minikube | Ku...

Wheels On Demand

[Home](#) [Rent a Car](#) [About](#) [Contact](#)



Login

### Signup

Profile Picture (Max 500KB)

Choose File

No file chosen

Username

Enter Username

Email

Enter Email

Password

Enter Password

First Name

Enter First Name

Middle Name

Enter Middle Name

Last Name

Enter Last Name

Mobile No.

Enter Mobile No.

House No

House No

Building

Building

Street

Street

Area

Area

City

City

State

State

Zip Code

Enter zip code

Signup



33°C

Mostly sunny

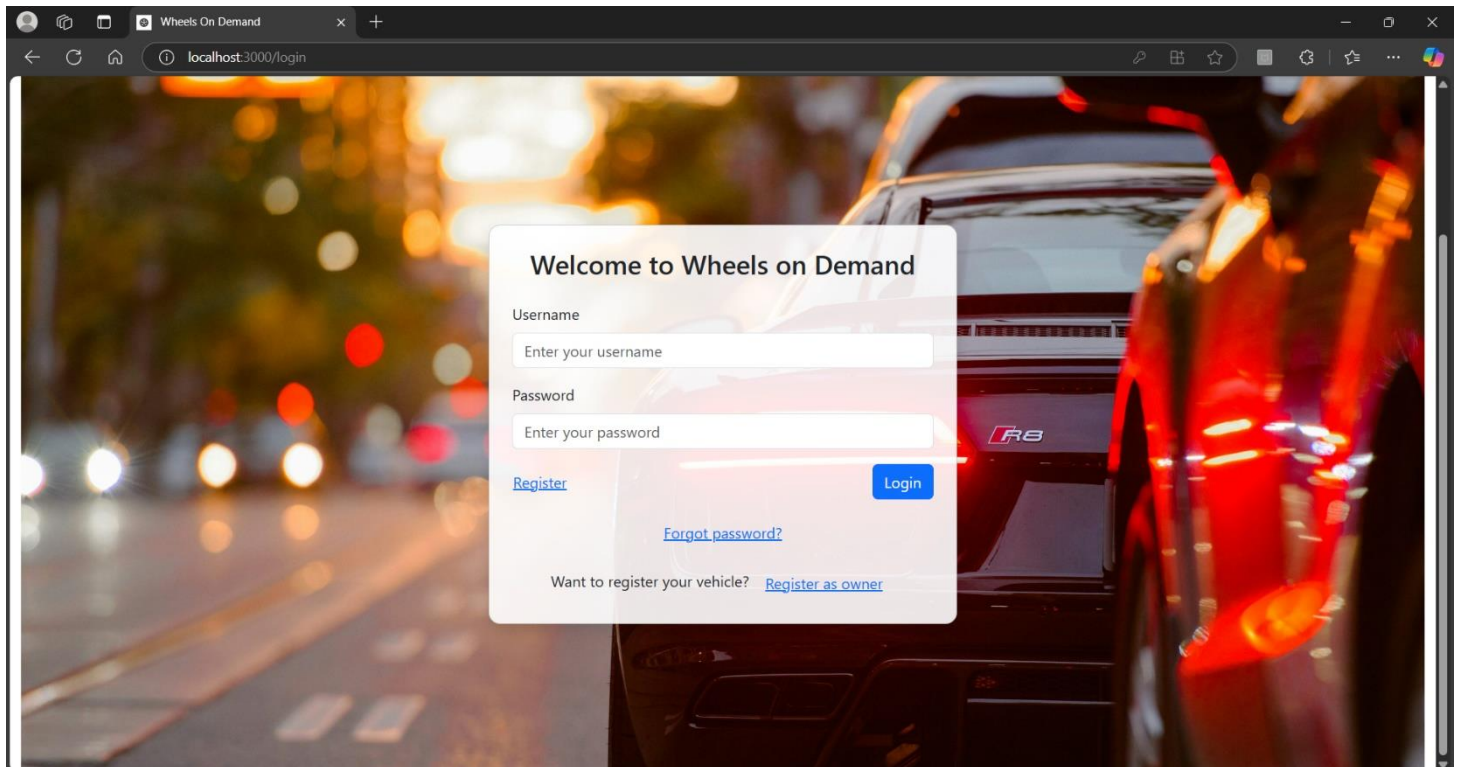


Search



4:38 PM  
2/9/2025

## LOGIN



The screenshot shows a web browser window with the title 'Wheels On Demand' and the address bar displaying 'localhost:3000/login'. The background image is a blurred night scene of a city street with a car's rear lights visible. A white login form is centered on the page.

**Welcome to Wheels on Demand**

Username

Password

[Register](#)

[Forgot password?](#)

Want to register your vehicle? [Register as owner](#)



## ABOUT

Wheels On Demand



localhost:3000/about



How to setup VS co... Strivers A2Z DSA Co... Log in to the site | S... Acer ChatGPT A Docker Tutorial fo... IndiaPost GDS Online Hello Minikube | Ku...

Wheels On Demand

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Login



## Wheels On Demand

Version 1.0.0

### About Wheels On Demand

Wheels On Demand is your go-to solution for convenient and affordable car rentals. We offer a wide range of vehicles to suit your needs, from compact cars for city driving to spacious SUVs for family trips. Our mission is to provide a seamless and enjoyable rental experience, making your travel hassle-free.

### Our Story

Founded in 2023, Wheels On Demand started with a simple idea: to make car rentals accessible and convenient for everyone. We believe that travel should be enjoyable, and we're committed to providing our customers with the best possible rental experience.

### Our Values

We are guided by our core values of customer satisfaction, transparency, and innovation. We strive to exceed our customers' expectations by providing high-quality vehicles, competitive pricing, and exceptional customer service. We are committed to transparency in our pricing and policies, and we are constantly innovating to improve our services.

33°C  
Mostly sunny



Search



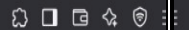
4:35 PM  
2/9/2025

## CONTACT US

Wheels On Demand



localhost:3000/contact



How to setup VS co... Strivers A2Z DSA Co... Log in to the site | S... Acer ChatGPT A Docker Tutorial fo... IndiaPost GDS Online Hello Minikube | Ku...

Wheels On Demand

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Login

### Contact Us

Your Email

example@email.com

Message

type your content or comment or review here

Send Message

33°C  
Mostly sunny




Search




4:36 PM  
2/9/2025


## CUSTOMER HOME PAGE

Wheels On Demand

HomeCarsYour OrdersDashboardLogin/Log OutLight Mode

Welcome, robert9! 

Choose your vehicle and book now.



Maruti Suzuki Swift


HATCHBACK

Compact hatchback with excellent fuel efficiency.

Cost Per Hour: ₹200

Mileage: 21.4 km/l

Book Now



KTM Duke 350


BIKE

High-performance sports bike with great power.

Cost Per Hour: ₹150

Mileage: 25 km/l

Book Now



Maruti Suzuki Alto

HATCHBACK

Small car with affordable price.

Cost Per Hour: ₹200

Mileage: 25 km/l

Book Now

## BOOKING DETAILS

The screenshot shows a web browser window with the address bar displaying 'localhost:3000/customer/vehicle-details'. The page has a header with the logo 'Wheels On Demand' on the left and navigation links 'Home', 'Cars', 'Your Orders', 'Dashboard', and 'Login/Log Out' on the right. A user profile picture is also visible. The main heading is 'Confirm Your Booking'. Below it is a 'Vehicle Details' section containing a table of information:

<b>Vehicle No:</b> MH14KL7654
<b>Model:</b> Duke 350
<b>Make:</b> KTM
<b>Description:</b> High-performance sports bike with great power.
<b>CC:</b> 350
<b>Mileage:</b> 25 km/l
<b>Manufacturing Year:</b> 2020
<b>Cost Per Hour:</b> ₹150
<b>Insurance Name:</b> Third-Party Liability
<b>Owner:</b> johncars

There are two blue buttons on the right side of the table: 'Get Insurance Details' and 'Get Owner Details'. Below the table is the heading 'Select Booking Details'.

## BILL DETAILS

Wheels On Demand

localhost:3000/customer/checkout

Customer: Robert

Vehicle Details

Vehicle No: MH14KL7654

Model: Duke 350

Make: KTM

Location Details

Pick-Up Location: Charminar, Laad Bazaar Road, Old City, Hyderabad, Telangana,

Drop-Off Location: India Gate, Phase 1 Road, Central Delhi, Delhi, Delhi,

Billing Summary

Rent Hours: 5

Total Rent Amount: ₹750

Tax (18%): ₹135.00

Discount Applied: 10%

Total Amount: ₹796.5

Cancel Order

Proceed to Payment

## 6. REFERENCES

1. **Spring Boot Documentation**

URL: <https://spring.io/projects/spring-boot>

2. **React.js Documentation**

URL: <https://reactjs.org/docs/getting-started.html>

3. **Java Programming Language**

URL: <https://www.oracle.com/java/>

4. **MySQL Workbench Documentation**

URL: <https://dev.mysql.com/doc/workbench/en/>

5. **Spring Boot with React and Redux**

URL: <https://www.baeldung.com/spring-boot-react-and-redux>

6. **Java Persistence API (JPA) Documentation**

URL: <https://www.eclipse.org/eclipselink/documentation/2.7/>

7. **MDN Web Docs**

URL: <https://developer.mozilla.org/>