A

Project Report On

Cab Management System

By:

Kayum Parmar

Semester – 6

Project Guide:

PROF.



Submitted To:

Geetanjali College of Computer Science and Commerce Rajkot.

Academic Year:

2024-2025.

ACKNOWLEDGEMENT

I Am Happy to Submit My Idea Of " <u>Cab Management System</u> "Application In Saurashtra University, Rajkot For BCA Degree In Computer Branch.

We take this occasion to thank God, almighty for blessing us with his grace and taking our Endeavour to a successful culmination. We extend our sincere and heartfelt thanks to our esteemed guide, PROF. for providing us with the right guidance and advice at the crucial junctures and for showing us the right way. We would like to thank the other faculty members also, at this occasion. Last but not the least, we would like to thank friends for the support and encouragement they have given us during the course of our work.

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PROJECT PROFILE

Project Title	Cab ManagementSystem			
Development Software	VS Code			
Project Language	Python			
Frontend Languages	HTML, CSS, JavaScript, Bootstrap			
Backend Languages	Django and MySQL			
Documentation Tool	Microsoft Word			
Operating System	Windows			
Academic Year	2024 – 2025			
Developed By	Kayum H. Parmar			
Submitted To	Geetanjali College			

INTRODUCTION

Cab Management System:

The Cab Management System is a web-based application designed to facilitate efficient cab booking and management. The system serves three primary stakeholders: customers, drivers, and administrators. Customers can book rides, view booking history, and provide feedback. Drivers can manage ride assignments and update ride statuses. Administrators oversee the entire system, including user management, and analytics.

Admin Module:

The Admin Module is a core component of the Cab Booking & Management System, providing administrators with a comprehensive dashboard and a range of management functionalities. The admin panel is designed to facilitate efficient Cab operations through the following features:

- Dashboard Displays key metrics, system statistics, and recent activities for quick insights. Admins can monitor overall system performance here.
- Manage Categories Allows admins to add, update, and delete categories for service organization. It ensures structured data management.
- Cab Management Enables admins to manage cab details, including adding, updating, and deleting records. This helps in efficient fleet management.
- View Booking Displays booking details for reference, allowing admins to view all reservations. No modifications can be made on this page.
- List of Clients Shows registered clients with options to update or delete their details. Admins can maintain an up-to-date client database.
- Admin Profile Offers profile display first name, last name, username and e-mail according who is login in.
- Log Out Provides a secure option to log out of the system, ensuring data security and preventing unauthorized access.

Driver Module:

- Dashboard Provides an overview of assigned rides, earnings, and notifications. Drivers can track their performance and upcoming trips.
- View Bookings Displays a list of assigned bookings with details like pickup, drop-off, and time. Drivers can stay updated on their schedules.
- Update Status Allows drivers to update ride status (e.g., Accepted,
 Ongoing, Completed). Helps in real-time trip tracking and customer updates.
- Profile Management Enables drivers to update their personal information.
 Ensures records are accurate and up to date.
- Log Out Provides a secure option to log out of the system, ensuring data security and preventing unauthorized access.

User Module:

- Home Page Serves as the main landing page, showcasing services, features, and an easy-to-use ride booking option.
- About Page Provides information about the company, its mission, values, and services to help users understand the platform.
- Book a Ride Allows users to request a cab by entering pickup and drop-off locations with fare estimation.
- View Bookings Displays a list of current and past bookings with ride details and status updates.
- Profile Management Users can update their personal details, contact information, and preferences for a personalized experience.
- Log Out Provides a secure option to log out of the system, ensuring data security and preventing unauthorized access.
- User Registration Page Allows new users to create an account by providing necessary details such as name, email, password, contact and other information.
- Login Page A common login portal for users, drivers, and admins, enabling secure authentication based on their role in the system

SOFTWARE ENVIRONMENT

Technologies Used -

- 1. Python (Django Framework) Backend development framework used for building the Hotel Management System with robust features and scalability.
- 2. **HTML** Markup language used for structuring the content and layout of web pages in the system.
- **3. CSS -** Styling language used for designing and creating a visually appealing and responsive interface.
- **4. JavaScript -** Client-side scripting language used for dynamic interactions and enhancing user experience on the web pages.
- **5. Bootstrap -** Frontend frameworks used for creating responsive and modern designs with minimal effort.
- **6.** Laragon Laragon is a fast, lightweight local development environment supporting PHP, Node.js, and Python for easy server setup and project management.
- **7. MySQL -** Databases used for storing and managing hotel data, bookings, and payment information.
- **8. Django -** Django is a high-level Python web framework that enables rapid development of secure, scalable, and maintainable web applications.

Technologies Break Down –

1. Python (Django Framework) -

Django is a high-level Python web framework that facilitates fast development of secure and maintainable web applications. It follows the Model-View-Template (MVT) architecture and provides built-in tools for database management, authentication, and routing, making it ideal for building the backend of the Hotel Management System.

2. HTML -

HTML (Hypertext Markup Language) is the standard language for creating the structure and content of web pages. It forms the skeleton of the Hotel Management System, organizing the content like text, images, links, and forms in a structured way for the user interface

3. CSS -

CSS (Cascading Style Sheets) is used to style the visual presentation of web pages. It controls aspects like layout, colours, fonts, and responsiveness, ensuring the Hotel Management System has an attractive and user-friendly interface across different devices.

4. JavaScript -

JavaScript is a programming language that enables dynamic behavior on web pages, such as form validation, interactive maps, and content updates without reloading the page. It enhances the Hotel Management System's interactivity, making the user experience smoother and more engaging.

5. Bootstrap -

Bootstrap is a popular open-source frontend framework that simplifies web design and development by providing pre-designed components like grids, buttons, and navigation bars. It helps create responsive, mobile-first web pages for the Hotel Management System with minimal effort.

6. Laragon -

Laragon is a fast and lightweight local development environment that simplifies web development by providing essential tools like Apache, Nginx, MySQL, and more in a single package. It supports multiple technologies such as **PHP**, **Node.js**, **Python**, and others, allowing developers to easily set up and manage local servers for testing and development.

7. MySQL -

MySQL is a relational database management system used to store and manage data in the Hotel Management System. It efficiently handles data related to bookings, customer details, room availability, and payments, ensuring reliable data storage and retrieval.

8. Django -

Django is a high-level Python web framework that enables rapid development of secure, scalable, and maintainable web applications. It simplifies backend development with built-in tools for database management, security, and user authentication, making it an ideal choice for building the Hotel Management System.

SYSTEM REQUIREMENT

Hardware Configuration:

Processor : intel i3

RAM : 4 RAM

Hard Disk Drive : 20 GB

Monitor : 15'6" HD Display

Display Type : VGA

Software Configuration:

Operating System : Windows 11, or any other

Web server : Apache

Web Browser : Chrome/Edge

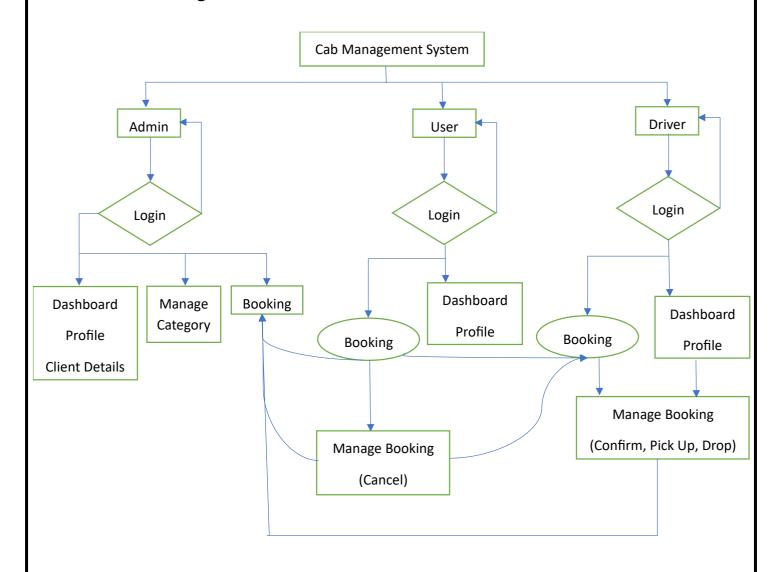
Designing Tool : HTML

Server Side Scripting : Django

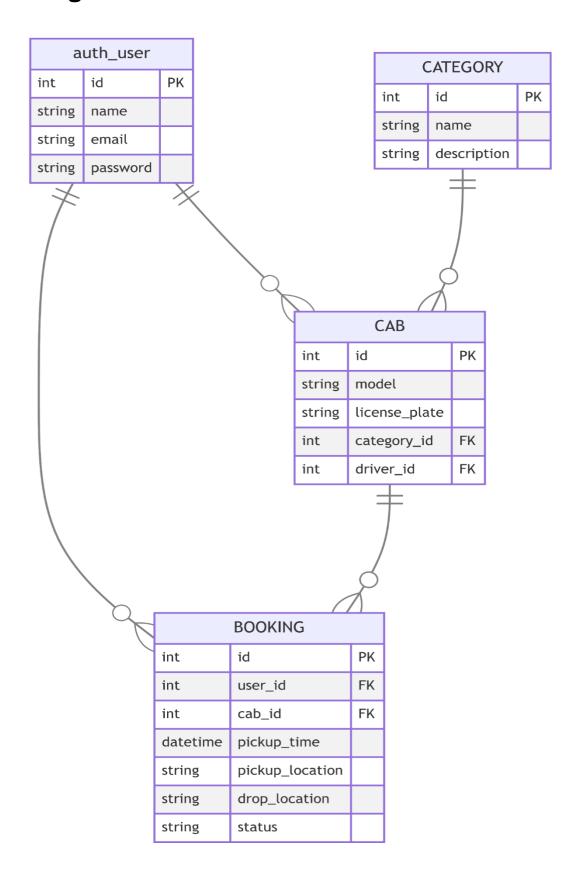
Client Side Scripting : MYSQL

DIAGRAMS

Data Flow Diagram -



ER Diagram –



DATA DICTIONARY

Auth_user:

#	Name	Туре	Collation	Null	Default	Extr a
1	id	int(11)		No	None	AUTO_INCREMEN T
2	password	varchar(50)	utf8mb4_general_ci	Yes	None	
3	last_login	datetime(6)		No	NULL	
4	is_superuser	tinyint(1)		No	None	
5	username (FK)	varchar(50)	utf8mb4_general_ci	No	None	
6	first_name	varchar(50)	utf8mb4_general_ci	No	None	
7	last_name	varchar(50)	utf8mb4_general_ci	No	None	
8	email	varchar(50)	utf8mb4_general_ci	No	None	
9	is_staff	tinyint(1)		No	None	
10	is_active	tinyint(1)		No	None	
11	date_joined	datetime(6)		No	None	

Mainsite_userprofile:

#	Name	Туре	Collation	Null	Default	Extra
1	id	int(11)		No	None	AUTO_INCREMENT
2	gender	varchar(50)	utf8mb4_general_ci	No	None	
3	address	varchar(50)	utf8mb4_general_ci	Yes	Null	
4	contact	varchar(11)	utf8mb4_general_ci	Yes	Null	
5	image_path	varchar(50)	utf8mb4_general_ci	Yes	Null	
6	user_id (FK)	int		Yes	Null	

mainsite_categories:

#	Name	Туре	Collation	Null	Default	Extra
1	id	int(11)		No	None	AUTO_INCREMEN T
2	Name(FK)	varchar(50)	utf8mb4_general_ci	No	None	
3	description	longtext	utf8mb4_general_ci	Yes	NULL	
4	status	varchar(50)		No	None	

mainsite_cab:

#	Name	Туре	Collation	Null	Default	Extra
1	id	int(11)		No	None	AUTO_INCREMENT
2	cab_reg_no	varchar(50)	utf8mb4_general_ci	No	None	
3	cab_model	varchar(10)	utf8mb4_general_ci	No	None	
4	body_no	varchar(50)	utf8mb4_general_ci	No	None	
5	driver_contact	varchar(50)	utf8mb4_general_ci	No	None	
6	driver_address	longtext	utf8mb4_general_ci	No	None	
7	driver_image	varchar(50)	utf8mb4_general_ci	No	None	
8	Status	varchar(50)	utf8mb4_general_ci	No	None	
9	category_id (FK)	bigint		No	None	
10	driver_id (FK)	int		No	None	

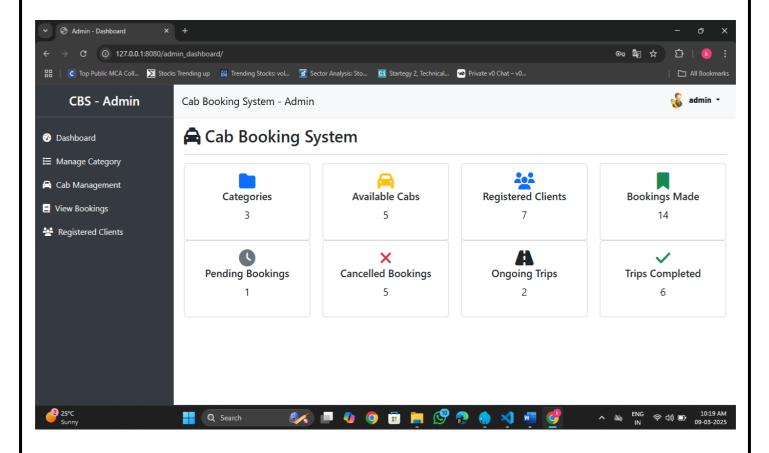
Mainsite_booking

#	Name	Туре	Collation	Null	Default	Extra
1	id	int(11)		No	None	AUTO_INCREMENT
2	ref_code	varchar(50)	utf8mb4_general_ci	No	None	
3	pickup_zone	longtext	utf8mb4_general_ci	No	None	
4	drop_zone	longtext	utf8mb4_general_ci	No	None	
5	status	int		No	None	
6	booking_date	datetime(6)		No	None	
7	updated_date	datetime(6)		No	None	
8	cab_id (FK)	bigint		No	None	
9	client_id (FK)	bigint		No	None	

SCREEN SHOTS

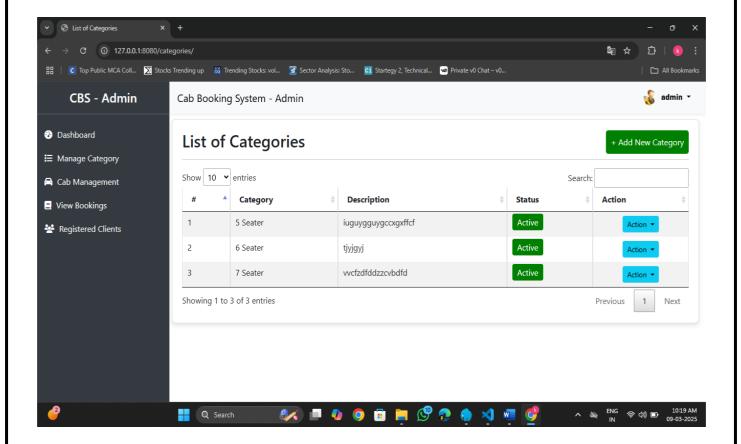
Admin Panel:

Dashboard:



- in this page show the total of the
 - o Categories,
 - o Cabs,
 - o Registered Client,
 - Booking made
 - o Panding Booking
 - o Cancelled Bookings
 - Ongoing trips
 - Trips Completed

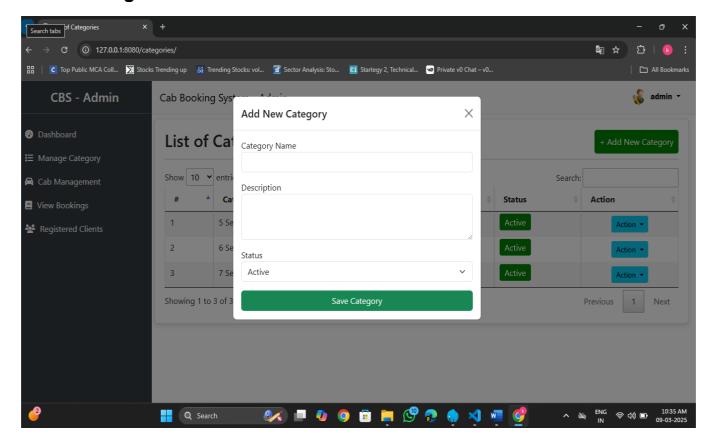
Manage Categories:



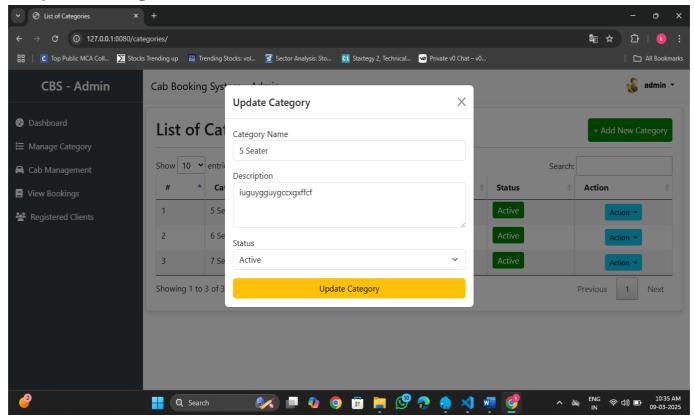
In this page manage the categories:

- This page is the List of Categories
- Also add the categories in the like 5 seater car
- Also update and delete the categories

Add Categories:

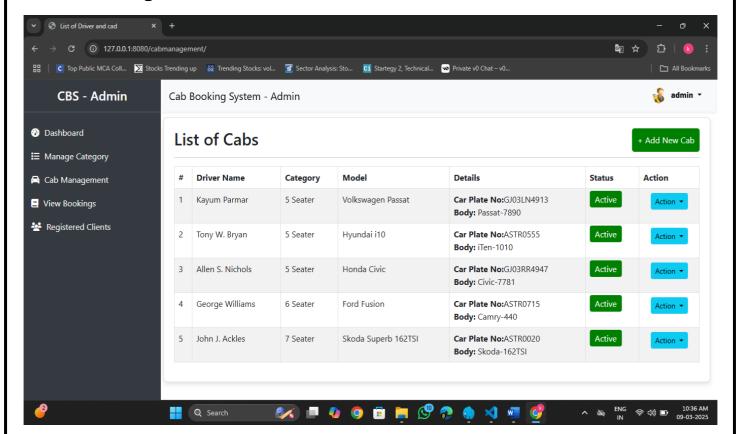


Update Categories:



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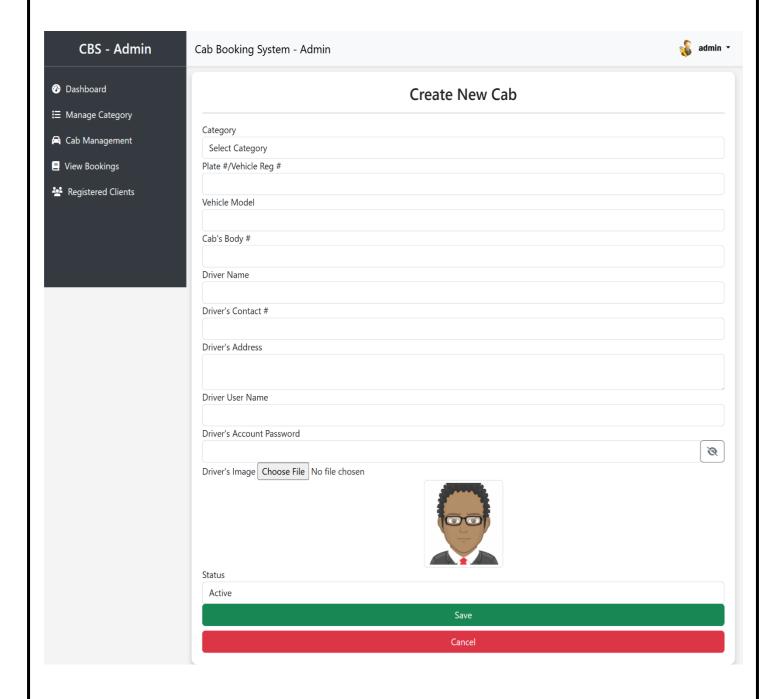
Cab management:



In this page manage cab and driver:

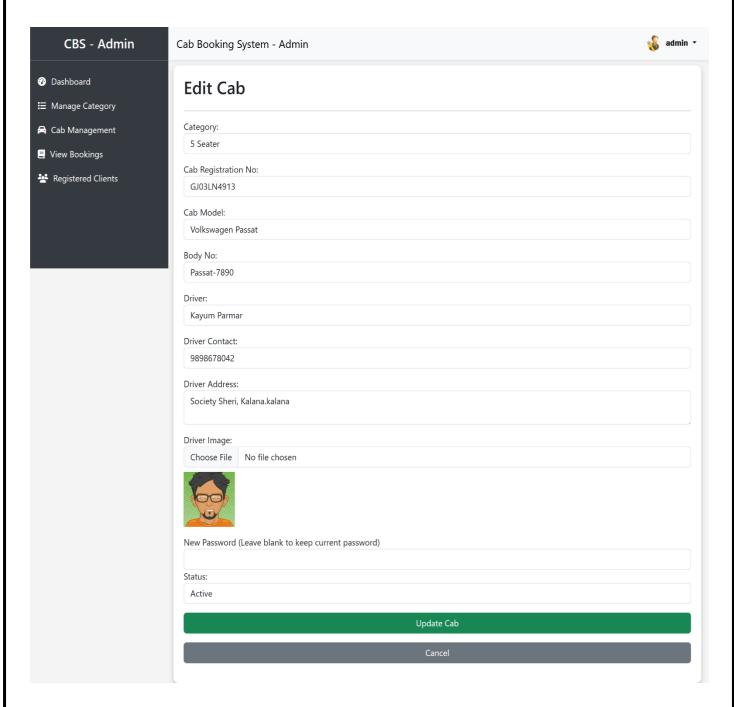
- In this page list of the cab and their details
- Also add the cab in this page
- In the action admin can update the cad detail and driver details
- Also delete the cab

Add the Cab:



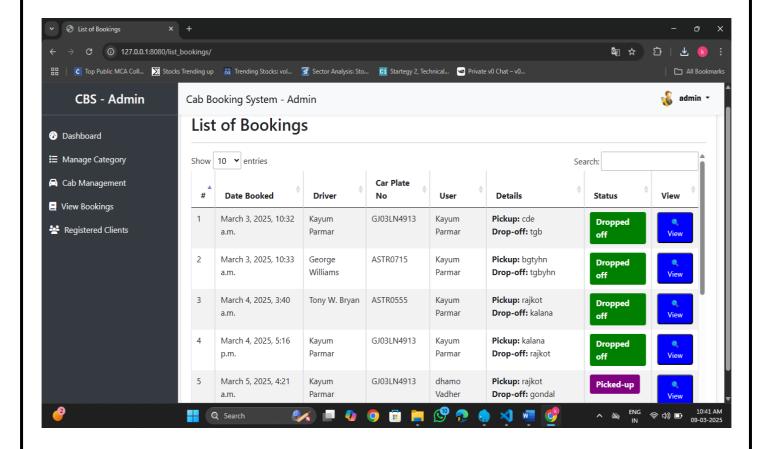
• Here add the cab by the admin

Edit the cab:



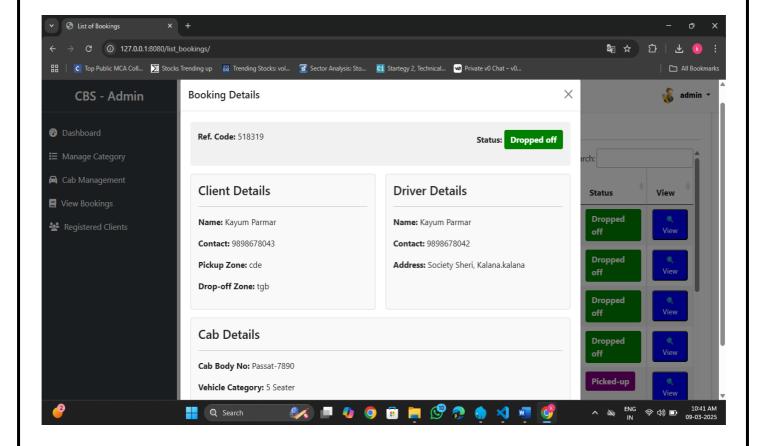
Here edit the cab details by the admin.

List of the booking:



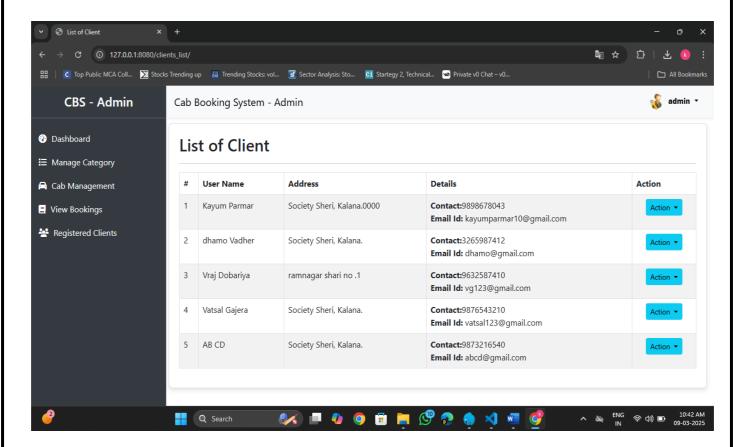
- Here show the list of the booking booked by the user
- In this page show the user and driver booking details.
- Show the status user is pick up or dropped by the driver
- Click on the view to show the all the information about the driver and user.

View the information about the booking:



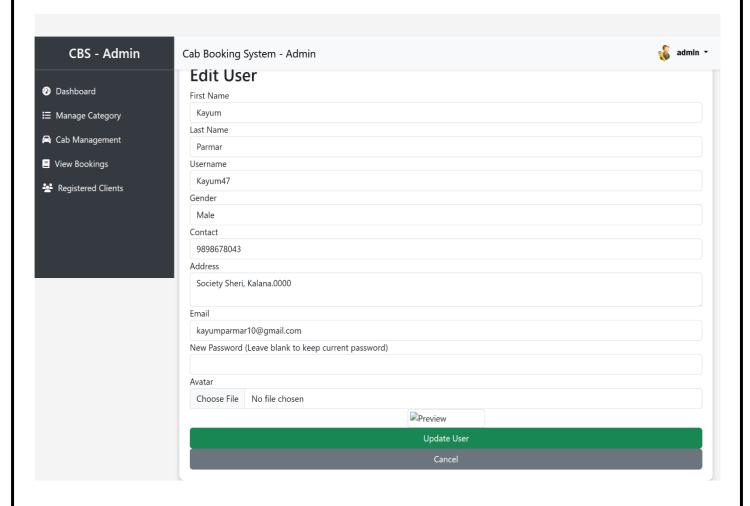
• Click on the view to show the all the information about the driver and user.

Registered clients:



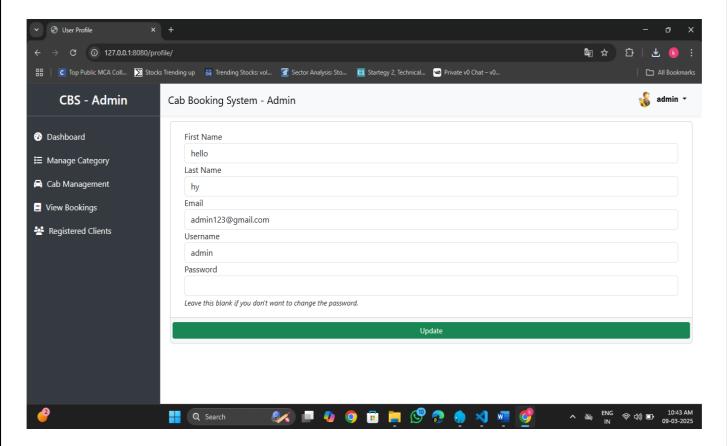
- In this page show the list of the client
- In the click in the action button also update and delete the client
- Show the all details of the client

Update the client:



• In this page edit the user by the admin

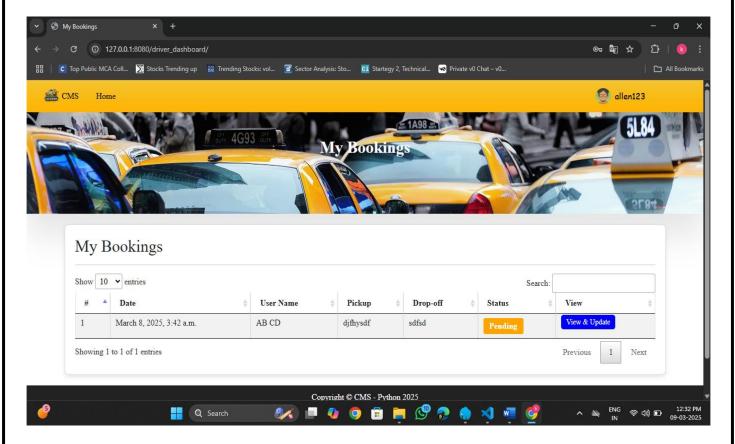
Admin profile:



- This page is the admin profile
- Admin update their profile
- And also has the logout button

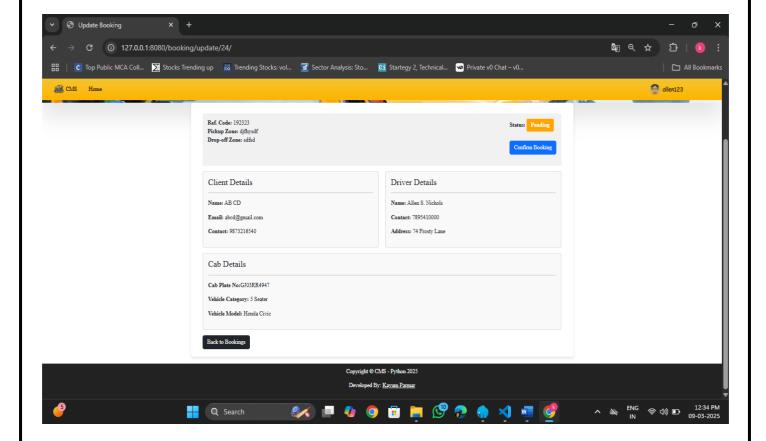
Driver panel:

Driver dashboard:



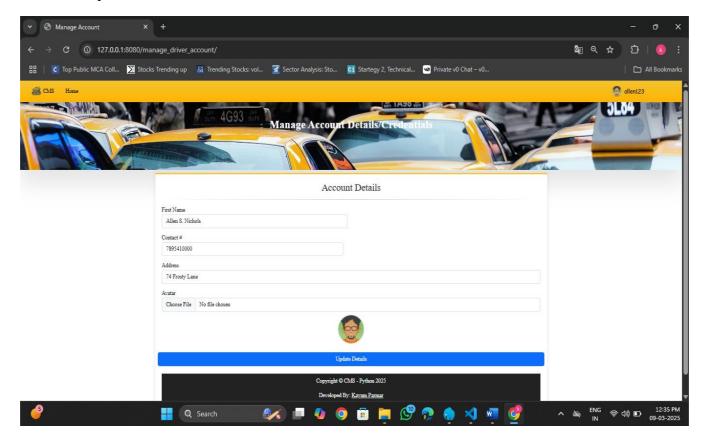
- This is the driver dashboard
- This page show the cab booked by the user
- Driver also conforms the booking

Update the booking status:



- In this page driver conform the booking in this page by the driver
- Also update the pick up the user and user drop off by the driver and also show booking pick up location and drop location

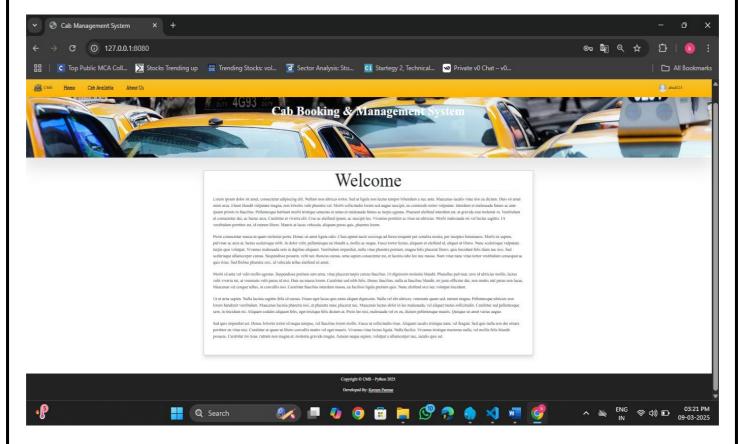
Driver profile:



- Driver update the their profile
 - o name
 - o contact
 - o email
 - o address
 - o profile photo

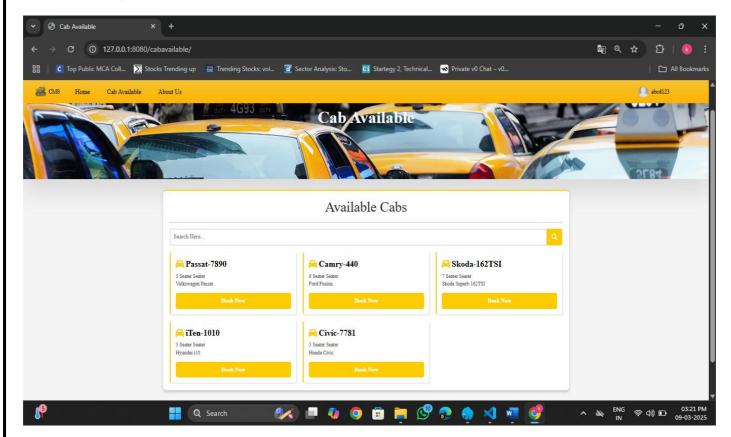
user model:

Home page:



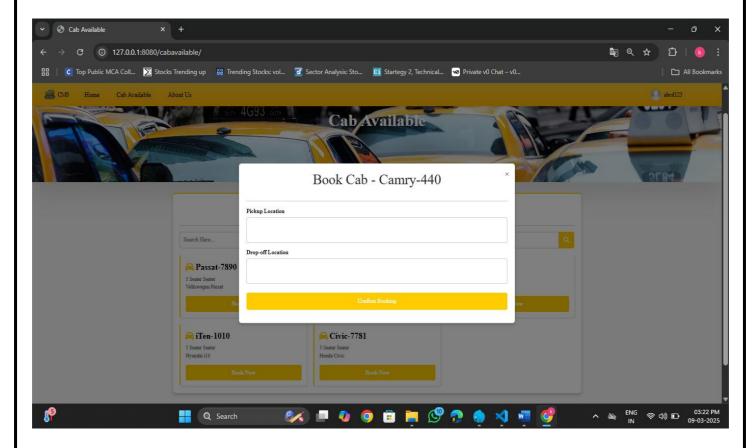
• This home page.

Booking page:



- When user is the login then the user will book available cab
- Click on the book cab button .

Booking form:



- When user will click on the book cab button then
- Show the booking form
- User enter their pickup location and drop location
- Then click the conform booking

About us page:



About Cab

CabXpress is a leading cab booking service dedicated to providing safe, reliable, and affordable rides. With a fleet of modern vehicles and professional drivers, we ensure comfortable travel experiences for our customers. Whether you need a ride for daily commuting, airport transfers, or city travel, CabXpress is here for you.

Why Choose Us?

✓ 24/7 Availability & Support

✓ Affordable & Transparent Pricing

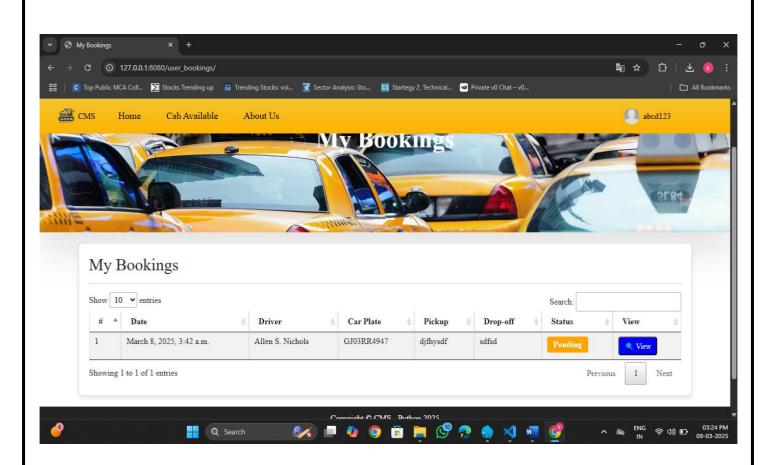
✓ Professional & Experienced Drivers

✓ Safe, Comfortable & Fast Rides

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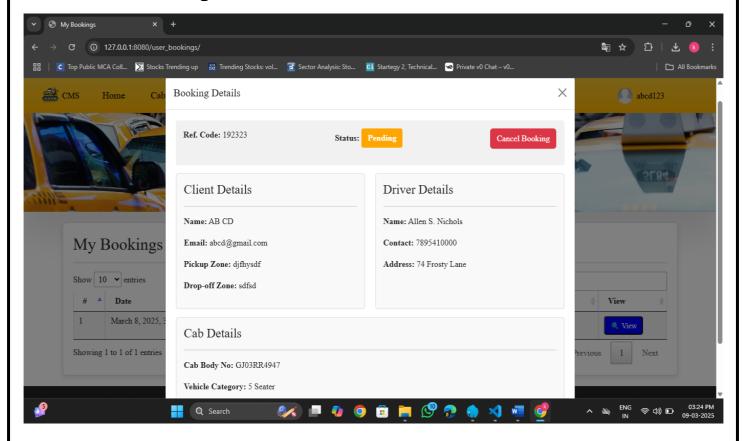
Developed By: Kayum Parmar

User booking:



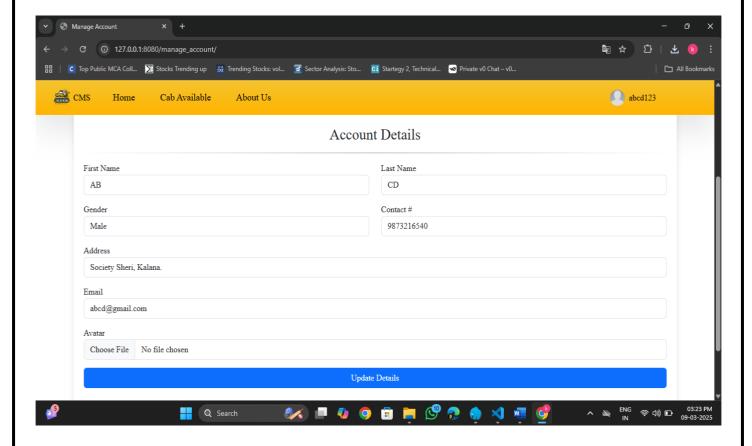
- This is show user booking list
- User show booking details and update status

View the booking:



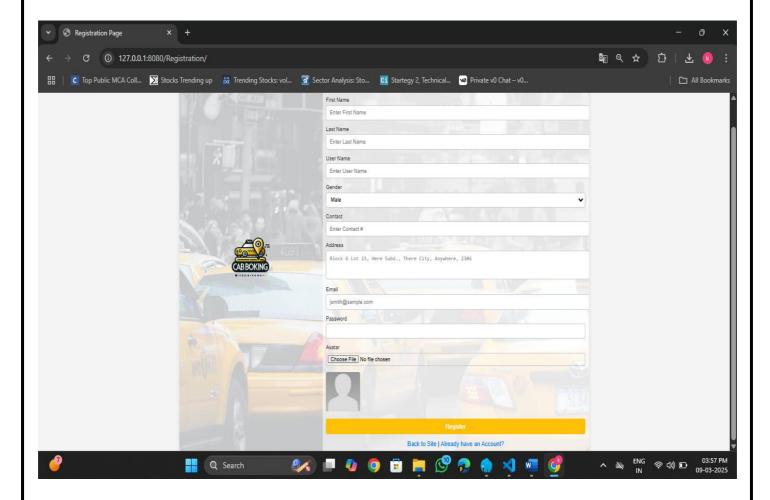
- Click on the view button then show the full details of driver and user
- User also cancel the booking

User profile:



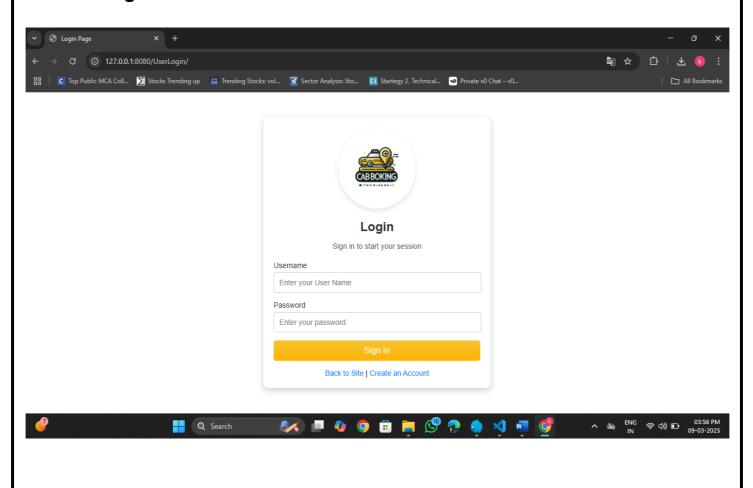
• User update their profile

Registration form:



• User can register here for the site

User login:



User, admin, driver login here

IMPLEMENTATION AND EVALUATION

Implementation

- Developed using Django for backend, PostgreSQL for database, and Google Maps
 API for location tracking.
- Secure user authentication with email/password login and OAuth (Google, Facebook) integration.
- Booking system allows users to schedule rides, track drivers in real-time, and estimate fares dynamically.
- Drivers can accept or reject ride requests, update availability, and navigate using inapp maps.
- Integrated multiple payment options, including Stripe, Razorpay, and PayPal, for seamless transactions.

Evaluation

- Functional testing ensures smooth booking, ride tracking, and payment processing.
- Performance testing optimizes database queries and API response times for faster execution.
- Security measures include CSRF protection, encrypted transactions, and role-based access control.
- Usability testing improves UI/UX for better navigation and mobile responsiveness.
- Deployed on cloud servers (AWS/Heroku) with real-time monitoring for error handling and updates.

Future Enhancement:

1. Al-Based Fare Estimation

Implement machine learning algorithms to analyze traffic patterns, demand fluctuations, and weather conditions for dynamic fare pricing.

2. Subscription Plans

Offer membership or subscription plans for frequent users with benefits like discounted fares and priority booking.

3. Real-Time Driver Tracking & ETA Prediction

Improve GPS tracking and integrate predictive algorithms to provide more accurate estimated arrival times (ETA).

4. Cashless & QR Code Payments

Enable cashless payments via QR codes, allowing users to scan and pay directly from their preferred payment app.

5. Driver Tips & Donations

Provide an option for users to tip drivers digitally or donate to a cause through the app.

6. Electric & Hybrid Vehicle Options

Promote sustainable travel by introducing an option to book electric or hybrid vehicles.

WEBLIOGRAPHY

Referring online manual from website

- https://docs.python.org/
- https://docs.djangoproject.com/
- https://dev.mysql.com/doc/
- https://stackoverflow.com/