Mini Project Report

On

"WEB BASED CAR RENTAL SYSTEM"

Submitted in
The partial fulfillment of the requirement for the award of degree of
Bachelor of Technology
in
Computer Science & Engineering

Submitted by:
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Guided by:
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Department of Computer Science & Engineering

3rd year (6th sem)
Session: 2024-2025

CERTIFICATE OF APPROVAL

The mini project report titled "**WEB BASED CAR RENTAL SYSTEM**" submitted by Rudra Padole student of 3rd year 6th Semester B. Tech (Computer Science and Engineering) as a part of degree of Bachelor of Technology in Computer Science and Engineering, by Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur shall be carried out under our supervision in the Department of Computer Science and Engineering of Agnihotri College Of Engineering, (Nagthana)Wardha during academic session 2024-2025. The proposed subject of research and the mini project report enclosed here with has our approval.

Project Incharge

Asst. Prof. A. Kamble

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Project Guide / H.O.D

Asst. Prof. N. M. Dhande

Dept. of Computer Sci.&Engg.

Agnihotri College of Engineering

Signature of External Examiner

Name:

Date

DECLARATION

We hereby declared that the mini project titled **"WEB BASED CAR RENTAL SYSTEM"** submitted and carried out by us in the Department of Computer Science and Engineering, Agnihotri College of Engineering, Nagthana, Wardha. The work is original and has not been submitted early as a whole or in part of the award of any degree at this or any other institution / university.

Date: / / 2025

Student name :

Mr. Rudra Padole

ACKNOWLEDGEMENT

We have great pleasure to express our most sincere regards and deep sense of gratitude to our **Guide & H.O.D** of our department **Miss. N. M. Dhande (Asst. Professor)** for his valuable guidance for completing this project work.

We are also thankful to other staff member of the Department of Computer Science & Engineering for their valuable suggestion and helping attitude.

We are also intended to our **Principal Mr. Abhishek Kumar Singh Sir** for encouraging us for time to time throughout course of this project work without which this dissertation could not be success.

Student name :

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ABSTRACT

The Web Based Car Rental System is being developed for customers so that they can book their vehicles from any part of the world. This application takes information from the customers through filling their details. A customer being registered in the website has the facility to book a vehicle which he requires. It is an online system through which customers can view available cars, register and book car. We developed this project to book a car on rent at the fare charges. In present system all booking work done manually and it takes very hard work to maintain the information of booking and cars. if you want to find which vehicle is available for booking then it takes a lot of time. It only makes the process more difficult and harder. This aim of the project is to automate the work performed in the car rental management system like records of cab, cabs available for booking, rental charges for cars, store records of the customer. MetroRide is a car booking software that provides a complete solution to all your day-to-day car booking office running needs. This system helps you to keep the information of customer online. You can check your customer information any time by using this system. Online car rental management system is a unique and innovative product. Based on this information you can take decision regarding your business development.

Keywords: Online rental system**,** Database**,** computerized system**,** vehicles

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CHAPTER 1

INTRODUCTION

A database management system (DBMS) refers to the technology for creating and managing databases. DBMS is a software tool to organize (create, retrieve, update and manage) data in a database. The main aim of a DBMS is to supply a way to store up and retrieve database information that is both convenient and efficient. By data, we mean known facts that can be recorded and that have embedded meaning. Normally people use software such as DBASE IV or V, Microsoft ACCESS, or EXCEL to store data in the form of a database. Database systems are meant to handle a large collection of information. Management of data involves both defining structures for the storage of information and providing mechanisms that can do the manipulation that stored information. Moreover, the database system must ensure the safety of the information stored, despite system crashes or attempts at unauthorized access.

The reason for this work to plan framework in order to be utilized via vehicle Rental Company represent considerable authority in leasing vehicles to clients. It is an online framework through which client can see accessible vehicles and drivers, register, see profile and book vehicle and driver. The headway in Information innovation and web entrance has extraordinarily improved different business measure and correspondence among organizations and their clients of which vehicle rental industry is not let out. A vehicle rental, enlist vehicle, or vehicle recruit organization is an organization that rents vehicles for brief time frames, for the most part going from a couple of hours to half a month. It is regularly coordinated with various neighborhood offices (which permit a client to return a vehicle to an alternate area), and basically situated close to air terminals or occupied city territories and frequently supplemented by a site permitting on the web reservations. Vehicle rental organizations basically serve individuals who require a transitory vehicle, for instance the individuals who try not to possess their own vehicle, explorers who are away, or on the other hand proprietors of harmed or obliterated vehicles who are anticipating fix or protection remuneration. Vehicle rental offices may likewise serve oneself moving industry needs, by leasing vans or trucks, and in specific business sectors other kinds of vehicles, for example, bikes or bikes may additionally be advertised.

1.1 Problem statement

In real world, not every person can afford their own personal car. A car rental is a vehicle that can be used temporarily for a fee during a specified period. Getting a rental car helps people get around despite the fact they do not have access to their own personal vehicle or don't own a vehicle at all. The individual who needs a car must contact a rental car company and contract out for a vehicle. This system increases customer retention and simplify vehicle and staff management.

1.2 Objective

- To produce a web-based system that allow customer to register and reserve car online and for the company to effectively manage their car rental business.
- To ease customer’s task whenever they need to rent a car.
- As all the system is computerized, there is no need to fill any application form for renting purpose. So, the paperwork will be very less.
- To make sure a user gets his desire car as early as possible. The car rental system will provide a faster response to complete the process.

CHAPTER 2

METHODOLOGY

2.1 SQL

SQL (Structured Query Language) is a standardized programming language that's used to manage relational databases and perform various operations on the data in them. The uses of SQL include modifying database table and index structures; adding, updating and deleting rows of data; and retrieving subsets of information from within a database for transaction processing and analytics applications. Queries and other SQL operations take the form of commands written as statements -- commonly used SQL statements include select, add, insert, update, delete, create, alter and truncate. MySQL is a popular choice of database for use in web applications, and is a central component of the widely used LAMP open source web application software stack (and other 'AMP' stacks).

2.2 PHP

PHP is a server-side scripting language designed for web development but also used as a general-purpose programming language. PHP is now installed on more than 244 million websites and 2.1 million web servers. Originally created by Rasmus Lerdorf in 1995, the reference implementation of PHP is now produced by The PHP Group. While PHP originally stood for Personal Home Page, it now stands for PHP: Hyper Text Preprocess .PHP code is interpreted by a webserver with a PHP processor module, which generates the resulting web page PHP commands can be embedded directly into an HTML source document rather than calling an external file to process data. It has also evolved to include a command-line interface capability and can be used in standalone graphical applications. PHP is free software released under the PHP License. PHP can be deployed on most web servers and also as a standalone shell on almost every operating system and platform, free of charge.

2.3 HTML5

HTML5 is a markup language used for structuring and presenting content on the World Wide Web. It is the fifth and last major HTML version that is a World Wide Web Consortium (W3C) recommendation. The current specification is known as the HTML Living Standard. It is maintained by the Web Hypertext Application Technology Working Group (WHATWG), a consortium of the major browser vendors (Apple, Google, Mozilla, and Microsoft).

2.4 CSS3

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language such as HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript. CSS is designed to enable the separation of presentation and content, including layout, colors, and fonts. This separation can improve content accessibility; provide more flexibility and control in the specification of presentation characteristics; enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file, which reduces complexity and repetition in the structural content; and enable the .css file to be cached to improve the page load speed between the pages that share the file and its formatting.

2.5 JAVASCRIPT

JavaScript (JS) is a dynamic computer programming language. It is most commonly used as part of web browsers, whose implementations allow client-side scripts to interact with the user, control the browser, communicate asynchronously, and alter the document content that is displayed. It is also being used in server-side programming, game development and the creation of desktop and mobile applications. JavaScript is a prototype-based scripting language with dynamic typing and has first-class functions. Its syntax was influenced by C. The key design principles within JavaScript are taken from the Self and Scheme programming languages. It is a multiparadigm language, supporting object-oriented, imperative, and functional programming styles.

2.6 APACHE WEB SERVER

In this project apache server is used to parse and execute PHP pages, before deploying websites on the server, the website should be tested at the developer side to get a feel of how the website will work on actual server. Therefore, apache server is like a local server on the developer side, apache server should be informed about the environment on which it should work. In our project apache server is configured to work with PHP, in this way all the PHP pages are parsed and executed by the server. When apache is installed on the system, then it services is controlled by apache service monitor.

CHAPTER 3

REQUIREMENT ANALYSIS AND SPECIFICATION

3.1 Functional Requirements Car Rental System

These are statements of services the system should provide, how the system should react to particular inputs and how the system should behave in particular situations. In some cases, the functional requirements may also explicitly state what the system should not do. The functional requirements for a system describe what the system should do. These requirements depend on the type of software being developed, the expected users of the software and the general approach taken by the organization when writing requirements. When expressed as user requirements, the requirements are usually described abstractly. However, functional system requirements describe the system function in detail, its inputs and outputs, exceptions, and so on. Functional requirements for a software system may be expressed in several ways.

The functional requirements of WEB BASED CAR RENTAL SYSTEM are as follow:

Register Module:

- The user needs to provide their first name, last name, email, license number, phone number, password, confirm password, gender for registration.
- These details will be stored in database.

Login Module:

- For login user will input their email and password.
- Admin will provide their admin id and password which will compared with a database content.

Booking Module:

- User can view the list of cars. The booking details of cars are provided by the admin.
- User can select their preferred car and book for the same.

Payment Module:

- User should able to make payment by filling card number, expiry date and CVV are provided by the admin.
- After payment user will get the payment successful popup window.

Logout Module:

- The system should allow user to logout.
- The system should also allow admin to logout.

Hardware Requirements

- Processor : Intel i3/i5/1.8GHz machine or above
- Primary memory : 4 GB RAM or above
- Hard disk drive : 1 TB or greater

Software Requirements

- Operating System : Windows 7 or higher
- Front End : HTML5, CSS3, JavaScript
- Back End : PHP, SQL
- Frame work : Bootstrap
- Software : Visual Studio Code, XAMPP

3.2 Non-Functional Requirements of Car Rental System

Non-functional requirements are requirements that are not directly concerned with the specific functions delivered by the system. They may relate to emergent system properties such as reliability, response time and store occupancy. Alternatively, they may define constraints on the system such as the capabilities of I/O devices and the data representations used in system interfaces. The plan for implementing functional requirements is detailed in the system design. The plan for implementing non-functional requirements is detailed in the system architecture. Non-functional requirements are often called qualities of a system. Other terms for non-functional requirements are "constraints", "quality attributes", "quality goals", "quality of service requirements" and "non-behavioral requirements". Qualities, that are non-functional requirements, can be divided into two main categories: Execution qualities, such as security and usability, which are observable at run time.

Security:

- The system should provide a high level of security and integrity of the data held by the system, only authorized personnel of the company can gain access to the company's secured page on the system.
- System provides security for the admin by allowing them to enter into the account with their respective ID and password.
- A user can only enter to their account by using their email and password. Only admin have privileges to update database contents which are used by the user.

Performance:

- The system should have high performance rate when executing user's input and should be able to provide feedback or response within a short time span usually 50 seconds for highly complicated task and 20 to 25 seconds for less complicated task.
- The system provides user friendly interface, any common people with little knowledge can use the system.
- System is robust, reliable and fast, provides more efficiency.

Reliability:

- It is the probability and percentage of the system performing without any failure for a specific number of uses or amount of time.
- Car rental system provides reliable interface as it provides data security and data safety.
- User can rely on the details present in the system, since it is provided by the admin.

Consistency:

- The car rental system provides consistency services, by retaining the data present in the database.

The user gets the details that are only provided by the admin, thus achieving correctness of data in the database.

CHAPTER 4

SYSTEM DESIGN

System Design process partitions the system into subsystems based on the requirements. It establishes overall system architecture and is concerned with identifying various components, specifying relationships among components, specifying software structure, maintaining a record of design decisions and providing a blue print for the implementation phase.

4.1 SCHEMA DIAGRAM

The design of the database is called a schema. This tells us about the structural view of the database. It gives us an overall description of the database. A database schema defines how the data is organized using the schema diagram. A schema diagram is a diagram which contains entities and the attributes that will define that schema. A schema diagram only shows us the database design. It does not show the actual data of the database. Schema can be a single table or it can have more than one table which is related. The schema represents the relationship between these tables.

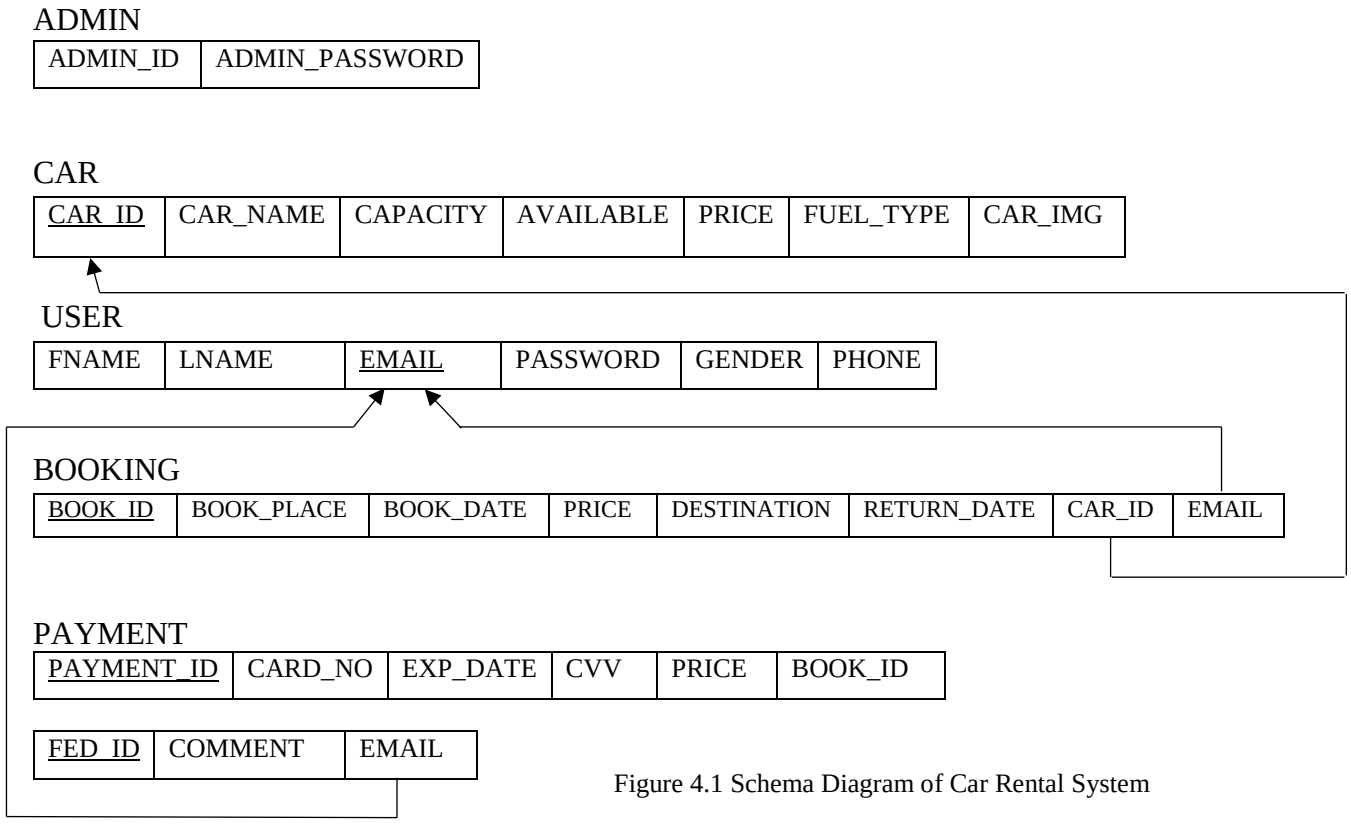


Figure 4.1 Schema Diagram of Car Rental System

4.1.1 DESCRIPTION OF TABLES

The database consists of six tables:

1. ADMIN: It stores the details of admin.
    - ADMIN_ID: User name of the admin.
    - ADMIN_PASSWORD: Password of the Admin.
2. CAR: It gives the details about the car.
    - CAR_ID: Id given to car done by auto increment.
    - CAR_NAME: Name of the car.
    - CAPACITY: Seat capacity.
    - AVAILABLE: Availability of car.
    - PRICE: Price of the car.
    - FUEL_TYPE: Car fuel type.
    - CAR_IMG: Image of car.
3. USER: It stores the details of user.
    - FNAME: first name of user.
    - LNAME: Last name of user.
    - EMAIL: Email of user.
    - PASSWORD: Password of user.
    - GENDER: Gender of user.
    - PHONE: Phone number of users.
4. BOOKING: It give the booking details for user.
    - BOOK_ID: Booking id done by auto increment.
    - BOOK_PLACE: Place of booking.
    - BOOK_DATE: Date of booking.
    - PRICE: Price of car.
    - DESTINATION: Destination.
    - RETURN_DATE: Return date.
    - CAR_ID: Id given to car and foreign key car associated with booking.
    - EMAIL: Email of user and foreign key of user associated with booking.

5. PAYMENT: It provides payment option for users.
    - PAYMENT_ID: Id given to payment and done by auto increment.
    - CARD_NO: Card number.
    - EXP_DATE: Expiry Date of card.
    - CVV: CVV of card.
    - PRICE: Price of car.
    - BOOK_ID: Id given to booking and foreign key of booking associated with payment.
6. FEEDBACK: It provides user to give their feedback.
    - FEED_ID: id given to the feedback done by auto increment.
    - COMMENT: Message about their experience.
    - EMAIL: Email of user and foreign key of user associated with feedback.

4.2 FLOW CHART

A flowchart is a diagram that depicts a process, system or computer algorithm. They are widely used in multiple fields to document, study, plan, improve and communicate often complex processes in clear, easy-to-understand diagrams. Flowcharts, sometimes spelled as flow charts, use rectangles, ovals, diamonds and potentially numerous other shapes to define the type of step, along with connecting arrows to define flow and sequence. They can range from simple, hand drawn charts to comprehensive computer-drawn diagrams depicting multiple steps and routes.

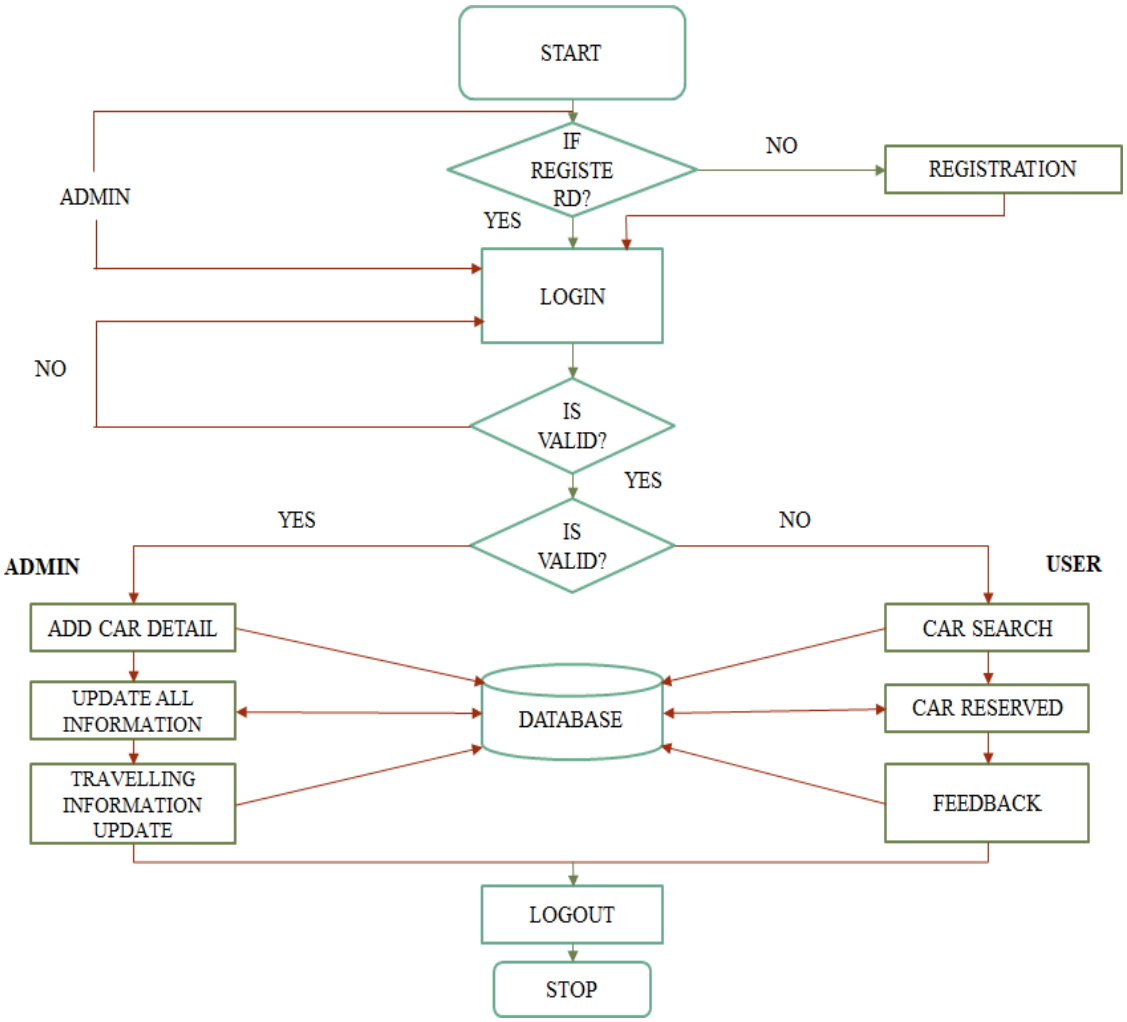
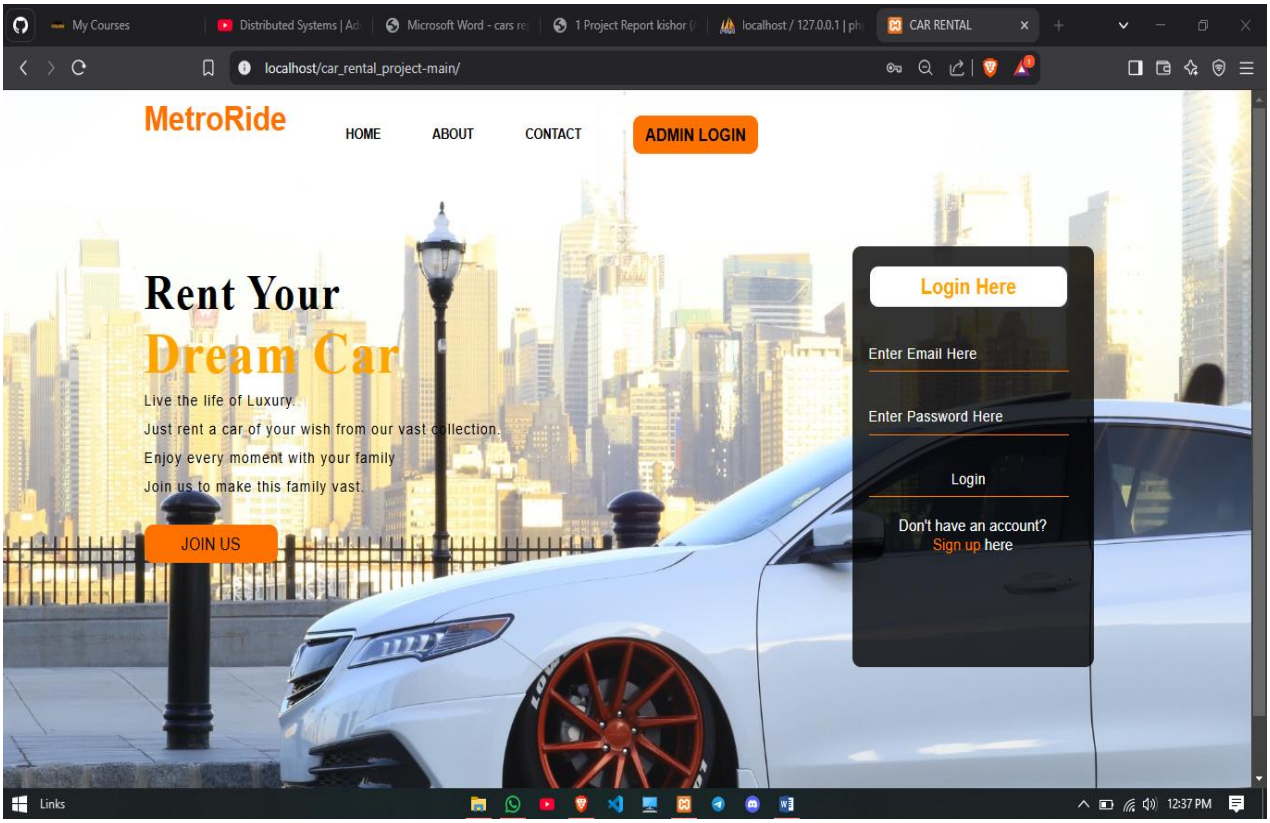


Figure 4.2 Flow Chart of Car Rental System

In the Figure 4.2 the user/admin enters his credentials for registration and later logins. If the login credentials are correct and authentic, he is redirected to his web page. If an admin is an authorized user, he is given the privilege of adding, updating the car, booking, payment details. If an authentic user logs in, he gets the details of car and other related details, then he can view list of cars then he can book car by providing valid details then he can get the booking status of booked status of after making payment. After performing all the operations, the user and admin can save and log out.

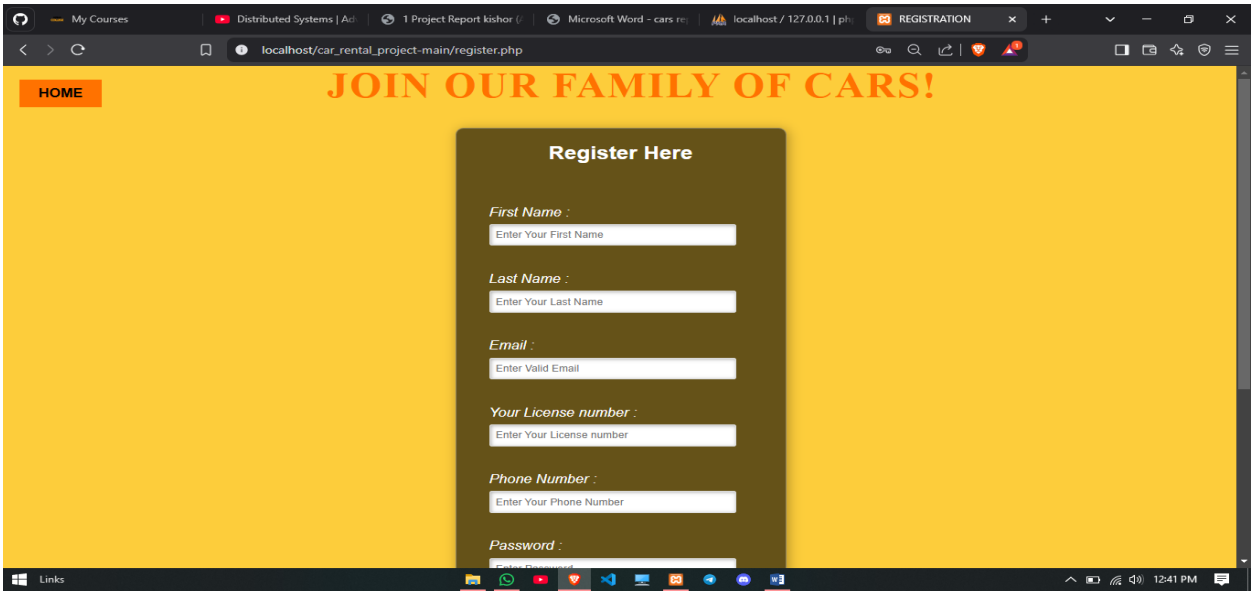
CHAPTER 5

RESULT



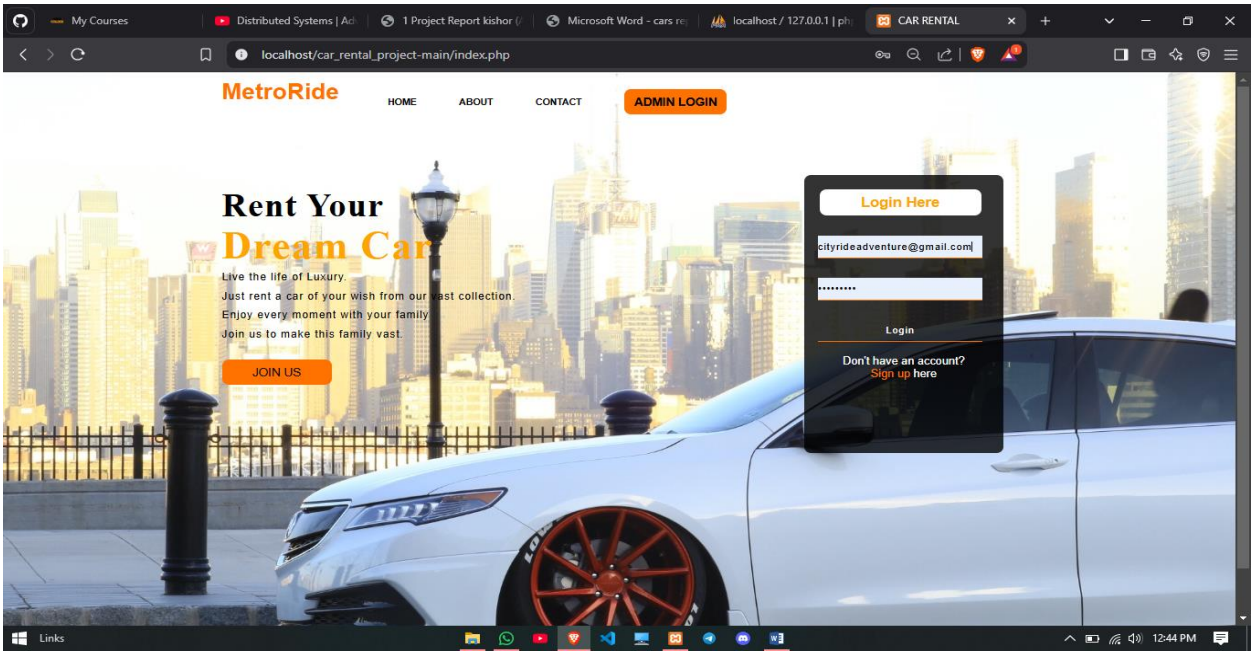
5.1 Screenshot of Home page

5.1 indicates the home page of our website MetroRide. This contains navigation bar, through which can navigate to other pages. It also contains some details about the website at the home page.



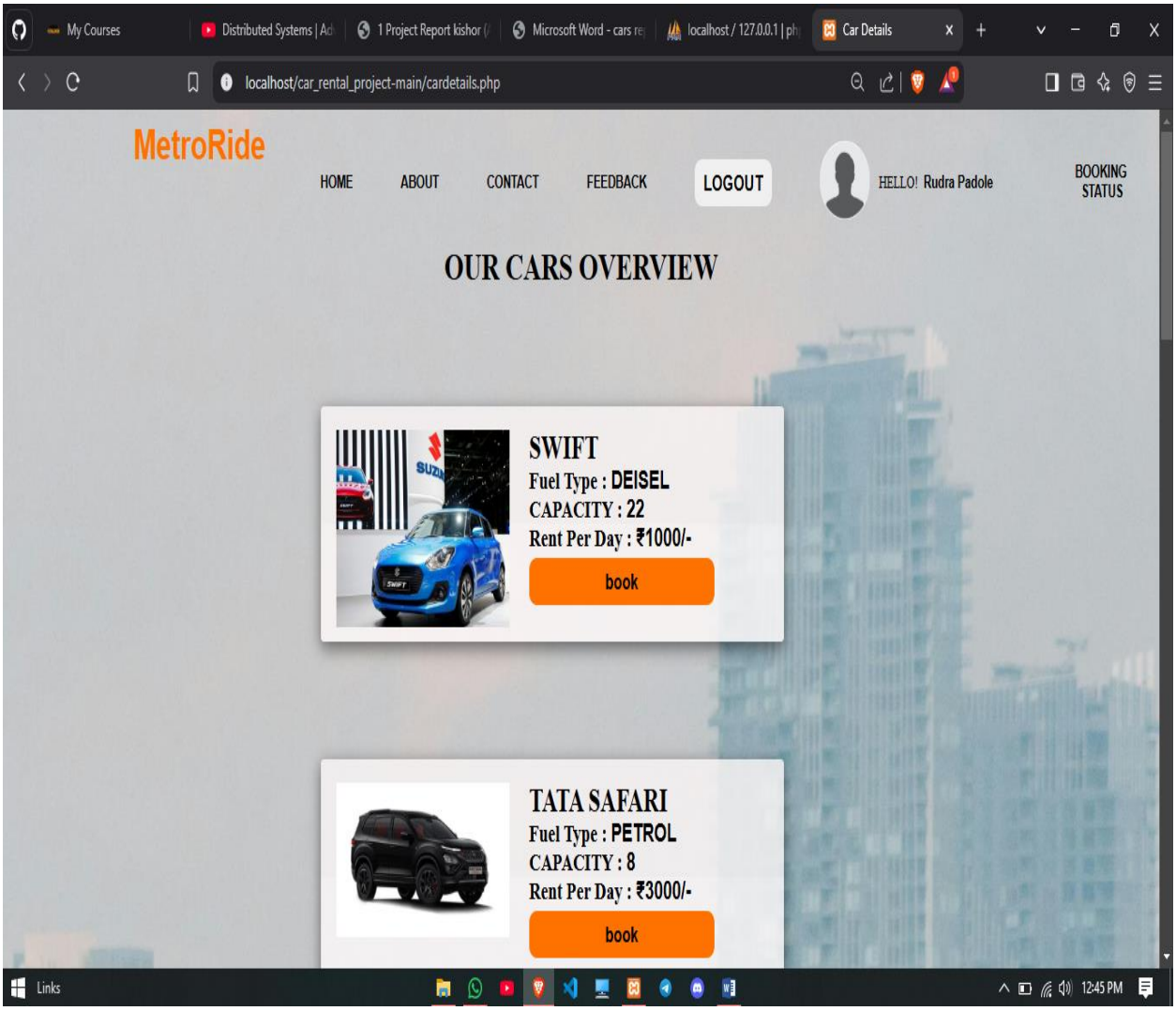
5.2 Screenshot of User Registration page

5.2 indicates the user registration page. It asks the user to enter the details like first name, last name, email, license number, phone number, password, confirm password and gender.



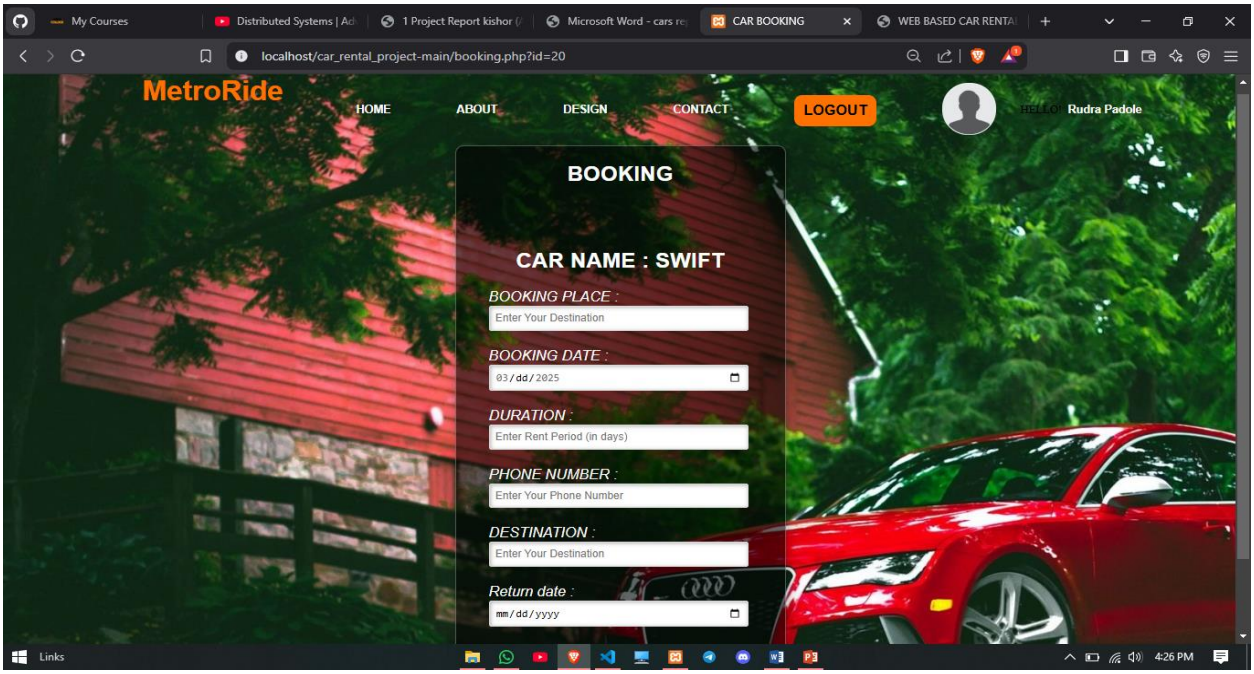
5.3 Screenshot of User Login page

5.3 indicates user login page. It asks the user to enter the email and password in order to enter the website MetroRide.



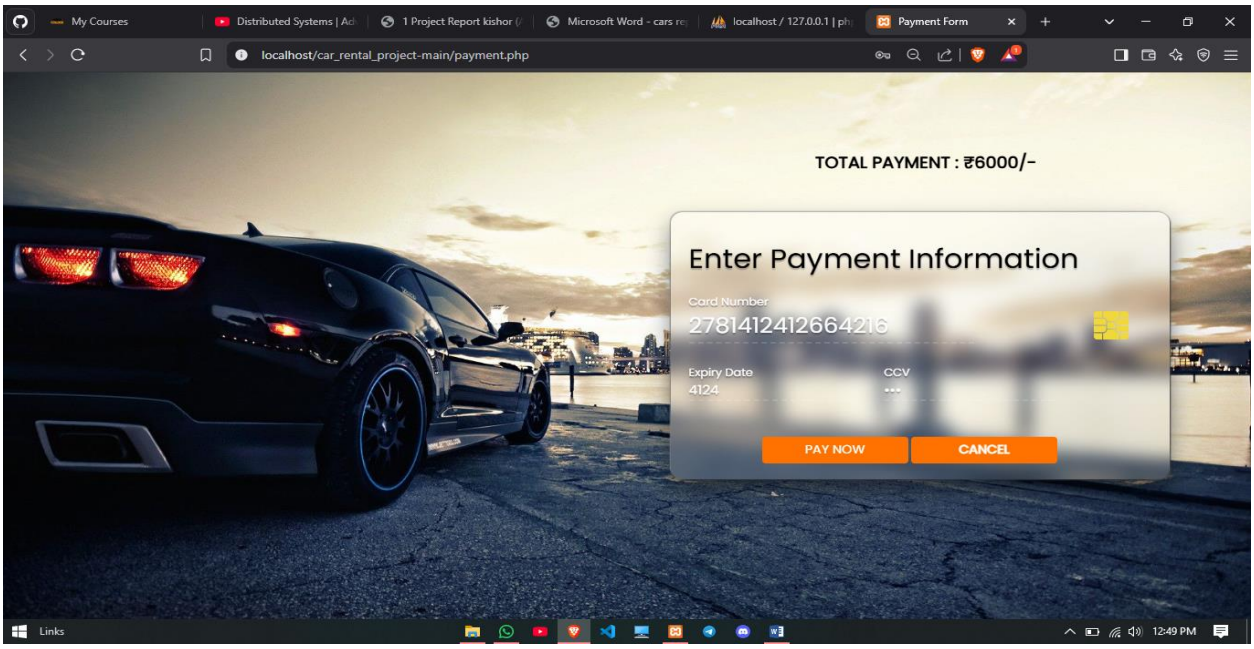
5.4 Screenshot of View Car page

5.4 indicates view car page. It asks the user to choose the car it contains the details like fuel type, capacity, rent per day.



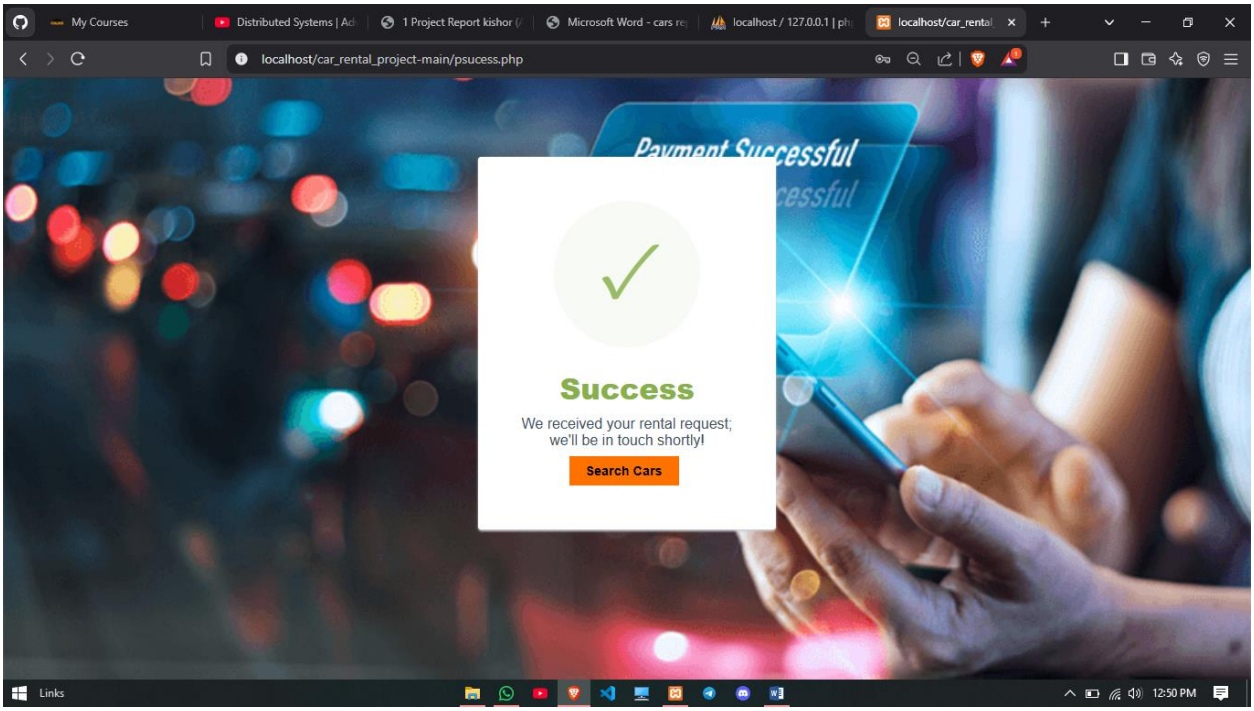
5.5 Screenshot of Booking page

5.5 indicates the booking page. It asks the user to enter booking place, booking date, duration, phone number, destination, return date.



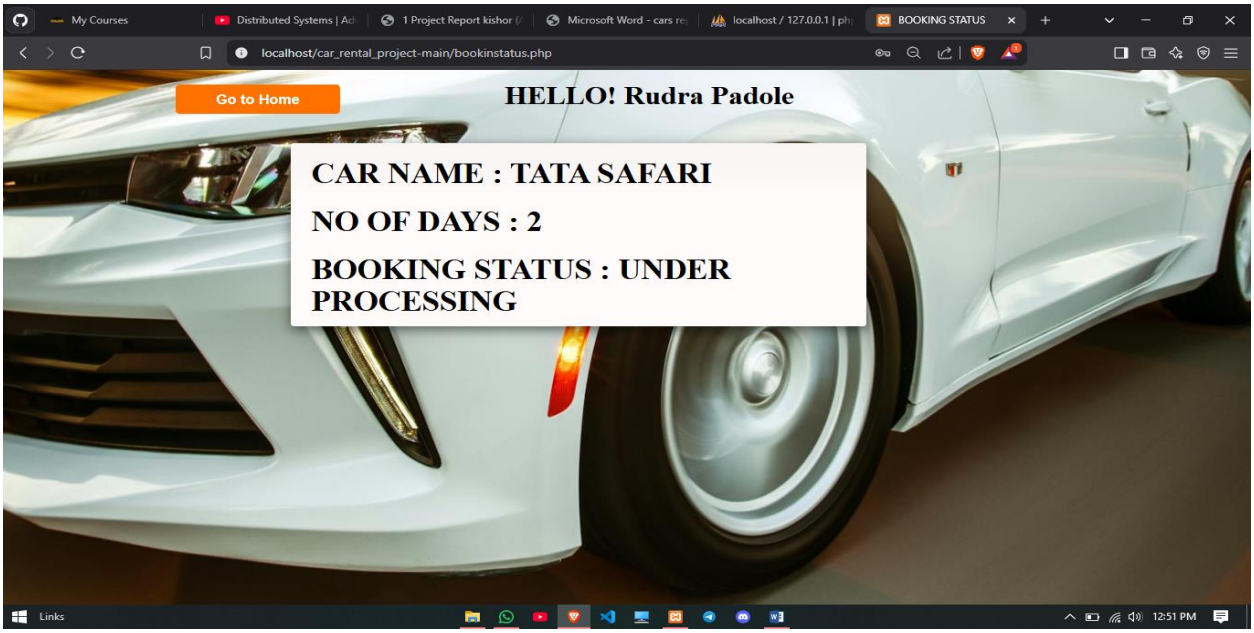
5.6 Screenshot of Payment page

5.6 indicates Payment page. It asks the user to enter details like card number, expiry date, ccv.



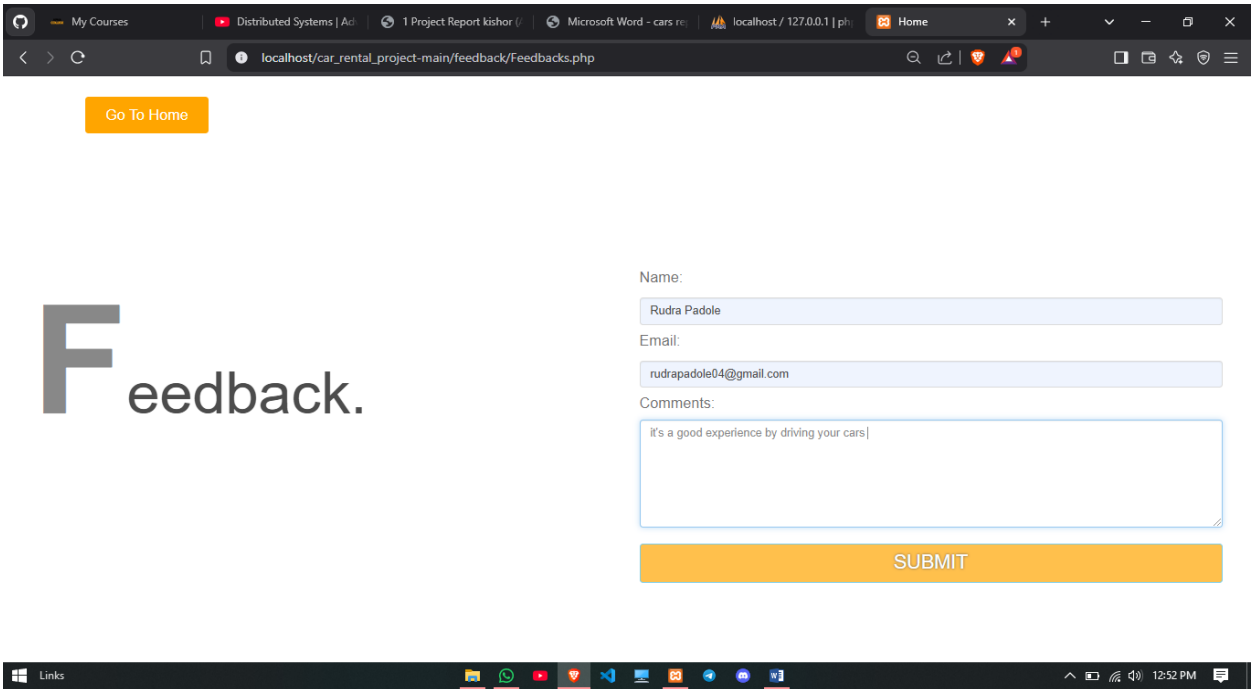
5.7 Screenshot of Payment Successful page

5.7 indicates payment successful page. After paying the payment by providing valid information if the payment is successful it shows pop up message that payment is successful.



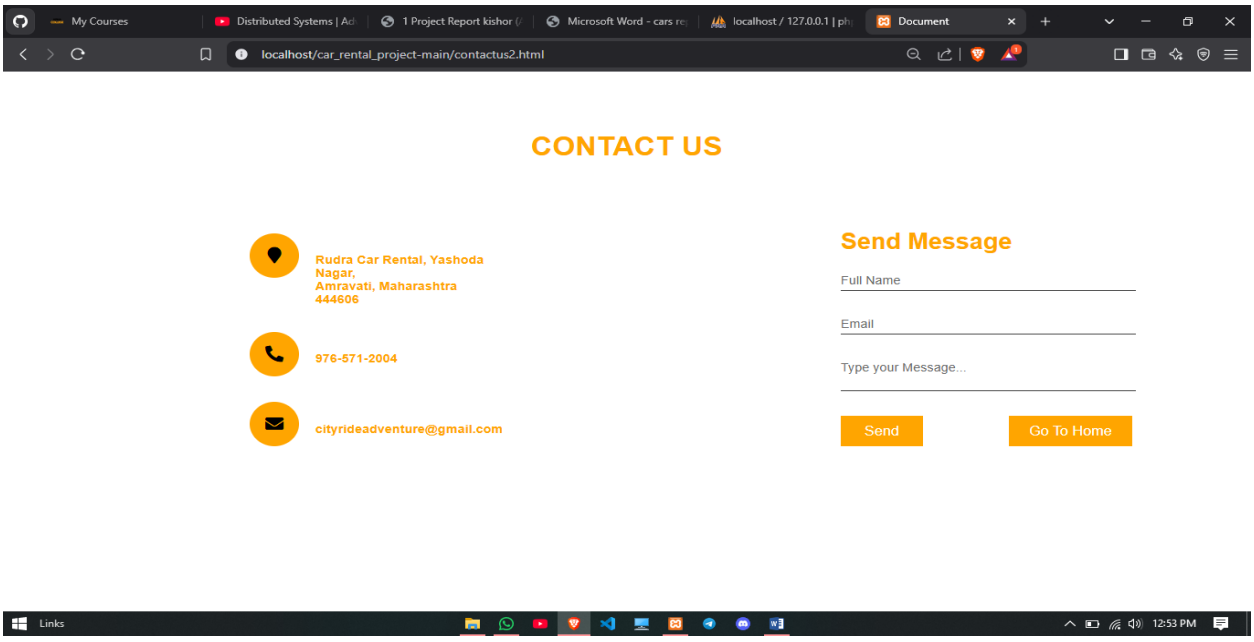
5.8 Screenshot of Booking Status page

5.8 indicates bookig status page.It shows user booking details.



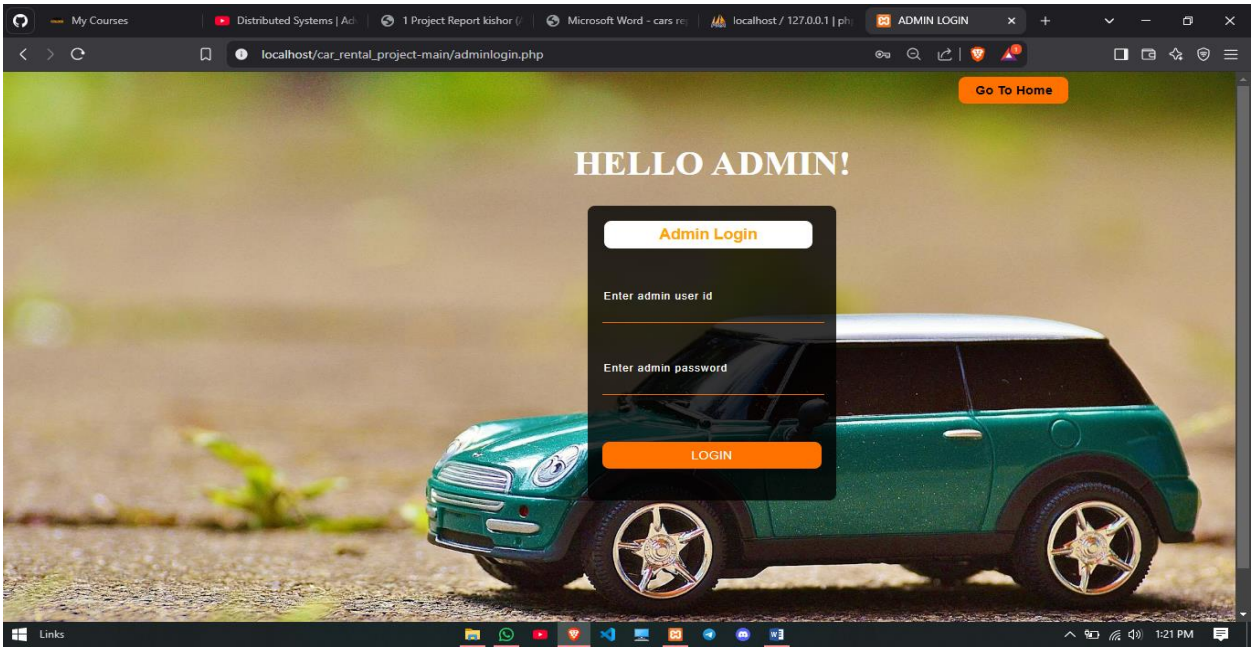
5.9 Screenshot of Feedback Page

5.9 indicates Feed back page.It asks the user enter details like name,email,comments where registered user can give their valuable feed of their experience .



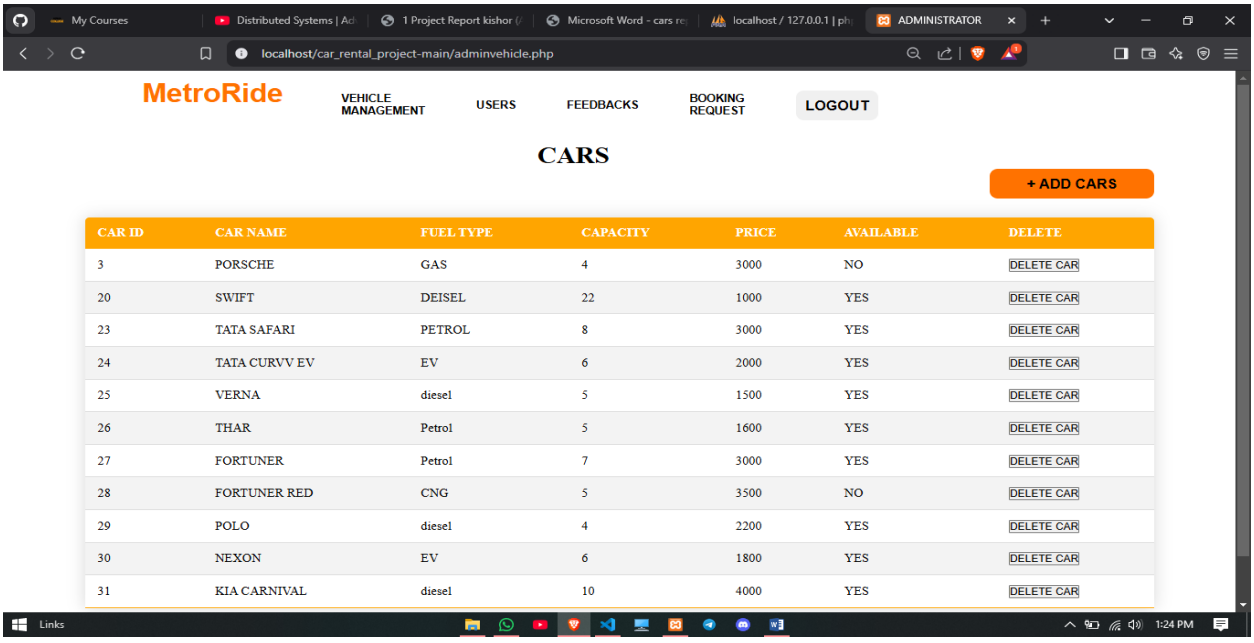
5.10 Screenshot of Contact Us page

5.10 indicates contact us page. It asks the user to enter details like full name, email, message where user can contact the company MetroRide by sending message.



5.11 Screenshot of Admin Login page

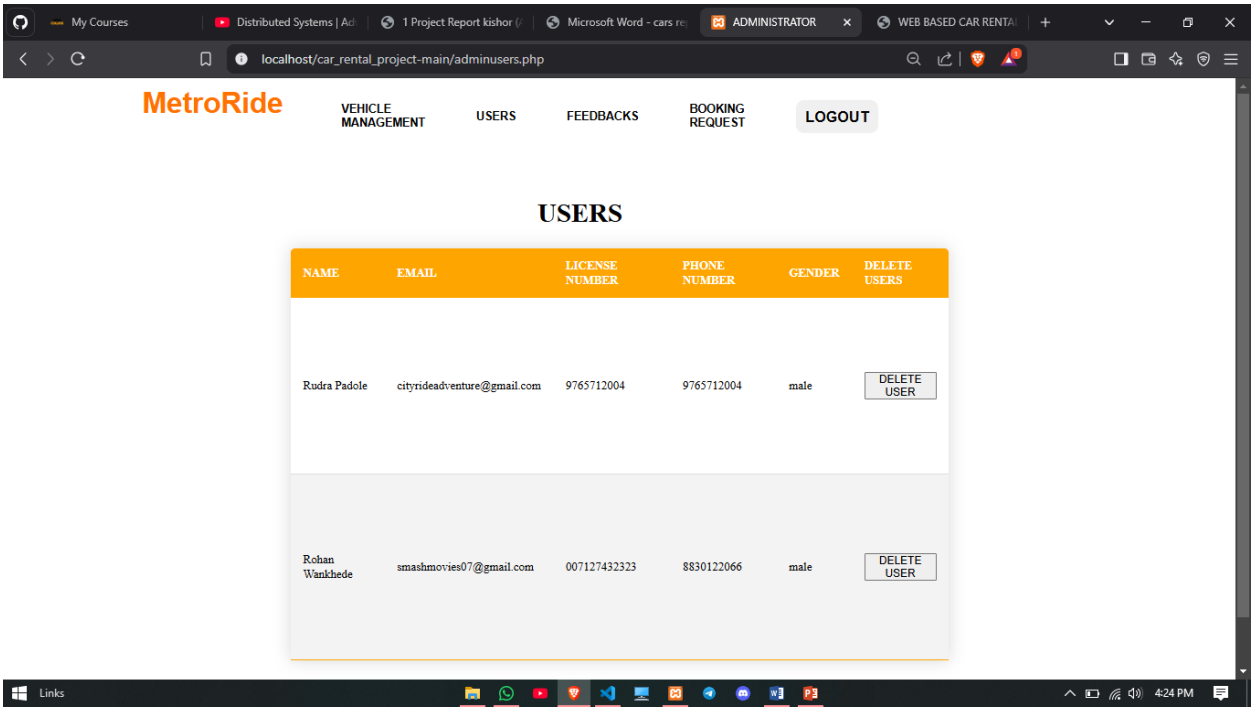
5.11 indicates admin login page.It asks the admin to enter details like admin_id and password.



CAR ID	CAR NAME	FUEL TYPE	CAPACITY	PRICE	AVAILABLE	DELETE
3	PORSCHE	GAS	4	3000	NO	DELETE CAR
20	SWIFT	DEISEL	22	1000	YES	DELETE CAR
23	TATA SAFARI	PETROL	8	3000	YES	DELETE CAR
24	TATA CURVV EV	EV	6	2000	YES	DELETE CAR
25	VERNA	diesel	5	1500	YES	DELETE CAR
26	THAR	Petrol	5	1600	YES	DELETE CAR
27	FORTUNER	Petrol	7	3000	YES	DELETE CAR
28	FORTUNER RED	CNG	5	3500	NO	DELETE CAR
29	POLO	diesel	4	2200	YES	DELETE CAR
30	NEXON	EV	6	1800	YES	DELETE CAR
31	KIA CARNIVAL	diesel	10	4000	YES	DELETE CAR

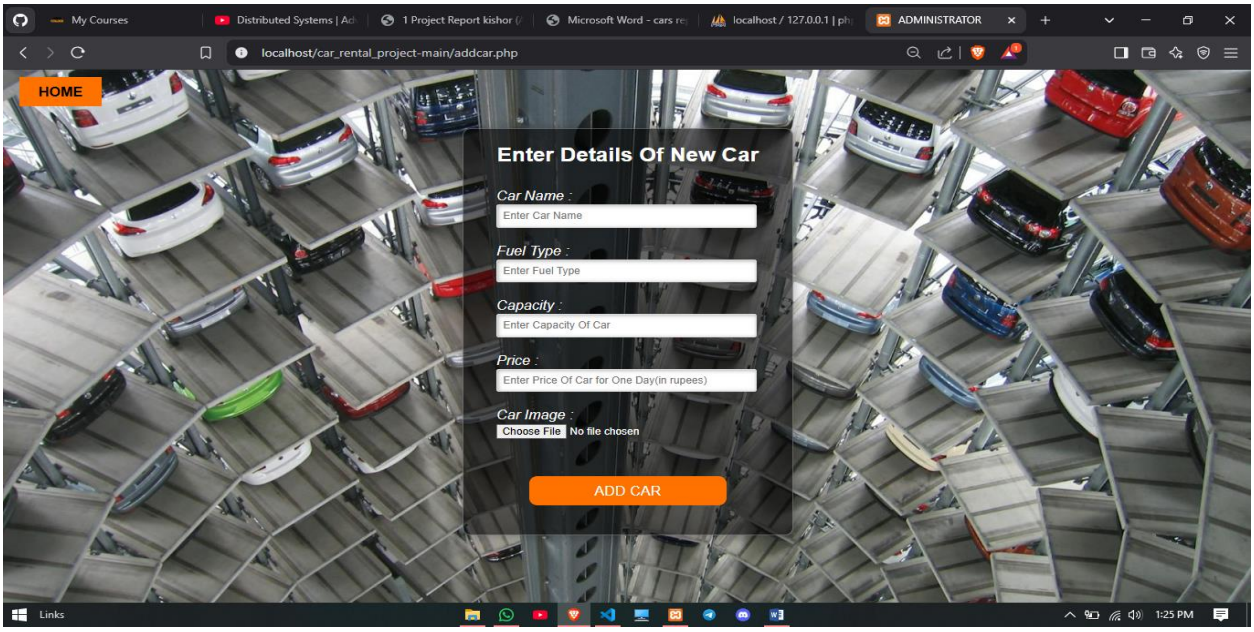
5.12 Screenshot of Vehicle Management page

5.12 indicates vehicle management page. It contains the details like car id, car name, fuel type, capacity, price, available, delete where admin can see the car availability status and delete the car details.



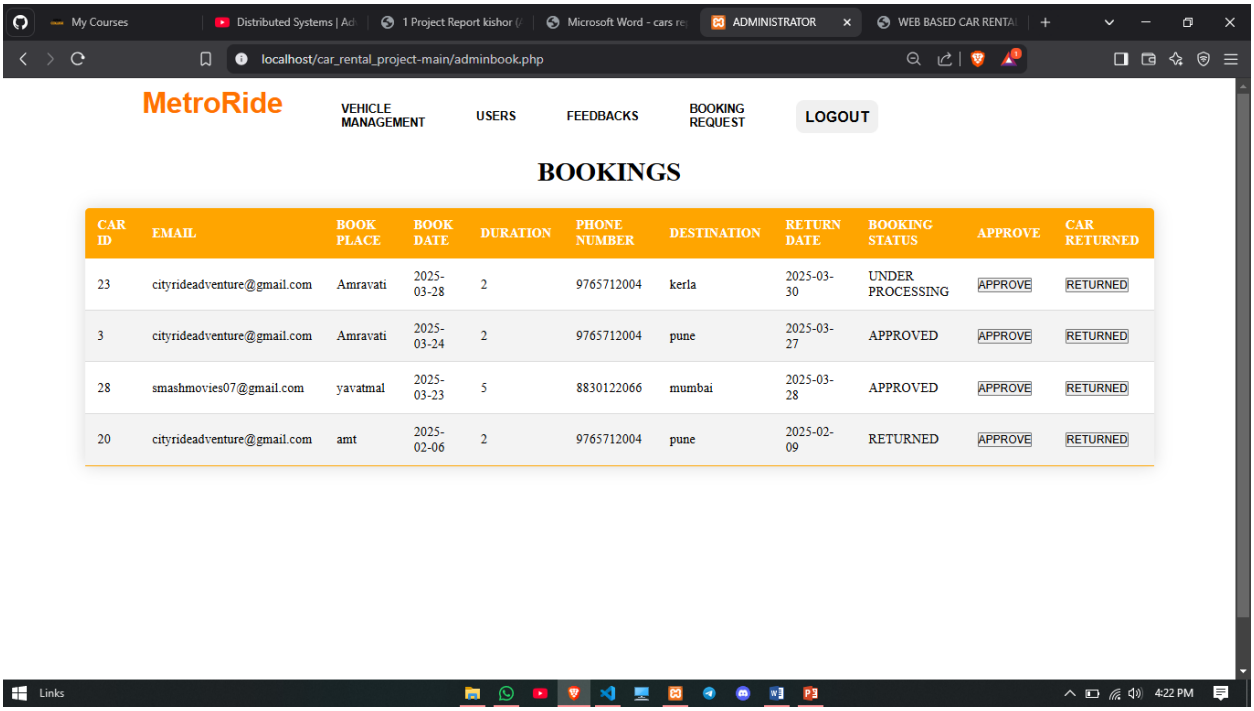
5.13 Screenshot of Users page

5.13 indicates User page.It includes details like name, email, license no, phone number, gender, delete user where admin can delete the user details.



5.14 Screenshot of Add Car page

5.14 indicates add car page. It includes details like car name, fuel type, capacity, price, car image where admin can add the new car details by specifying it's details.



5.15 Screenshot of Bookings page

5.15 indicates booking page. It includes the details like car id, email, book place, book date, phone number, destination, return date, booking status, approve, car returned where admin can give approve to the bookings done by the user and can also check the returned status of the car.

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

CONCLUSION

Online Car Rental Management System is user-friendly and customized software for car renting company. Online Car Rental Management System has been developed to manage and automate the overall processing of any large car renting company. Online Car Rental Management System project is capable of managing cars, booking, feedbacks, payment etc. It is a user friendly and customized software for providing support for company admin. This project is a very flexible software and it can be upgraded according to the individual needs

FUTURE SCOPE

- Expanding the platform to serve international markets with multi-language and multi-currency support can open up opportunities in global tourism, catering to users from different countries.

- Offering personalized insurance options and add-on services such as roadside assistance, damage waiver, and special equipment rentals (e.g., ski racks, GPS) would give users more flexibility

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ANNEXURE

Project Exhibition Participation Details

Name of the Student:

1) Mr. Rudra Padole

Semester: VIth Sem

Project Title: Web Based Car Rental System

Project Description: The project aims to manage Web Based Car Rental Management System is user-friendly and customized software for car renting company.

Exhibition/Event Name: TECH-Ace 2K25

Organizing Body / Institution: Department of Information Technology, Agnihotri College of Engineering & Polytechnic, Nagthana Wardha.

Venue: ACE, Wardha

Date of Exhibition: 4th March 2025

Certificate Attached: Yes

Jai Mahakali Shikshan Sanstha's

AGNIHOTRI COLLEGE OF ENGINEERING &
AGNIHOTRI POLYTECHNIC NAGTHANA

Near By-pass Highway, Nagthana Road, Sindhi (Meghe), Wardha

TechAce 2K25

Tech - APN 2K25

A National Level Techfest

Certificate

This is to certify that Mr/Miss Rudra N. Padole has participated in Tech-ACE 2K25 (National Level Techfest) & Tech - APN 2K25 has Stood - position in the event Poster Competition/Project Exhibition/Prezentaire/Group Discussion/LAN Gaming /Circuit Making /Robo Race/Bridge Builder/Capture It & Reel-O-Tribe held on 4th March 2025 at Agnihotri College of Engineering, Nagthana.

Prof. S.K. Watekar (IQAC Coordinator) | Prof. N.M. Dhande (Convenor) | Prof. Gauri Bodkhe (Principal-APN) | Prof A.K. Singh (Principal-ACE) | Shri. Sachinji Agnihotri (Secretary, JMSS Wardha) | Pt. Shri. Shankarprasadji Agnihotri (Chairman, JMSS Wardha)

Participate Certificate: Rudra Padole