

ROADREADY RENTALS SYSTEM

By

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Under Guidance

of

Internal Guide

Mr. Ravi Patel

Submitted to



Smt. Chandaben Mohanbhai Patel Institute of Computer Applications
CHARUSAT
Changa

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Accredited with Grade A+ by NAAC

CHAROTAR UNIVERSITY OF SCIENCE & TECHNOLOGY
Changa

Acknowledgement

Knowledge in itself is a continuous process. At this moment of our substantial enhancement, We rarely find words to express our gratitude towards those who were constantly involved with us.

The completion of any inter disciplinary project depends upon coordination, cooperation and combined efforts of several resources of knowledge, creativity, skill, energy and time. The work being accomplished now, we feel our most sincere urge to recall and knowledge through these lines, trying our best to give full credit wherever it deserves.

We would like to thank our project guide **Mr. Ravi Patel** , I/C Principal **Dr. Dharmendra Patel** and I/C Dean **Dr. Sanskruti Patel** who advised and gave us moral support through the duration of our project. Without their constant encouragement we could not have been able to achieve what we have.

It's our good fortune that we had support and well wishes of many. We are thankful to all and those names which have been forgotten to acknowledge here but contributions have not gone unnoticed.

With Sincere Regards,
Harshal Thakar (22MCA158)

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COMPANY PROFILE

➤ **Company Profile :**



Company Name :

Capermint Technologies pvt ltd



Email :

hello@capermint.com



Call us :

+91 99243 33323



About us :

**Capermint Technologies is a global leader
in mobile game design and development.**

PROJECT PROFILE

❖ **Project Profile:**

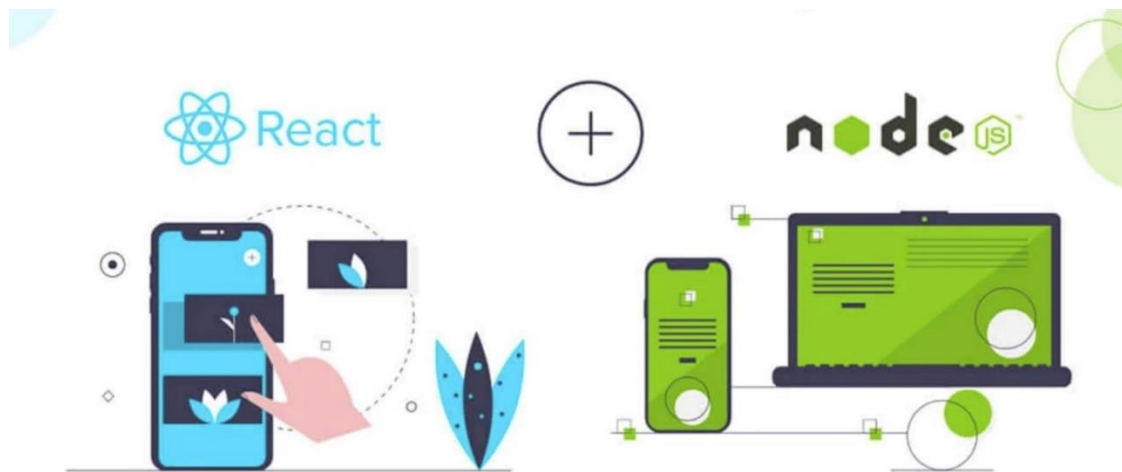
➤ **Project Name:** Roadready Rentals System

➤ **Type of Application:** Web Application

➤ **Project Description:**

- The COVID-19 pandemic fundamentally altered how we travel. Public transportation, once a common mode of commute, faced significant challenges. Government restrictions aimed at curbing the spread of the virus, such as lockdowns and remote work mandates, drastically reduced ridership. Moreover, public transit itself became a perceived source of infection, leading many to actively avoid it. This shift in travel behaviour fueled a surge in private vehicle usage as people prioritized minimizing contact with others by using their own vehicle.
- Online Vehicle Rent System specializing in Hiring vehicles to customers. It is an online system through which customers can view available vehicles; register the vehicles, view profile, and book vehicles. Vehicle booking service is a major transport service provided by the various transport operators in a particular city. Most people use vehicle service for their daily transportation needs. The company must be registered and fulfill all the requirements and security standards set by the transport department.
- This document delves into the Roadready Rentals web application, exploring its features, functionalities, and potential benefits for renters. We will examine how Roadready Rentals addresses the changing transportation landscape and fulfills a critical need in the sharing economy.

- **Team Size:** 1
- **Front End:** React Js
- **Back End:** MongoDB, NodeJS
- **Tools used:** Visual Studio Code

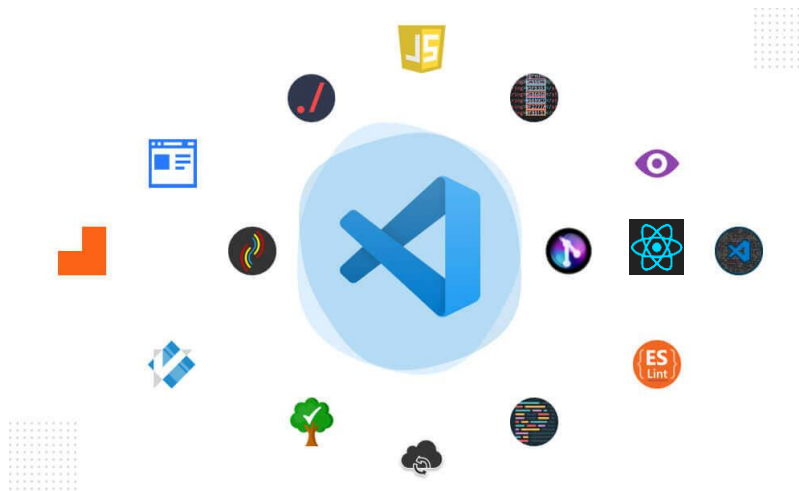


INTRODUCTION TO TOOLS

❖ Introduction to Tools

➤ Front End Tool:

➤ Visual Studio Code:



- Visual Studio Code (VS Code) is a versatile and lightweight source code editor developed by Microsoft. It's designed to meet the needs of developers across different platforms, including Windows, macOS, and Linux.
- Visual studio code is a user friendly tool, used by many programmers to make programming experience very smooth and easy due with its many in-built features. Visual studio code can be run everywhere.
- It comes with built-in support for JavaScript, TypeScript and Node. It has features of intelligence , Debugging , Built-in git, and extensions to add more languages, Themes , Debuggers etc

➤ **React Js:**

- React (also known as React.js or ReactJS) is a free and open-source front-end JavaScript library for building user interfaces based on components. It is maintained by Meta (formerly Facebook) and a community of individual developers and companies.
- React efficiently manages the application state, allowing for seamless updates to the UI when data changes. It promotes reusability, maintainability, and scalability of code, making it a popular choice for frontend development. With its virtual DOM implementation, React optimizes performance by only updating the necessary parts of the UI, resulting in faster rendering speeds.
- Overall, React simplifies the process of building complex UIs while providing a robust foundation for modern web development.

➤ Back End Tool:

➤ MongoDB:



- MongoDB is a versatile and widely used NoSQL database system renowned for its flexibility, scalability, and performance. Unlike traditional relational databases, MongoDB stores data in flexible, JSON-like documents, making it particularly well-suited for handling unstructured or semi-structured data.
- Another notable aspect of MongoDB is its support for dynamic schemas. Unlike relational databases that require predefined schemas, MongoDB allows developers to evolve the structure of their data over time without the need for costly migrations. This flexibility accelerates the development process and enables agile responses to changing business requirements.
- MongoDB primarily uses BSON (Binary JSON) for data storage and manipulation. Developers interact with MongoDB through official and community-supported drivers for languages like JavaScript (Node.js), Python, Java, C#, Ruby, and Go, which abstract away low-level details.

SYSTEM STUDY

1. Existing System:

- The existing system for vehicle rental services typically involves traditional methods of renting vehicles, either through physical rental agencies or online platforms that provide limited functionalities. These methods often lack efficiency, convenience, and transparency compared to modern web-based rental platforms. Below are some key aspects of the existing system:
 - Physical Rental Agencies
 - Limited Online Platforms
 - Manual Booking Processes
 - Limited Transparency and Accessibility
 - Customer Experience Challenges
- **Challenges with the Existing System:**
 - Lack of real-time availability tracking.
 - Manual paperwork and booking processes leading to inefficiency.
 - Limited accessibility and transparency in rental policies and pricing.
 - Inconvenient reservation and pickup procedures.
 - Suboptimal customer experience due to outdated processes and communication channels.

2. Proposed System:

- The proposed system aims to revolutionize the vehicle rental industry by introducing a modern, user-friendly, and efficient web-based platform called RoadReady. This platform will leverage cutting-edge technologies and innovative features to offer an enhanced rental experience for both vehicle owners and renters. Below are the key features and components of the proposed system:

1. Web-Based Platform:

- RoadReady Rentals will be a comprehensive web-based platform accessible through desktop and mobile devices.
- Users can access the platform via a user-friendly interface, allowing for easy navigation and interaction.

2. User Authentication and Profiles:

- RoadReady Rentals will support user authentication mechanisms to ensure secure access to the platform.
- Users can create personalized profiles where they can manage their rental activities, preferences, and personal information.

3. Vehicle Listings and Categories:

- RoadReady Rentals will feature a vast inventory of vehicles available for rent, categorized based on type, model, location, and other relevant parameters.
- Users can browse through different vehicle categories, view detailed descriptions, and images of available vehicles.

4. Detailed Vehicle Information:

- RoadReady Rentals will offer comprehensive details about each vehicle listed on the platform, including specifications, features, rental rates, and terms and conditions.
- Users can make informed decisions based on the detailed information provided for each vehicle.

5. Flexible Booking Options:

- Renters can book vehicles based on their preferred duration, whether by the hour, day, week, or month.
- The platform will calculate rental rates dynamically based on the selected duration and other factors.

6. Document Submission and Verification:

- Renters will be required to submit necessary documents, such as proof of identity, driving license, and insurance, during the booking process.
- RoadReady Rentals will facilitate document verification processes to ensure compliance with legal and safety requirements.

3. Scope of the System:

- This project traverses a lot of areas ranging from business concept to computing field, and required to perform several researches to be able to achieve the project objectives. The area covers include:
 - In computer system the person has to fill the various forms & number of copies of the forms can be easily generated at a time.
 - In computer system, it is not necessary to create the manifest but we can directly print it, which saves our time.
 - To assist the staff in capturing the effort spent on their respective working areas.
 - To utilize resources in an efficient manner by increasing their productivity through automation.
 - The system generates types of information that can be used for various purposes.
 - It satisfy the user requirement
 - Be easy to understand by the user and operator
 - Be easy to operate

- Have a good user interface
- Be expandable
- Delivered on schedule within the budget.

4. Aim and Objective of the Proposed System:

- The aim of the proposed vehicle rental system is to develop a robust and user-friendly online platform that facilitates seamless rental transactions between vehicle owners and customers. The system aims to address the limitations of traditional vehicle rental processes and provide an efficient and convenient solution for both parties involved. The following objectives outline the specific goals of the proposed system:

1. Enhanced User Experience:

- Develop an intuitive and easy-to-use interface for both vehicle owners and customers, ensuring a positive and engaging user experience.
- Implement user-friendly navigation, search, and booking functionalities to simplify the rental process and reduce user effort.

2. Increased Accessibility:

- Create a web-based platform accessible from desktop and mobile devices, enabling users to access the system anytime, anywhere, and from any device with an internet connection.
- Ensure compatibility across multiple web browsers and operating systems to accommodate a wide range of users.

3. Comprehensive Vehicle Listings:

- Provide vehicle owners with tools to create detailed listings for their vehicles, including descriptive information, high-quality images, availability calendars, and pricing details.
- Enable users to search and browse through a diverse range of vehicles, categorized by type, brand, location, and other relevant criteria.

4. Efficient Booking and Reservation Process:

- Implement a streamlined booking system that allows customers to easily reserve vehicles for specific dates and times.
- Integrate calendar functionality to display real-time vehicle availability, preventing double bookings and scheduling conflicts.

5. Feasibility Study:

- Feasibility study can help you determine whether or not you should proceed with your project. It is essential to evaluate cost and benefit. It is essential to evaluate cost and benefit of the proposed system. Three types of feasibility study are taken into consideration.

1. Operational Feasibility:

It is the easy and simplicity of operation of proposed system. System does not require any special skill set for users to operate it. In fact, it is designed to be used by almost everyone.

- **User-friendly Interface:** The system's user-friendly interface for both customers and staff minimizes training requirements.
- **Automated Processes:** Online booking and reporting will automate manual tasks, freeing up staff time for customer service and other important tasks.

- **Real-time Data:** Real-time vehicle availability and booking information will improve operational efficiency and reduce errors.
- **Scalability:** The system can be scaled by adding resources (servers) or functionalities as the business grows.
- **Data-driven Decision Making:** Reports and analytics will provide valuable insights to optimize pricing, fleet management, and marketing strategies.

2. Technical Feasibility:

To develop this project React Js was used, which is a popular JavaScript library well-suited for developing user interfaces (UI) for single-page applications (SPAs). Here's why it aligns well with the project's needs:

- **User-friendly UI:** React.js excels at creating dynamic and responsive user interfaces.
- **Component-based Architecture:** Complex UIs can be broken down into reusable components, promoting code maintainability and scalability.
- **Large Developer Community:** React has a vast developer community and extensive resources readily available for troubleshooting and finding solutions.
- **Performance Optimization:** React's virtual DOM ensures efficient rendering and updates, leading to a smooth user experience.
- **Third-party Library Integration:** React integrates seamlessly with various third-party libraries for functionalities like maps, payment processing, and data visualization.

3. Economical Feasibility:

- Here, we find the total cost and benefit of the proposed system over current system. For this project, will be Economically feasible. The cost of development of the project is very less as all the necessary tools for development are open source.
- As it is a website it can be access from mobile, laptop, tablet etc.

SYSTEM ANALYSIS

➤ **Requirements Specification (along with System Modules):**

1. Development Side:

- **Hardware Requirement:**
 - Intel Core i3 or AMD Ryzen 5 processor & Above
 - At least 4GB of RAM and 10GB of storage space
- **Software Requirement:**
 - Front End: Html, CSS, React, Javascript
 - Back End: NodeJS, ExpressJs
 - Documentation: MS Word
 - Diagrams: Drow.io
 - Tool: Visual Studio Code

2. Software:

- **Operating System:** Windows 10 or 11, macOS 10.10, or Ubuntu 16 are recommended for the best compatibility and performance.

3. Language used:

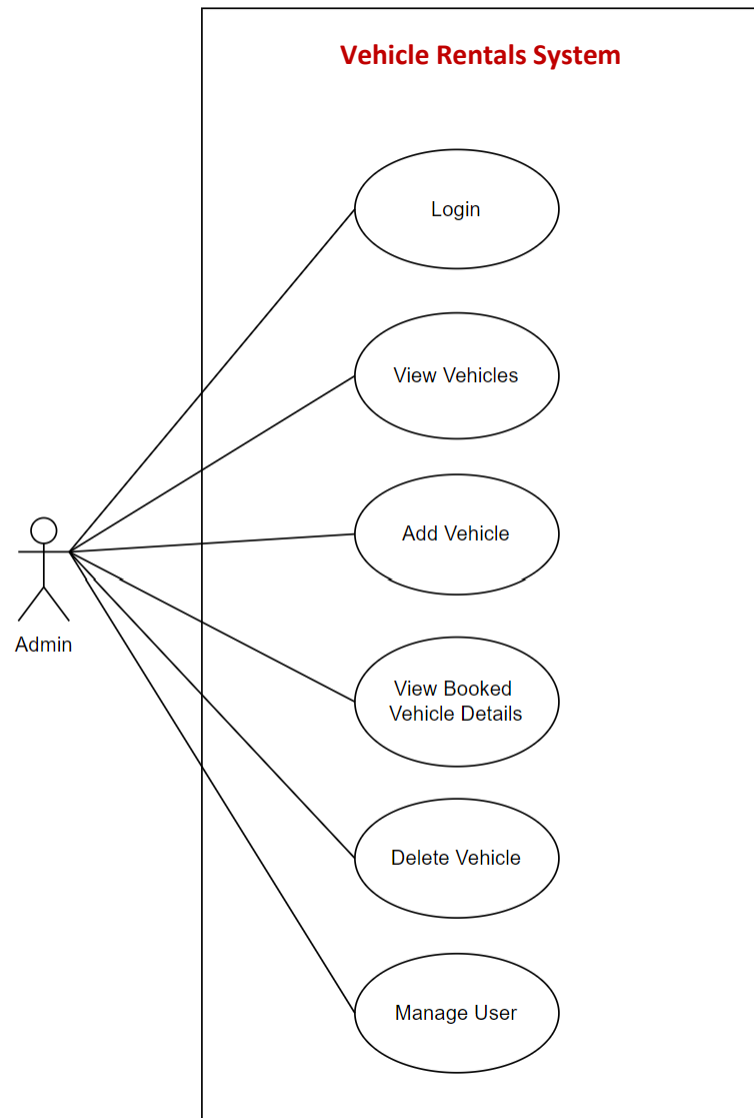
- React Js (JavaScript language)

➤ Use Case Diagram:

- User:

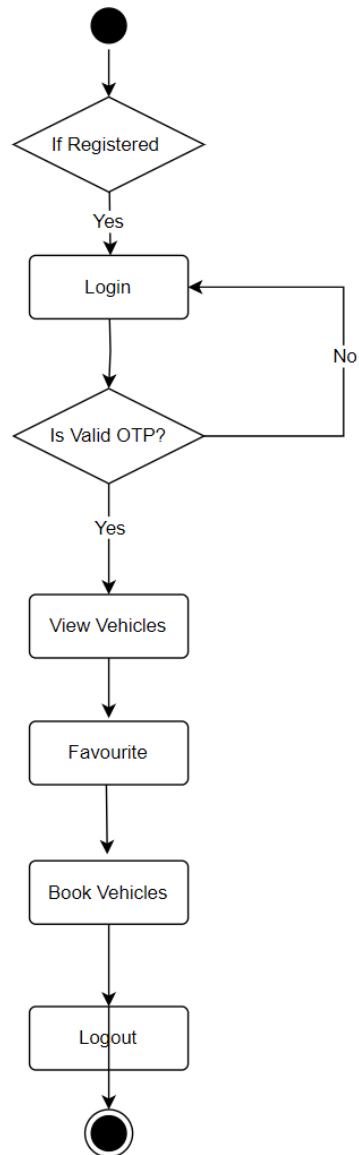


■ Admin:

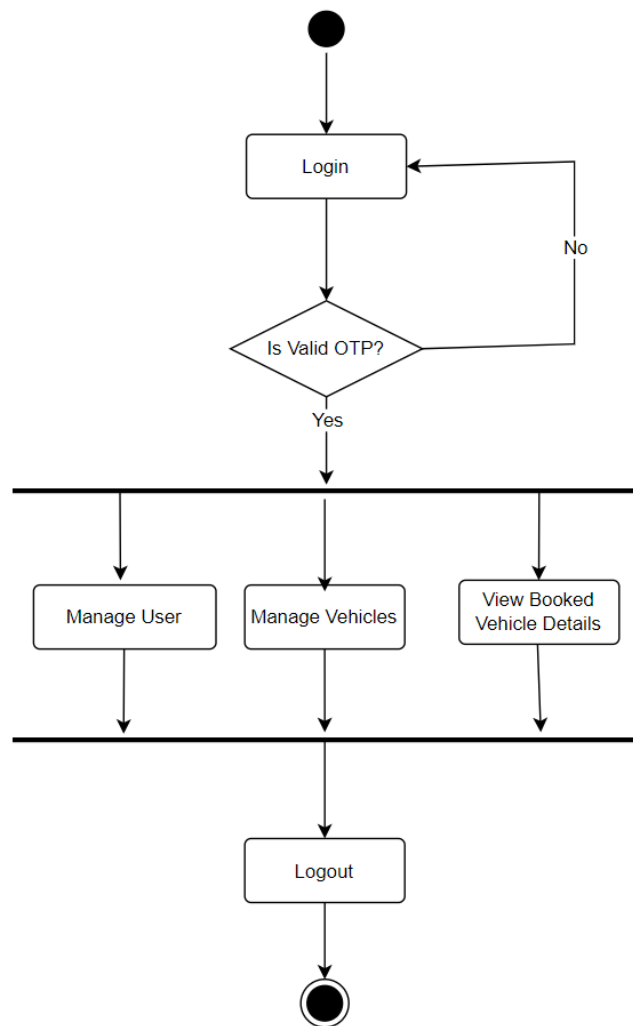


➤ Activity Diagram:

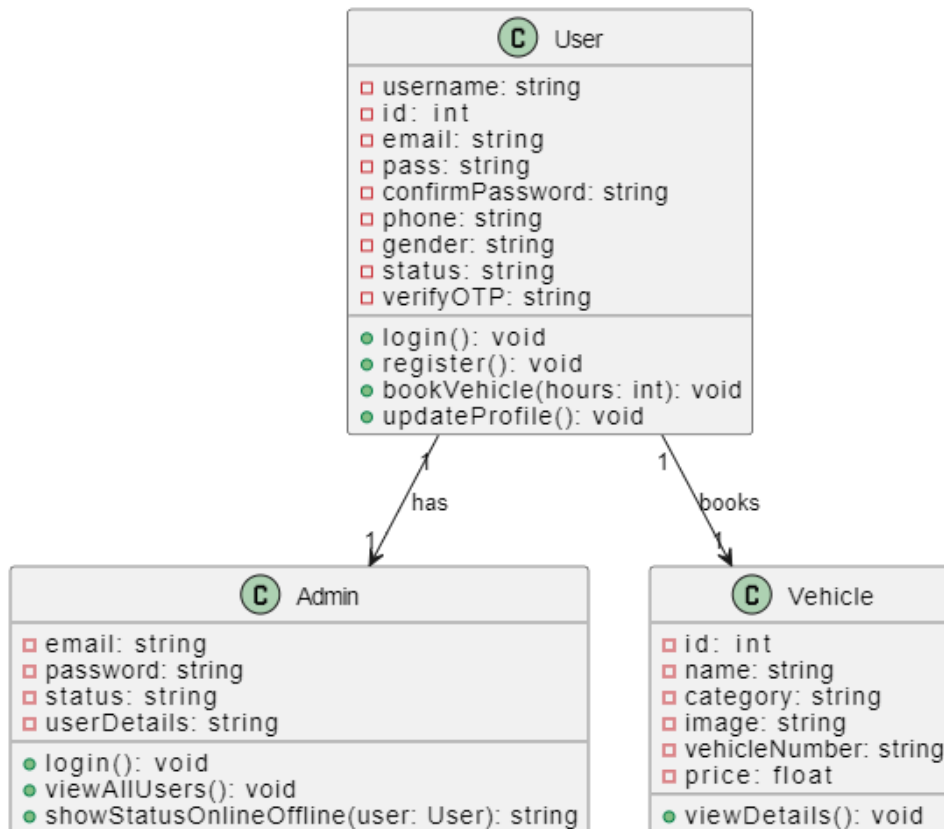
- User:



■ Admin:



➤ Class Diagram:



SYSTEM DESIGN

➤ Data Dictionary :

This is normally represented as the data about data. It is also termed as metadata some times which gives the data about the data stored in the database. It defines each data term encountered during the analysis and design of a new system. Data elements can describe files or the processes.

▪ Collection Name: users

Sr. No	Column Name	Datatype	Default
1	Id	String	None
2	Name	String	None
3	Email	String	None
4	Password	String	None
5	Phone	Number	None
6	IsProfileComplete	Boolean	None
7	Gender	String	None
8	Photo	String	None
9	Status	Boolean	None
10	IsOtpVerified	Boolean	None
11	Token	String	None

▪ Collection Name: admin

Sr. No	Column Name	Datatype	Default
1	Id	String	None
2	Name	String	None
3	Email	String	None
4	Password	String	None
5	Phone	Number	None
6	IsProfileComplete	Boolean	None
7	IsAdmin	Boolean	None
8	Photo	String	None
9	IsOtpVerified	Boolean	None
10	Token	String	None

▪ **Collection Name:** Vehicles

Sr. No	Column Name	Datatype	Default
1	Id	String	None
2	Name	String	None
3	Company	String	None
4	Price	Number	None
5	VehicleNumber	String	None
6	Category	String	None
7	Image	String	None

▪ **Collection Name:** Book Vehicle

Sr. No	Column Name	Datatype	Default
1	Id	String	None
2	Name	String	None
3	Company	String	None
4	Price	Number	None
5	VehicleNumber	String	None
6	Category	String	None
7	Image	String	None
8	Hours	Boolean	None
9	Address	Boolean	None
10	PickUpDate	Date	None
11	File	String	None
12	TotalPrice	Number	None
13	UserName	String	None
14	UserEmail	String	None

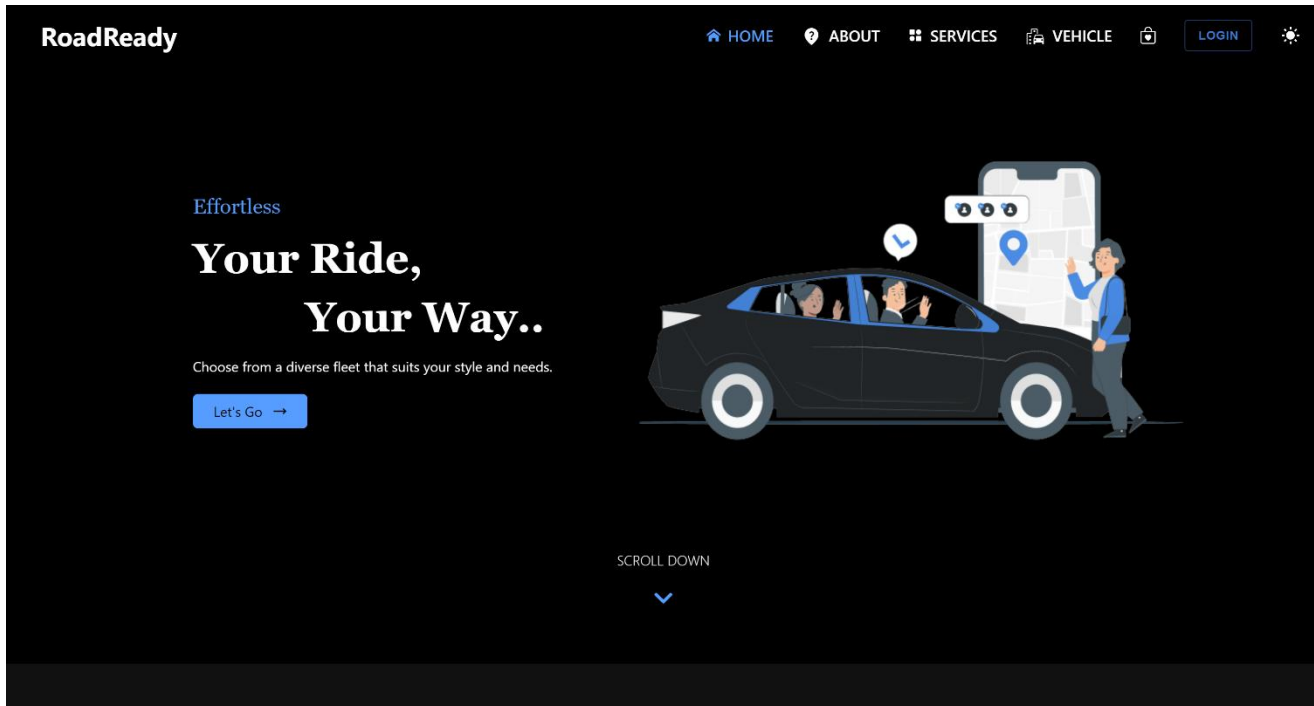
➤ **Screen Layouts:**

1. User View
2. Admin View
3. Responsive View
4. Dark and light theme view

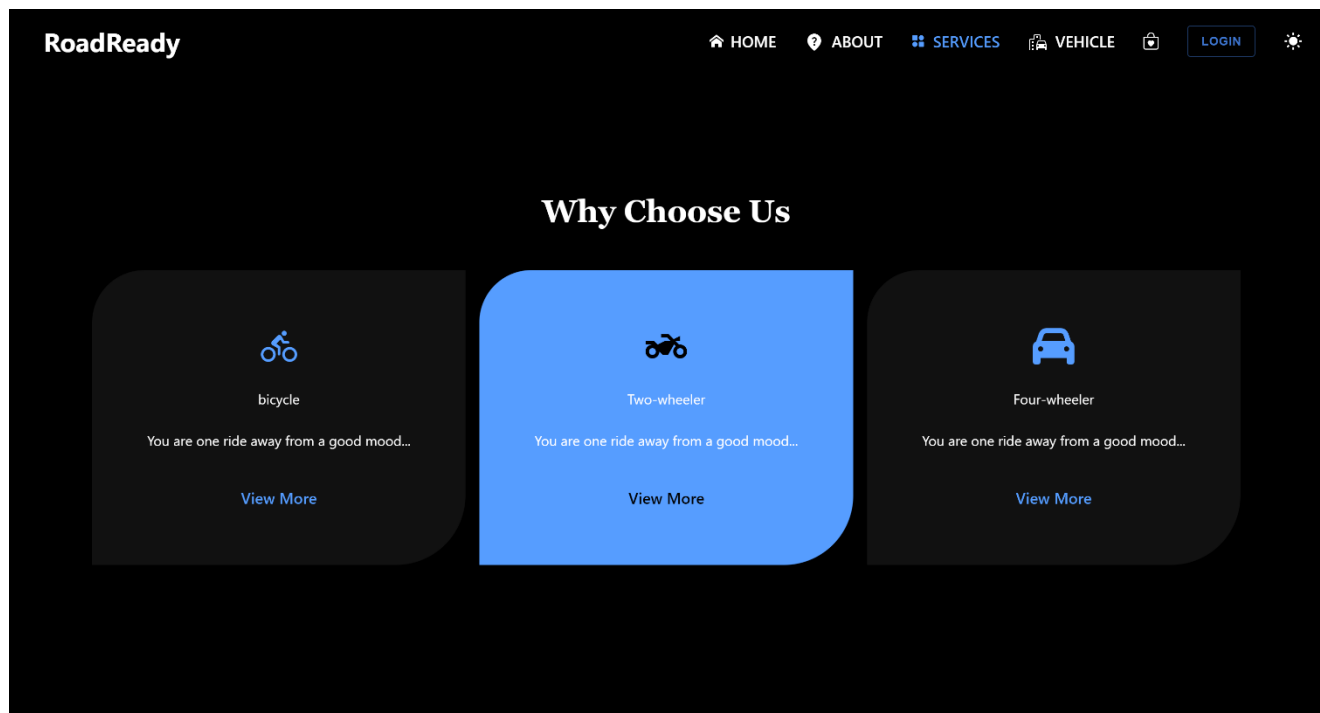
➤ **User View:**

- Home Page
- Service Page
- Vehicle Page
- Favorite Page
- User Login page
- OTP Verify Page
- BookNow Page
- Booking Successful Message Page
- Your Booking page
- Profile Details – Update Profile
- Forget Password Page
- Reset Password Page



■ Home page:



■ Services page:





■ Four-wheeler Services page:

RoadReady[HOME](#)[ABOUT](#)[SERVICES](#)[VEHICLE](#)



Journey

Four Wheeler Vehicle....

Choose from a diverse fleet that suits your style and needs.





Pick your preferred mode of travel



XUV 700

₹2 /hours



[DETAILS...](#)



Swift

₹1200 /hours

[DETAILS...](#)

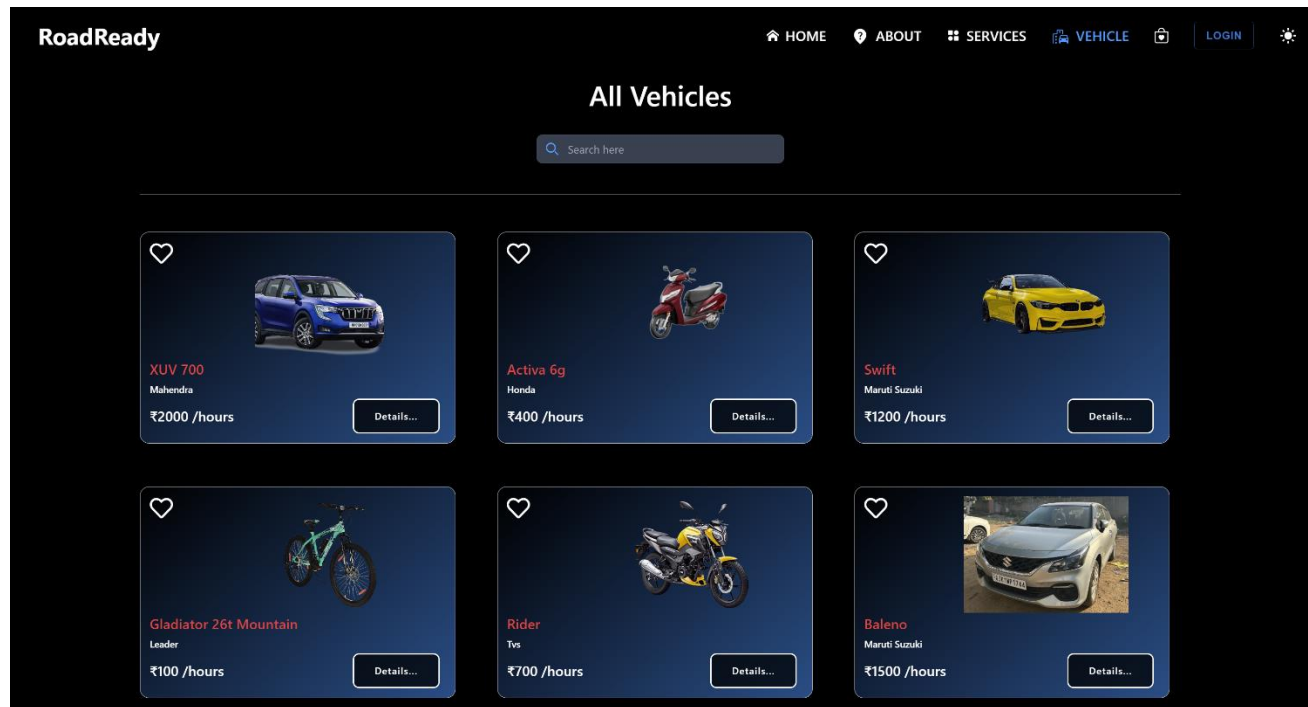


Baleno

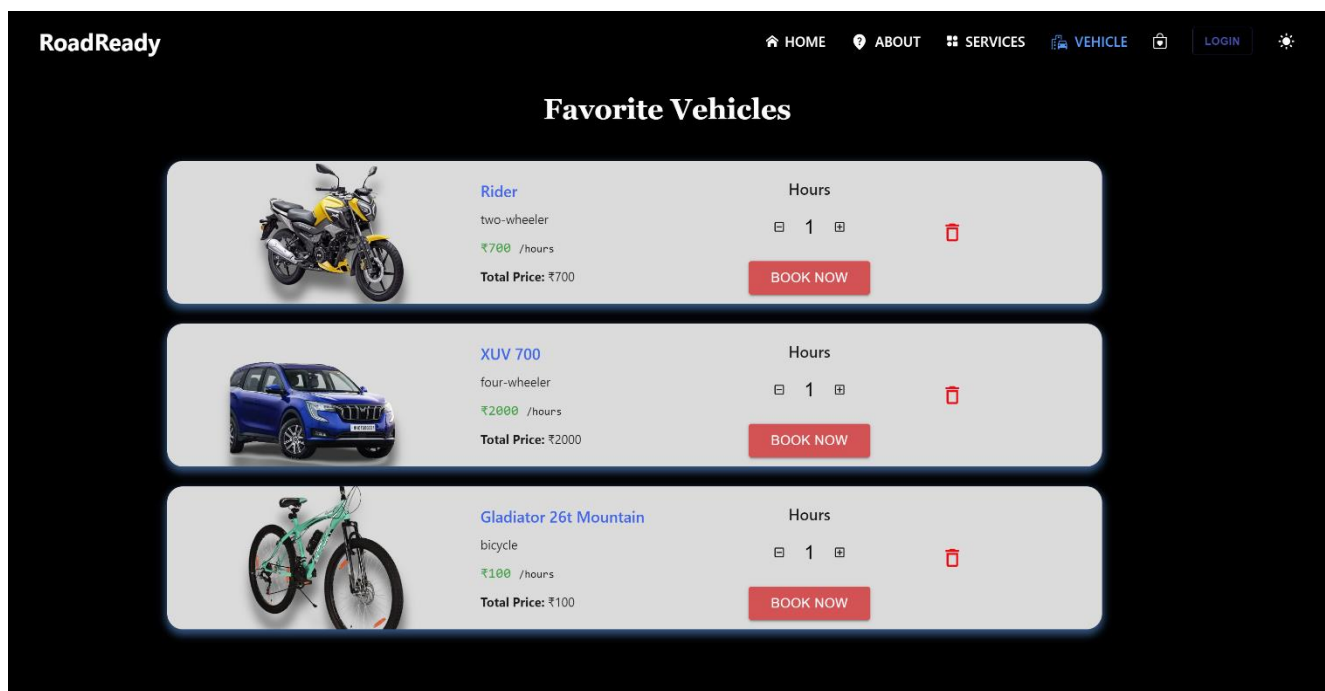
₹1500 /hours

[DETAILS...](#)

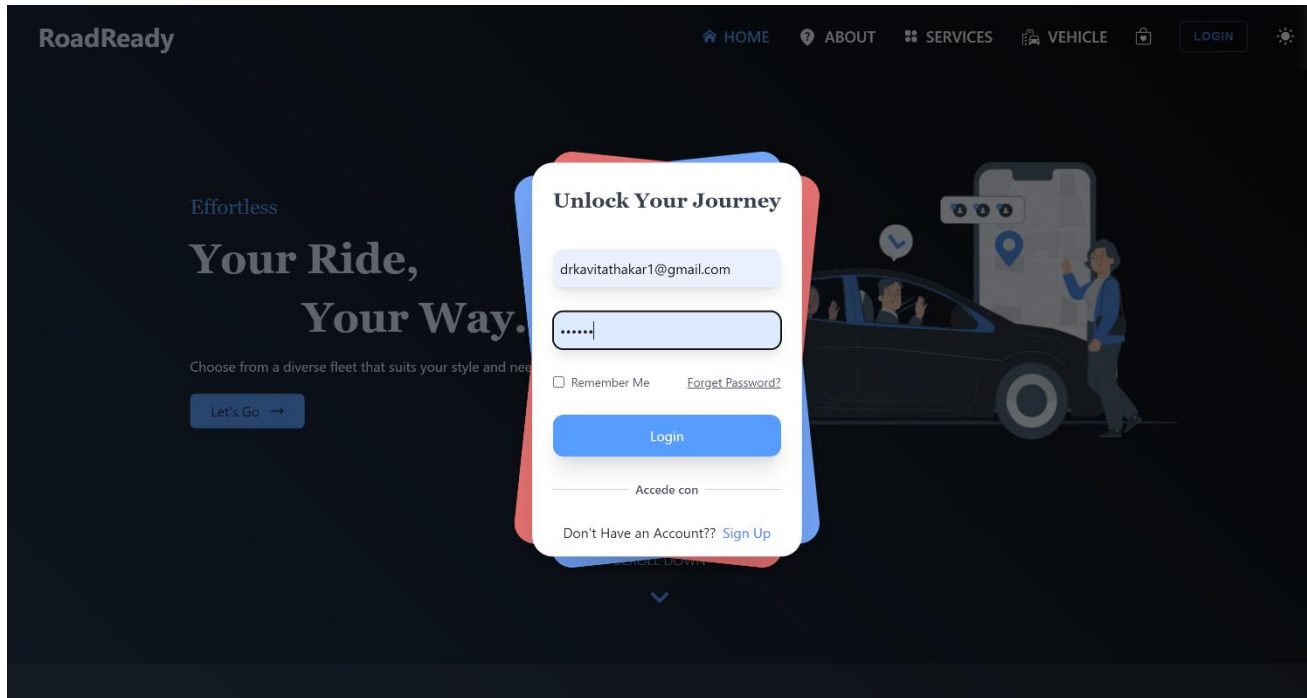
■ Vehicle page:



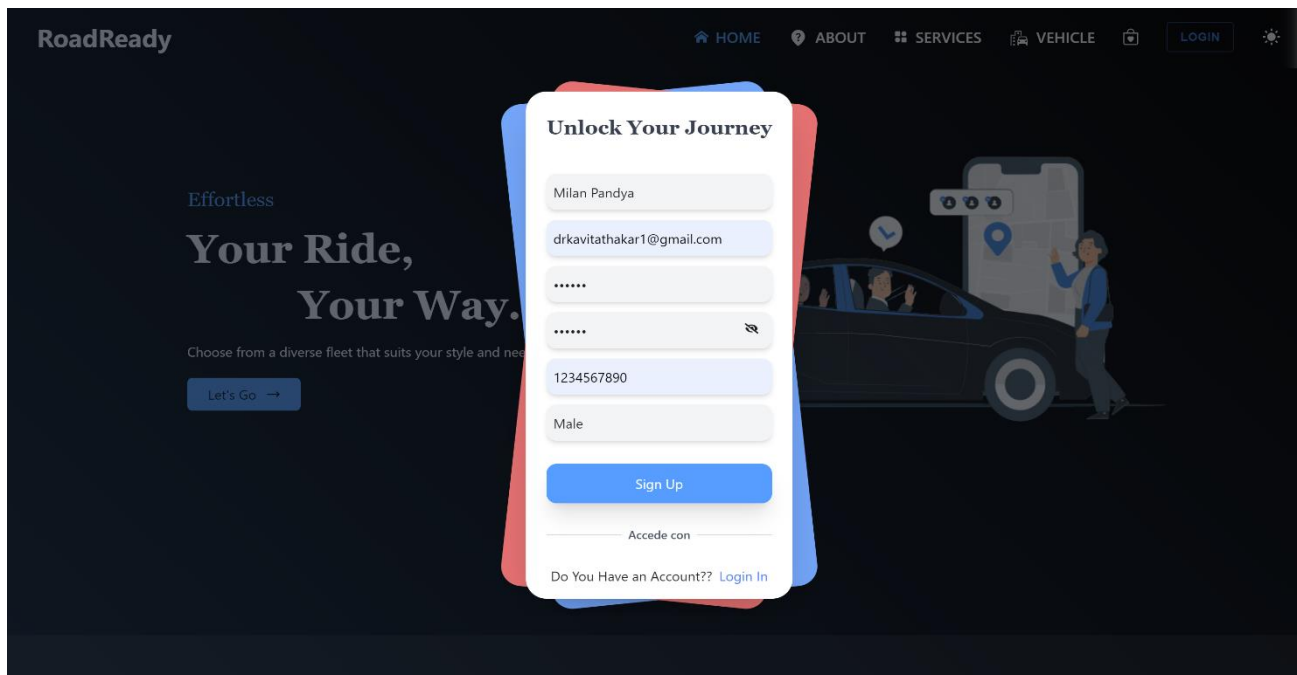
■ Favorite page:



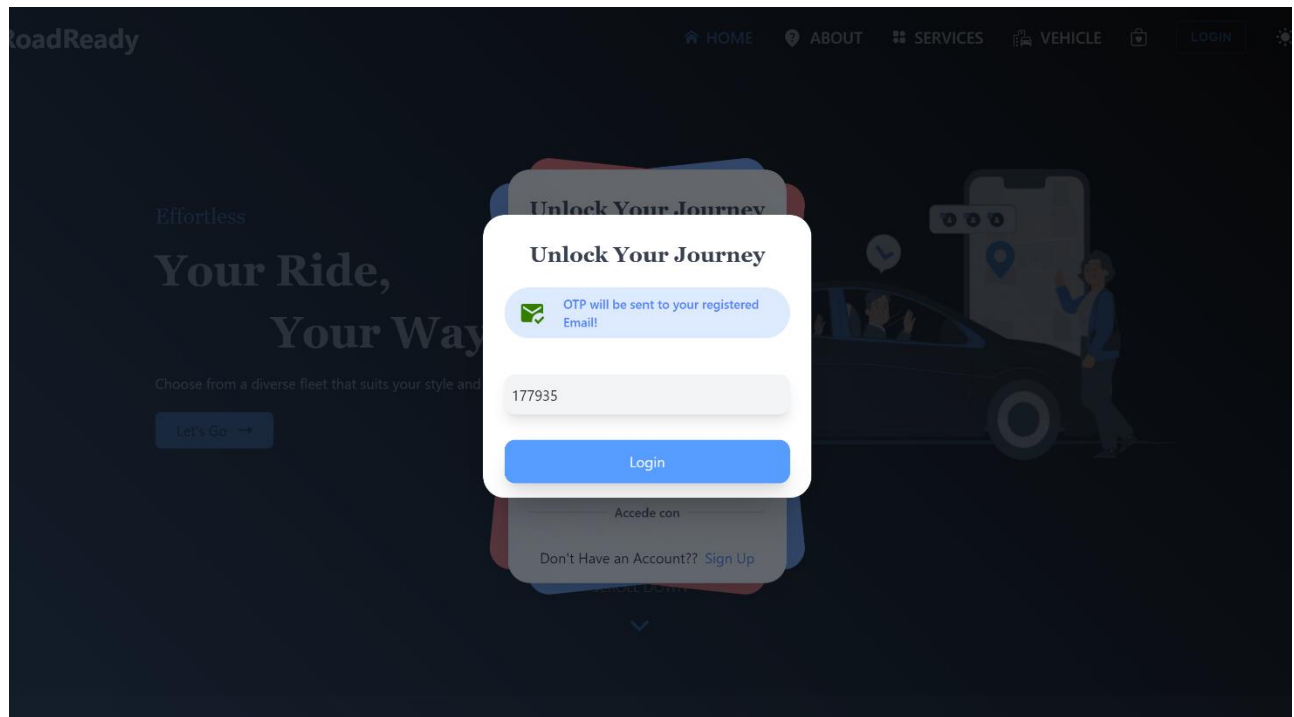
■ User Login page:



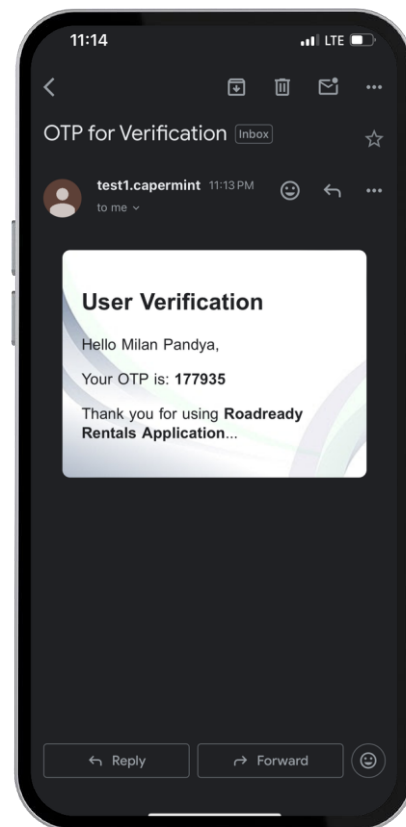
■ User SignUp page:



■ OTP Verification page:



Email VerifyOTP Screen →




■ Book Now page:

RoadReady

HOMEABOUTSERVICESVEHICLE

Book vehicle Details

← BACK



Vehicle Name: XUV 700

Vehicle Company: Mahendra

Vehicle Number: GJ-23-8899

Vehicle Category: four-wheeler

Vehicle Price: ₹2800

Rent Hours: 3 hours


Your Booking: Pick-up by Mon
Apr 08 2024

Total Price : ₹6000.00

Fill Personal Details:

Address:

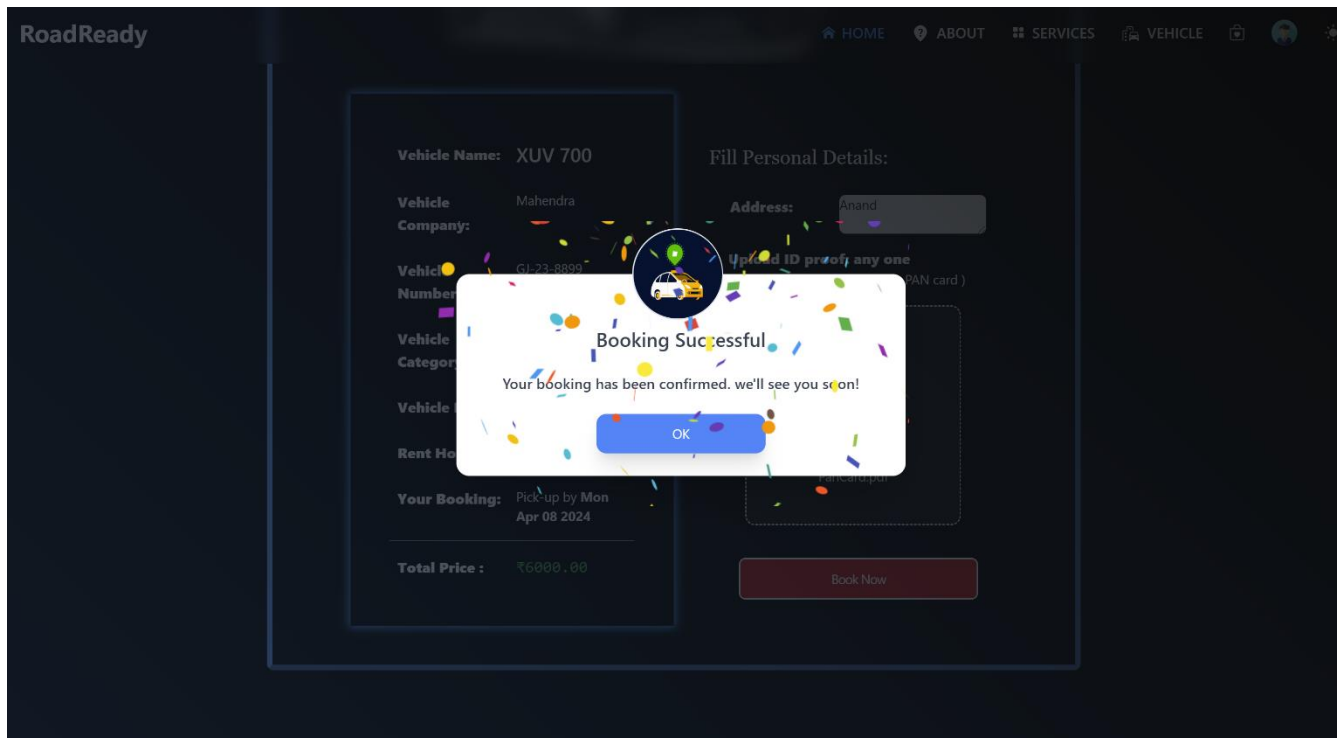
Upload ID proof: any one
(Driving license, Aadhaar card, PAN card)


PanCard.pdf

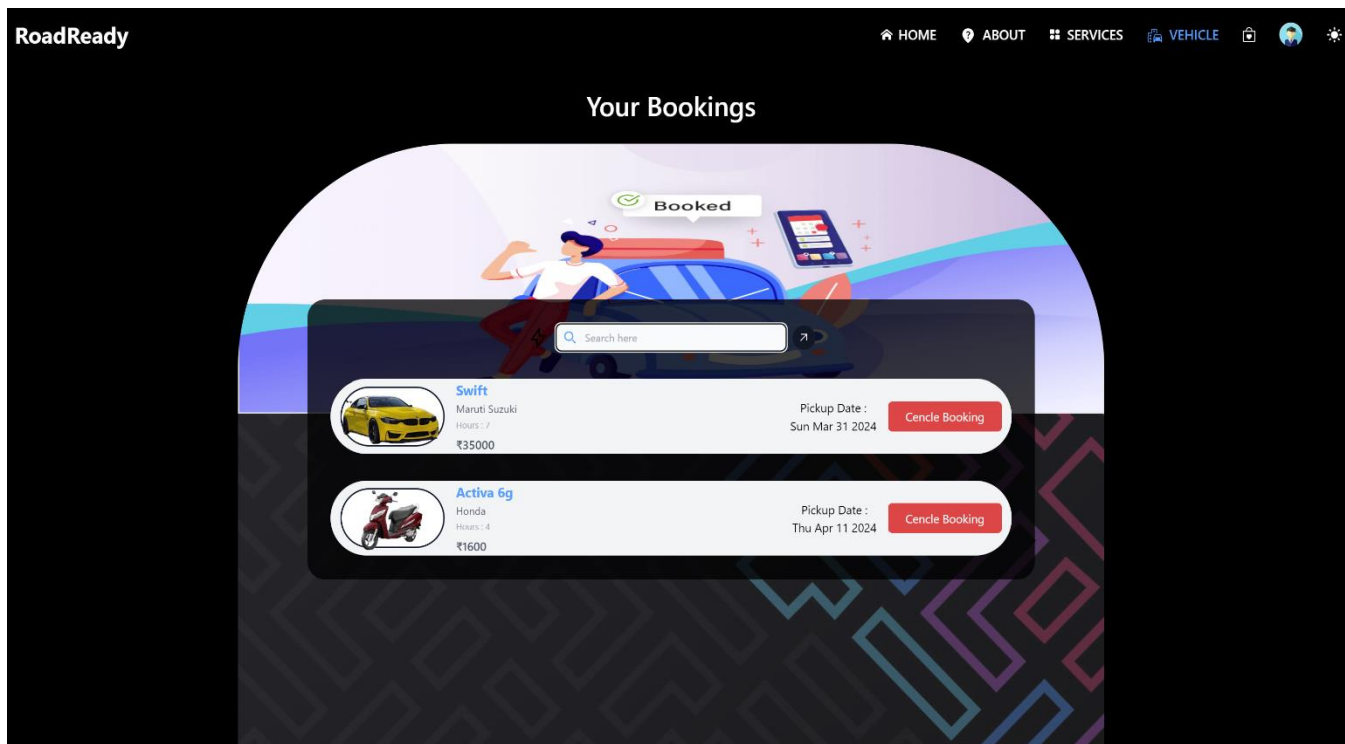
Book Now

34 | 51

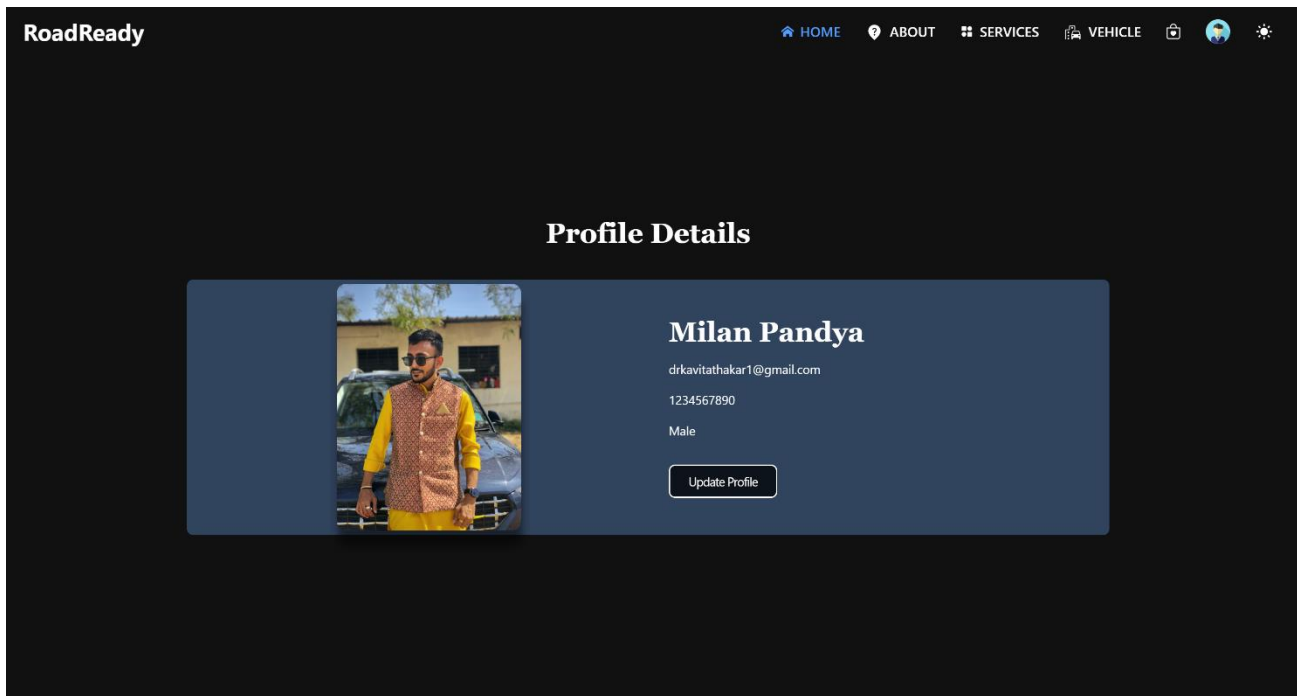
■ Booking Successful Message page:



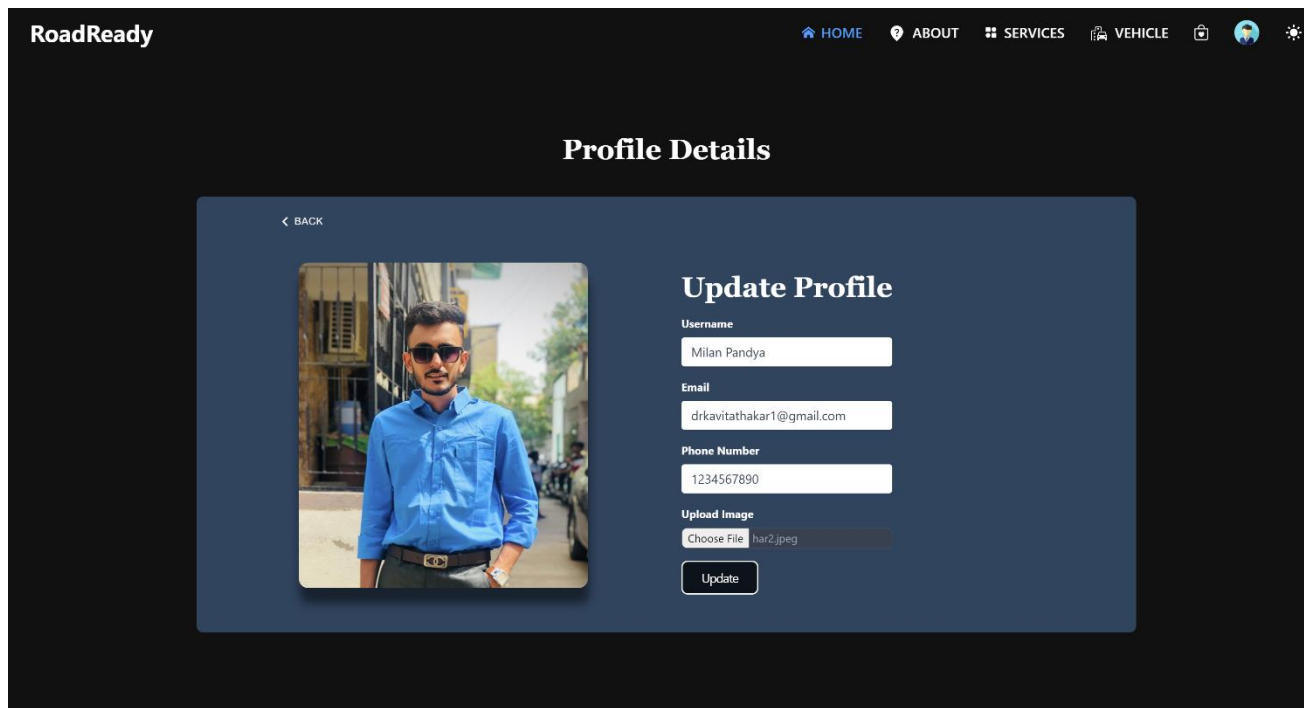
■ Your Booking page:



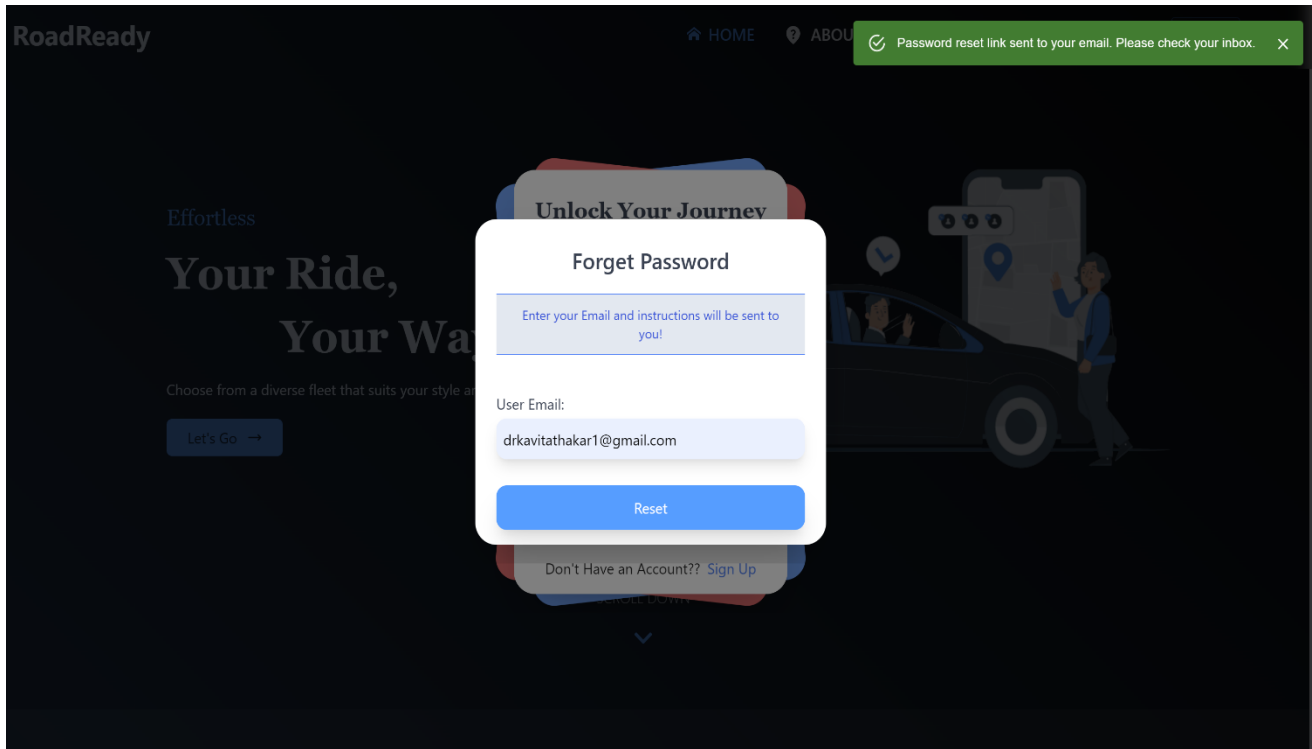
■ Profile Details page:



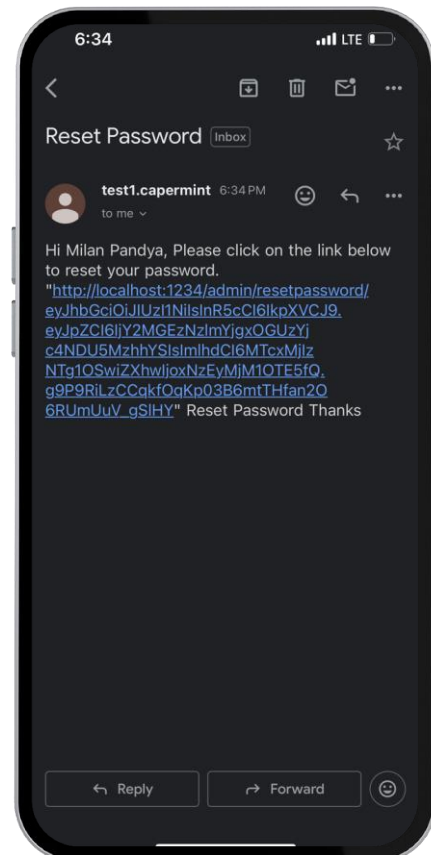
■ Update Profile page:



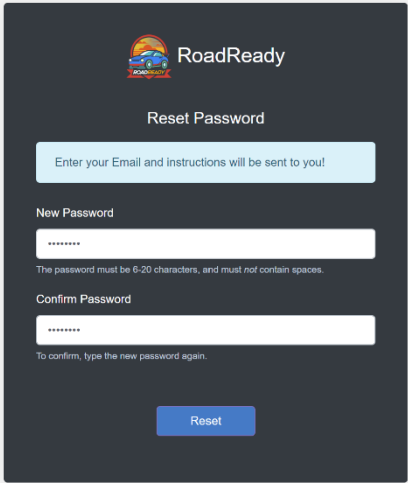
▪ Forget-Password page:




Email Reset-Password Screen →



- **Reset-Password page:**



The image shows a 'Reset Password' form for RoadReady. The form is dark-themed with white text and input fields. It includes a logo at the top, a title, a light blue instruction box, two password input fields with labels and hints, and a 'Reset' button. The background is a light gray gradient.

 RoadReady

Reset Password

Enter your Email and instructions will be sent to you!

New Password

The password must be 6-20 characters, and must not contain spaces.

Confirm Password

To confirm, type the new password again.

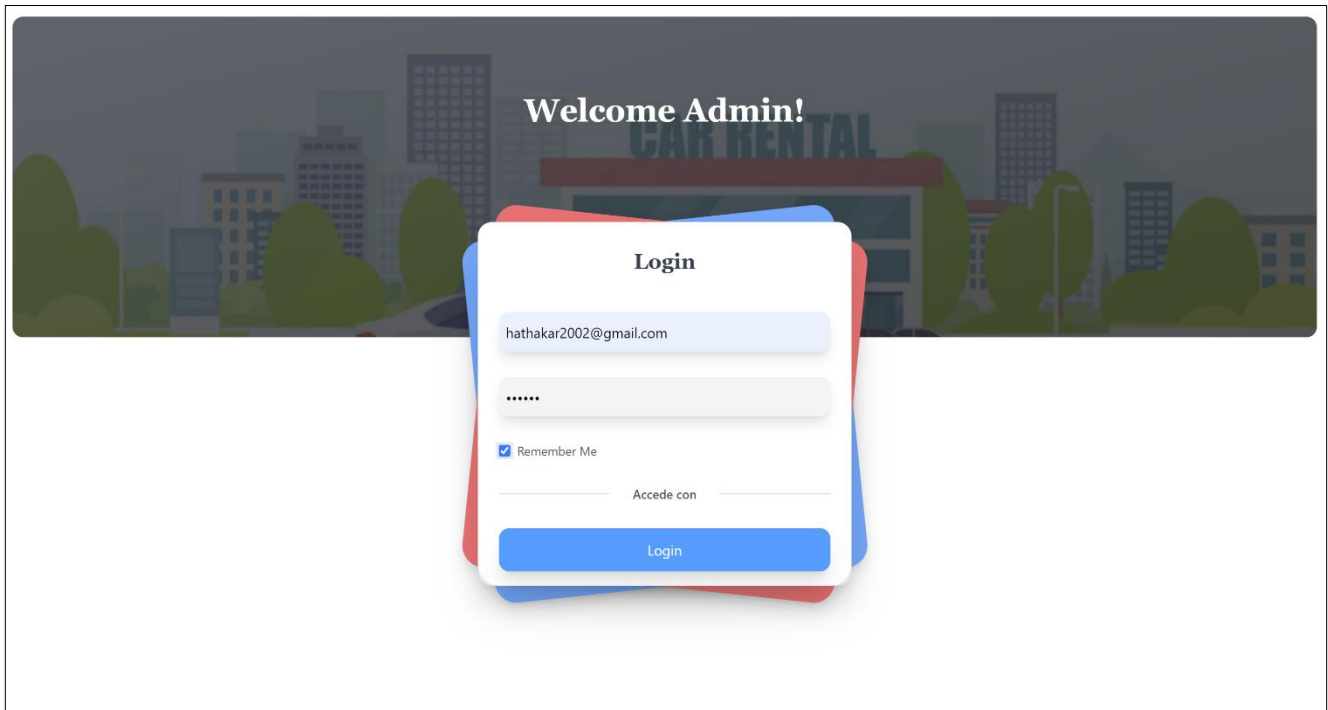
Reset

© 2023 - 2024 Roadready rentals. Crafted with ❤ Harshal

➤ Admin View:

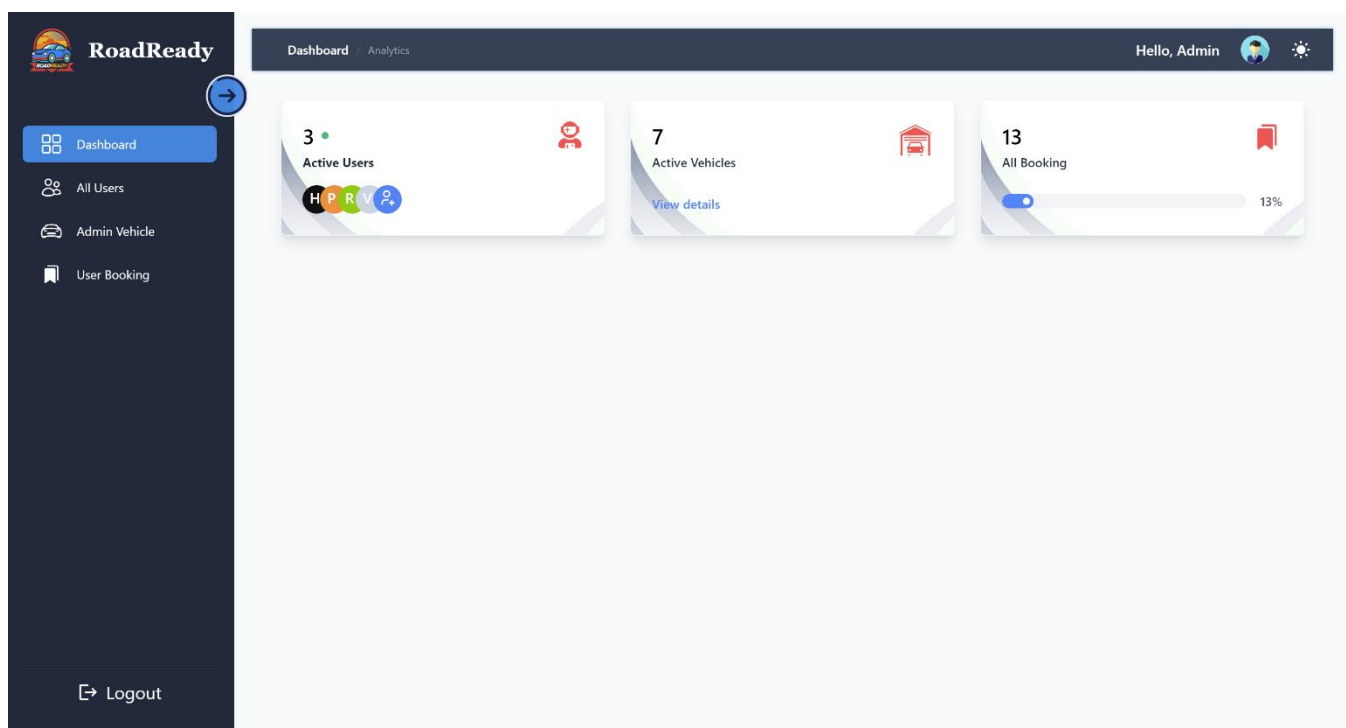
▪ Admin Login page:

- The admin login is a static login for one administrator.



■ Dashboard page:

- All Users count
- Active Vehicles count
- Users all Booking count



■ All Users page:

RoadReady

Dashboard Analytics Hello, Admin

Dashboard All Users Admin Vehicle User Booking Logout

All Users : Search for users

	NAME	PHONE NUMBER	GENDER	STATUS	ACTION
1	Milan Pandya drkavitathakar1@gmail.com	+91 1234567890	Male	Offline	Remove user
2	Kavita zzmca158@charusat.edu.in	+91 7284810780	Female	Offline	Remove user
3	Hiteshree Thakar thakarhiteshree2000@gmail.com	+91 9898542688	Female	Online	Remove user

■ Admin Vehicles page:

RoadReady

Dashboard Analytics Hello, Admin

Dashboard All Users Admin Vehicle User Booking Logout

ADD VEHICLE

XUV 700
four-wheeler

₹2000 EDIT DELETE

Activa 6g
two-wheeler

₹400 EDIT DELETE

Swift
four-wheeler


₹1200 EDIT DELETE

Gladiator 26t Mountain bicycle

₹100 EDIT DELETE

Baleno

■ Users Booking page:

**RoadReady**

Dashboard

All Users

Admin Vehicle

User Booking





Logout

Dashboard / Analytics

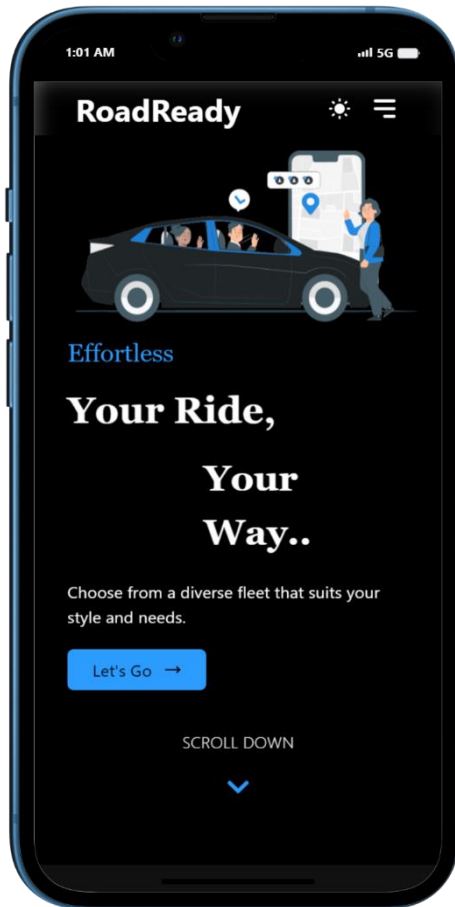
Hello, Admin

Booking Vehicle :

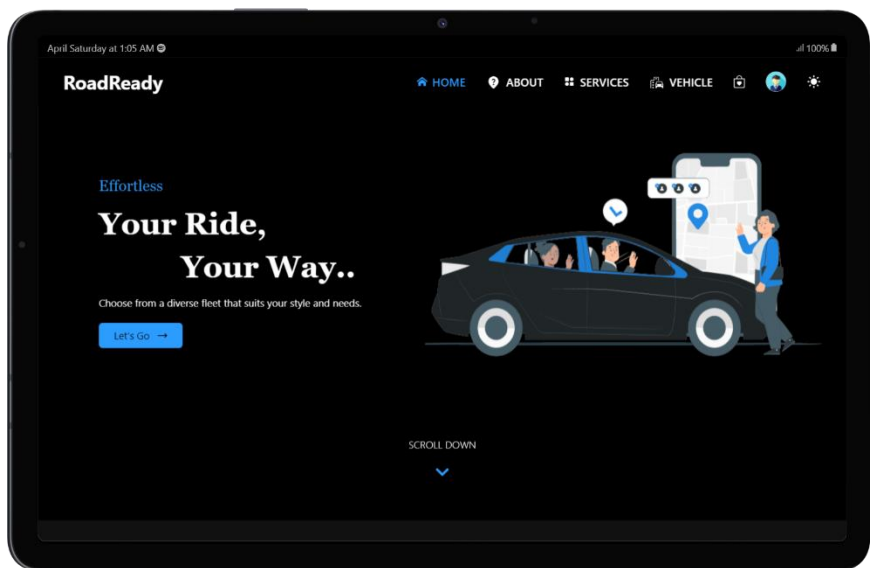
Search here

	VEHICLE NAME	CATEGORY	VEHICLE NUMBER	HOURS	PRICE	ACTION	
User : Vaidik		XUV 700	four-wheeler	GJ-23-8899	1	₹2000	<div>View Details</div> <div>Delivered</div>
User : Harshal Thakar		Activa 6g	two-wheeler	GJ-01-4567	4	₹1600	<div>View Details</div> <div>Delivered</div>
User : Milan Pandya		Swift	four-wheeler	GJ-05-3344	7	₹35000	<div>View Details</div> <div>Delivered</div>
User : Hiteshree Thakar		Baleno	four-wheeler	GJ-01-1744	6	₹9000	<div>View Details</div> <div>Delivered</div>

➤ Responsive View:



Mobile View
iPhone 13



Tablet View
Galaxy Tab S7

SYSTEM TESTING

➤ Testing Strategies:

- **Principle-1: All test should be traceable to customer requirements.**

The objective of software testing is uncover errors. It follows that the most server defects are those that cause the program to fail to meet its requirements.

- **Principle-2: Test should be planned long before the actual testing begins.**

Planning can begin as soon as the analysis model is complete. Detailed definition of test cases can begin as soon as the model has been solicited. Therefore, all tests can be planned and designed any code has been generated.

- **Principle-3: The pareto principle applies to hardware testing.**

Stated simply, the Pareto principle implies that 80 percent of all errors uncovered during testing will likely be traceable to 20 percent of all program components. The problem of course, is to isolate these suspect components.

- **Principle-4: Testing should begin “in the small” and progress toward testing “in the large”.**

The first test planned and executed generally focuses on individual components. As testing progresses, focus shifts in attempt to find errors in integrated clusters of components and ultimately in the entire system.

- **Principle-5: Exhaustive testing is not possible.**

The number of path permutations of even a moderately sized program is exceptionally large.

➤ Test Cases:

➤ User Login Page:

Sr.No	Test Cases	Purpose	Input	Expected Output	Status
1	Test Case-1	Email / Password	Blank/Blank	No Action	Please Enter Email and Password
2	Test Case-2	Email / Password	User email/Blank	No Action	Please Enter Password
3	Test Case-3	Email / Password	User email/123456	No Action	Please Enter the Correct Email
4	Test Case-4	Email / Password	drkavitathakar1@gmail.com/123456	Login to web Application	Valid User

➤ Admin Login Page:

Sr.No	Test Cases	Purpose	Input	Expected Output	Status
1	Test Case-1	Email / Password	Blank/Blank	No Action	Please Enter Email and Password
2	Test Case-2	Email / Password	Admin email/Blank	No Action	Please Enter Password
3	Test Case-3	Email / Password	Admin email/010102	No Action	Please Enter the Correct Email
4	Test Case-4	Email / Password	Hathakar2002@gmail.com/010102	Login to Application	Valid Admin

➤ **User Signup Page:**

Sr.No	Test Cases	Purpose	Input	Expected Output	Status
1	Test Case-1	Username/Email / Password/Cnf- Password/Phone/Ge nder	All field Blank	No Action	Please Enter All Details
2	Test Case-2	Username/Email /Password/Cnf- Password/Phone/ Gender	User12/Blank/Blank/Blank/Blank	No Action	Please Enter All Details
3	Test Case-3	Username/Email /Password/Cnf- Password/Phone/ Gender	User12/user/Blank/Blank/Blank	No Action	Please Enter Vailid email Id
4	Test Case-4	Username/Email /Password/Cnf- Password/Phone/ Gender	User12/user/123/Blank/Blank/Blank	No Action	Confirm password is Empty
5	Test Case-5	Username/Email / Password/Cnf- Password/Phone/Ge nder	User12/user/123/456/Blank	No Action	Confirm password Doesn't Match
6	Test Case-6	Username/Email / Password/Cnf- Password/Phone/Ge nder	User12/user/123/123/Blank	No action	Please Input the correct Phone Number (10)
7	Test Case-7	Username/Email / Password/Cnf- Password/Phone/Ge nder	User12/user/123/123/Blank	No action	Please Input the Gender field
8	Test Case-8	Username/Email /Password/Cnf- Password/Phone/ Gender	User12/user@gmail.com /123/123	Sign Up to Web Application	User Registered Successful.

FUTURE ENHANCEMENT

➤ **Future Enhancement:**

- The RoadReady Rental could involve adding a vehicle rental feature where both users and admins can list vehicles for rent. This feature would expand the platform's offerings beyond just property rentals, catering to users who are looking to rent vehicles for short-term or long-term use.
- Users would have the ability to list their own vehicles for rent, providing details such as make, model, availability, and pricing. Admins would also have the capability to add vehicles to the platform's inventory, ensuring a diverse selection of options for user.
- Moreover, integration of a geolocation feature that allows users to input their live location when searching for rental vehicle. This feature could enhance the user experience by providing more accurate search results based on their current location.
- Additionally, enabling support for various payment platforms would offer users more flexibility and convenience when making payments for rental vehicle.
- Furthermore, integrating Apple ID and Google ID login options would streamline the authentication process for users, enhancing security and simplifying the login experience. This would allow users to access their accounts more easily and securely, leveraging their existing credentials from these platforms.

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