

A
Practical Activity Report
Submitted for
UI & UX SPECIALIST-(UCS542)
END-Semester Lab Evaluation

Ecommerce Website

Submitted to-

Dr.Vibha Jain

BE Third Year

Submitted by-

Daksh Raj (102495028)



THAPAR INSTITUTE
OF ENGINEERING & TECHNOLOGY
(Deemed to be University)

Computer Science and Engineering Department

TIET, Patiala

August-December 2024

INDEX

1. INTRODUCTION	3
2. PROBLEM STATEMENT	4
3. SPECIFIC REQUIREMENTS	5
4. CONTEXT LEVEL DIAGRAM AND DATA FLOW DIAGRAM	7
5. SYSTEM SPECIFICATION	8
6. TOOLS USED	9
7. SAMPLE SCREENSHOTS	10
8. CONCLUSION	14

INTRODUCTION

RideTIET is a campus-oriented cab-sharing platform designed to make travel easier, safer, and more affordable for students of TIET. Students often need to travel to airports, bus stands, railway stations, or nearby cities, and they frequently face issues such as high cab fares, lack of coordination, and difficulty finding companions for shared travel. RideTIET addresses these challenges by providing a unified platform where students can offer rides, join available ones, and coordinate their travel plans efficiently.

A platform like RideTIET must handle frequent updates such as new rides, changes in seat availability, cancellations, and emergency notifications. It also requires smooth user interaction, data security, and the ability to scale as more students start using the system. The MERN stack supports these needs by providing the speed, flexibility, and reliability required to manage real-time information, user authentication, ride details, and smooth communication across the system.

RideTIET includes essential features such as secure login, ride creation, detailed ride listings, booking options, emergency alerts, and cancellation options for ride creators. An admin layer further ensures safety and proper usage within the campus environment. The platform ultimately helps students save time and money while ensuring convenient, organized, and safe travel.

In summary RideTIET serves as a complete cab-sharing solution tailored for TIET students, offering cost-effective travel, real-time ride coordination, and enhanced safety. Backed by the performance and scalability requirements fulfilled through the MERN stack, the platform delivers a reliable and efficient system for everyday campus transportation needs.

PROBLEM STATEMENT

The growing need for convenient and affordable transportation has made ride-sharing an essential part of student life, especially within college communities. However, students at TIET often struggle to coordinate rides for daily commutes, weekend plans, or long-distance travel because there is no single, reliable platform dedicated to connecting riders and drivers. Instead, most coordination happens through scattered WhatsApp groups, random messages, and informal networks, leading to confusion, missed rides, safety concerns, and inefficient planning.

Students today expect clarity, quick access to information, and smooth communication when arranging travel. Without a structured system, essential details like departure time, available seats, cost sharing, and driver verification are often unclear or inconsistent. This gap between what students need and what current informal methods provide results in frustration and unreliable travel experiences. Many students also hesitate to join rides with unfamiliar people due to the lack of transparent information and proper organization.

Another major challenge is ensuring safety and trust. Without a common platform to verify identities, track ride details, or enable emergency support, students face uncertainty when traveling with unfamiliar people. During peak travel times such as holidays or exam breaks, the absence of an organized solution becomes even more problematic, limiting coordination and increasing last-minute chaos. The lack of a dependable system also makes it difficult to manage ride cancellations, availability changes, and urgent communication.

This project aims to address these issues by introducing a dedicated, reliable, and student-friendly ride-sharing platform designed specifically for the TIET community. By focusing on safety, clear communication, organized ride management, and easy accessibility, RideTIET bridges the gap between students' transportation needs and the limitations of existing unstructured methods. It offers an environment where students can confidently plan trips, share resources, and travel more comfortably within and beyond the campus.

SPECIFIC REQUIREMENTS

Functional Requirements

(i) User Registration & Login

The system provides secure user registration and login, allowing students to access all ride-sharing features.

(ii) Profile Management

Users can view and update their profile details, including name, contact number, and other relevant information.

(iii) Ride Creation

The platform allows users to create new rides by entering departure location, destination, date, time, seat availability, and cost details.

(iv) Ride Viewing & Search

Users can browse available rides and conveniently search or filter them based on location, date, or time.

(v) Join a Ride

The system enables users to join rides created by others, depending on seat availability.

(vi) Ride Details View

Users can open any ride to view complete information, including the driver's details, route, number of seats, and contact information.

(vii) User Feedback & Ratings

The platform allows users to provide basic feedback or ratings for rides, helping maintain trust and improve ride quality.

Non-Functional Requirements

(i) Performance

The system delivers quick responses while browsing, searching, and loading ride details, ensuring a smooth user experience even during peak usage times.

(ii) Scalability

The platform is capable of handling an increasing number of users, rides, and requests without affecting overall performance or usability.

(iii) Reliability

The system operates consistently without frequent failures, ensuring that ride information, user data, and updates remain accurate and accessible.

(iv) Usability

The interface is simple, intuitive, and easy to navigate, allowing students to create, search, and join rides without needing technical knowledge.

(v) Security

User information such as login credentials and personal details is protected through secure handling, preventing unauthorized access and misuse.

(vi) Availability

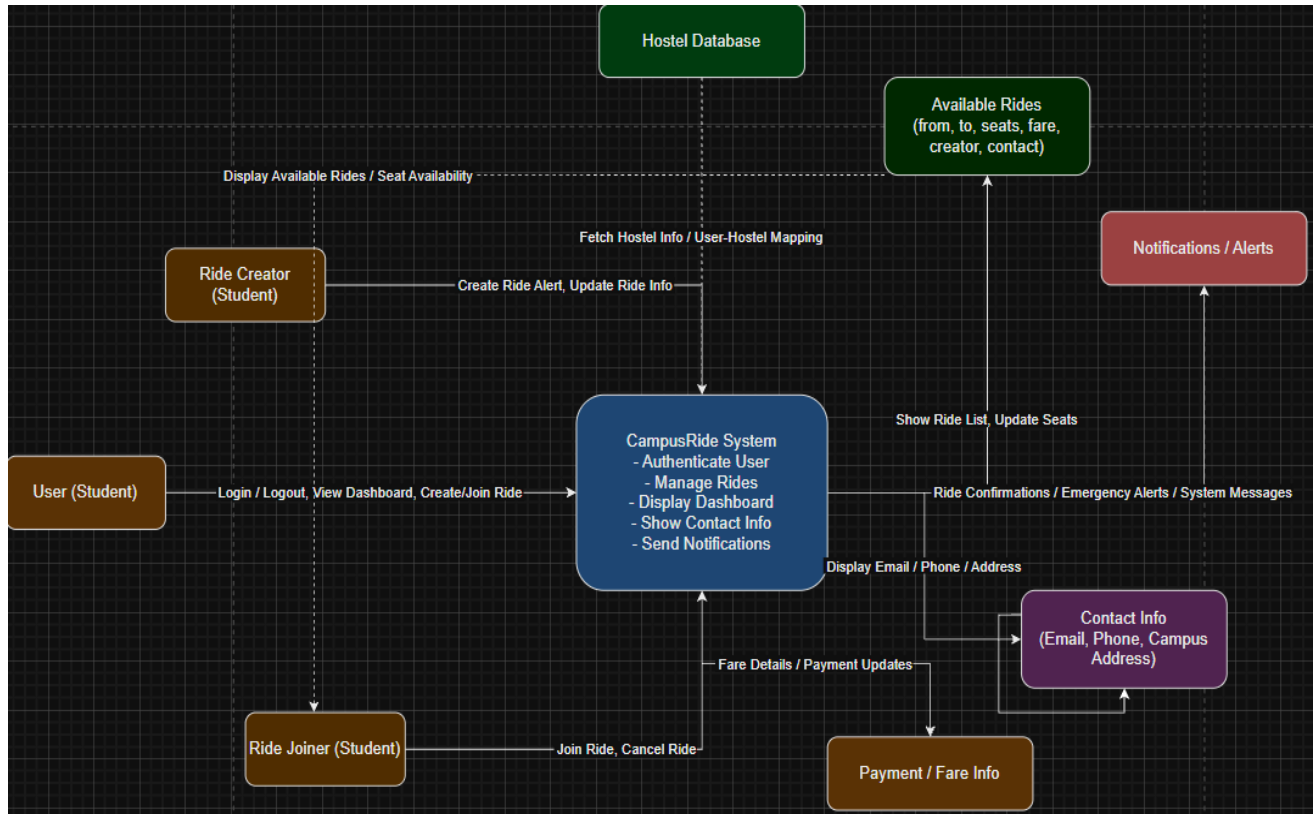
The system remains accessible for users throughout the day with minimal downtime, ensuring continuous access to essential ride-sharing features.

(vii) Maintainability

The platform is designed in a way that allows for easy updates, improvements, and bug fixes without disrupting the existing functionality.

CONTEXT LEVEL AND DATA FLOW DIAGRAM

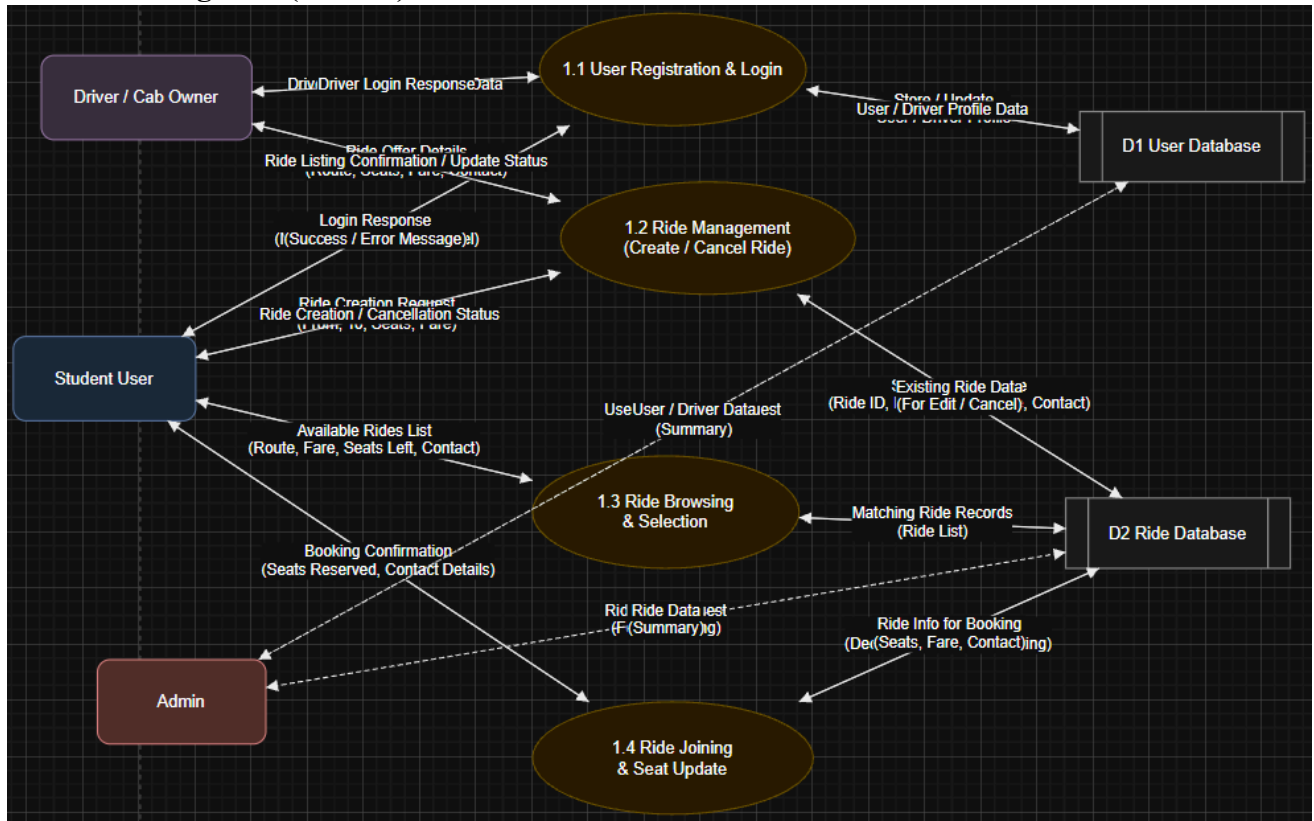
Context Level Diagram -(Level 0)



This context-level diagram illustrates the overall structure of the RideTIET system for college cab sharing. The central process, "RideTIET System," manages all core functionalities such as user authentication, ride creation and management, dashboard display, contact information, and sending notifications. Various external entities interact with this process, including the User (Student), Ride Creator and Ride Joiner roles, Payment/Fare Info, Contact Info, Hostel Database, Available Rides datastore, and Notifications/Alerts service.

Each arrow is clearly labeled to show the type of data exchanged between entities and the main system. For example, users log in, view their dashboard, and join or create rides, while ride creators submit new ride alerts and updates. The diagram also includes essential data stores like "Hostel Database" and "Available Rides," ensuring seat availability and mapping user-hostel relationships. Payment and notification services are integrated to provide ride confirmations, fare details, and system alerts, creating a comprehensive view of how the cab-sharing platform operates.

Data Flow Diagram -(Level 1)



This Level 1 data flow diagram (DFD) provides a detailed view of how information moves through the main processes of the college cab sharing system. The diagram decomposes the core system into four essential processes: User Registration & Login, Ride Management, Ride Browsing & Selection, and Ride Joining & Seat Update. Each process is connected to external entities like Student User, Driver/Cab Owner, and Admin, as well as internal data stores such as the User Database and Ride Database.

Arrows are clearly labeled to depict the flow of specific data, such as registration details, ride creation requests, ride lists, and booking confirmations. The diagram demonstrates how users and drivers interact with the system to manage profiles and rides, while the admin monitors summary data for users and rides. The DFD level 1 helps visualize how the system maintains consistent and secure communication between users, processes, and databases, ensuring efficient cab sharing operations on campus.

TOOLS USED

Core Web Development:

- **HTML5:** Used for the semantic structure and content layout of the web pages (e.g., student dashboard, equipment listings, forms).
- **CSS3:** Used for all visual styling, layout, color schemes, typography, and ensuring the interface is **responsive** (adapting well to different screen sizes).
- **JavaScript (Vanilla JS):** Used for all interactive elements, client-side validation (e.g., checking form fields), and handling UI state changes without relying on external frameworks.

SYSTEM SPECIFICATION

1. Hardware Specifications

Development Environment:

- Processor: Intel Core i5/i7 or AMD Ryzen 5/7 (or equivalent).
- RAM: 8 GB (minimum); 16 GB (recommended for smoother development).
- Storage: 256 GB SSD (minimum); 512 GB SSD or higher (recommended).
- Graphics: Integrated GPU (sufficient for web development).
- Display: Full HD (1920x1080) resolution monitor.

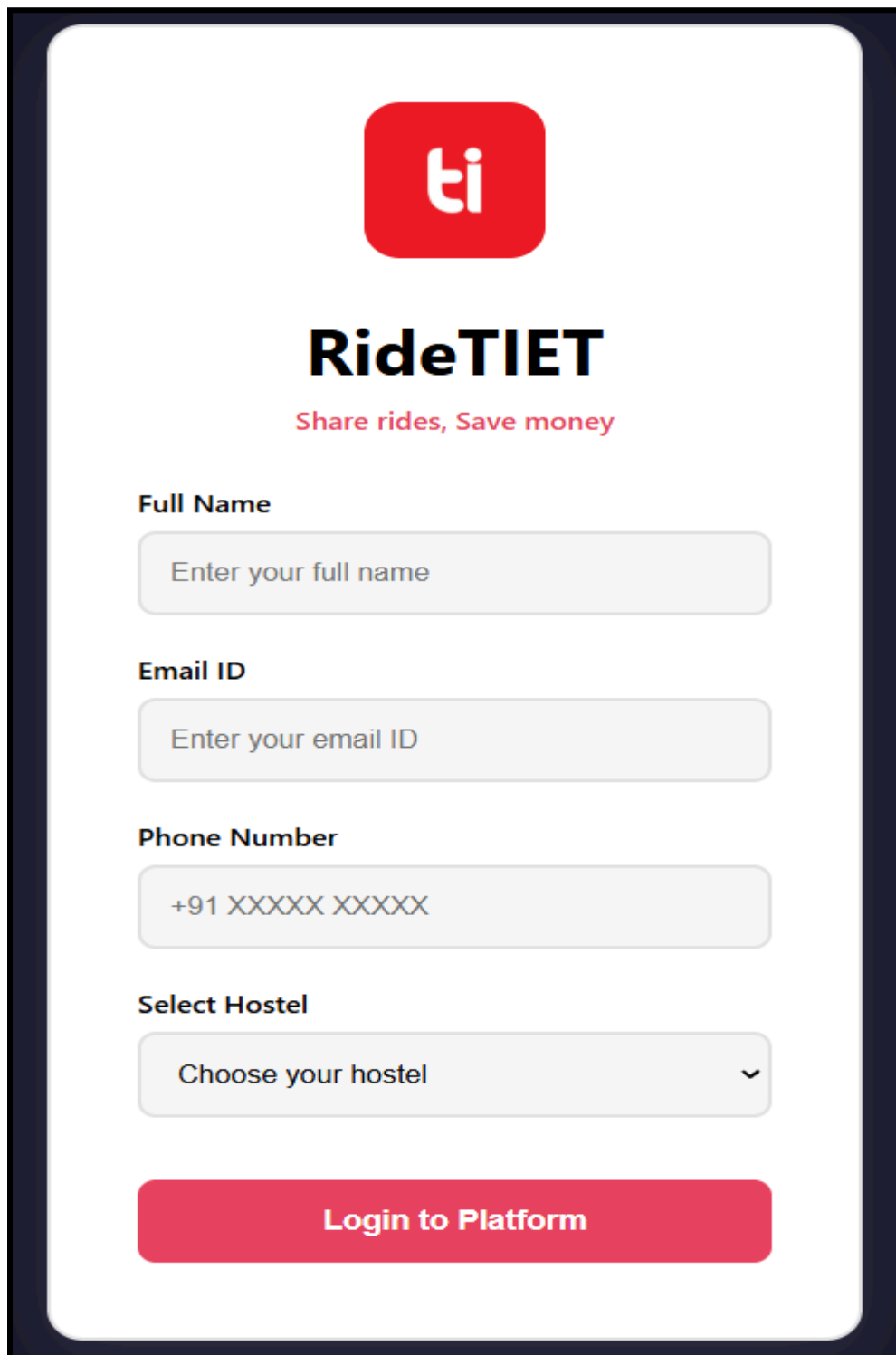
2. Software Specifications:

Development Tools:


- Operating System: Windows 10/11.
- IDE/Editor: Visual Studio Code (preferred) or any text editor.
- Version Control: Git with GitHub/GitLab for code management.
- Package Manager: npm (Node Package Manager)

SAMPLE SCREENSHOTS

1) Login Page



The screenshot shows a mobile app login screen for 'RideTiet'. At the top is a red square logo with a white 'ti'. Below it, the text 'RideTiet' is displayed in a large, bold, black font, followed by the tagline 'Share rides, Save money' in a smaller, red font. The login form consists of four input fields, each with a label above it: 'Full Name' (placeholder: 'Enter your full name'), 'Email ID' (placeholder: 'Enter your email ID'), 'Phone Number' (placeholder: '+91 XXXXX XXXXX'), and 'Select Hostel' (placeholder: 'Choose your hostel' with a dropdown arrow). At the bottom of the form is a large red button with the text 'Login to Platform' in white.



RideTiet

Share rides, Save money

Full Name

Email ID

Phone Number

Select Hostel

▼

Login to Platform


Choose your hostel

Hostel A
Hostel B
Hostel C
Hostel D
Hostel H
Hostel J
Hostel K
Hostel L
Hostel M
Hostel O
Hostel FRF
Hostel I
Hostel Q
Hostel E

Choose your hostel

Login to Platform

3) Main Page

 **Raise New Ride Alert**

From

Starting point

To

Destination

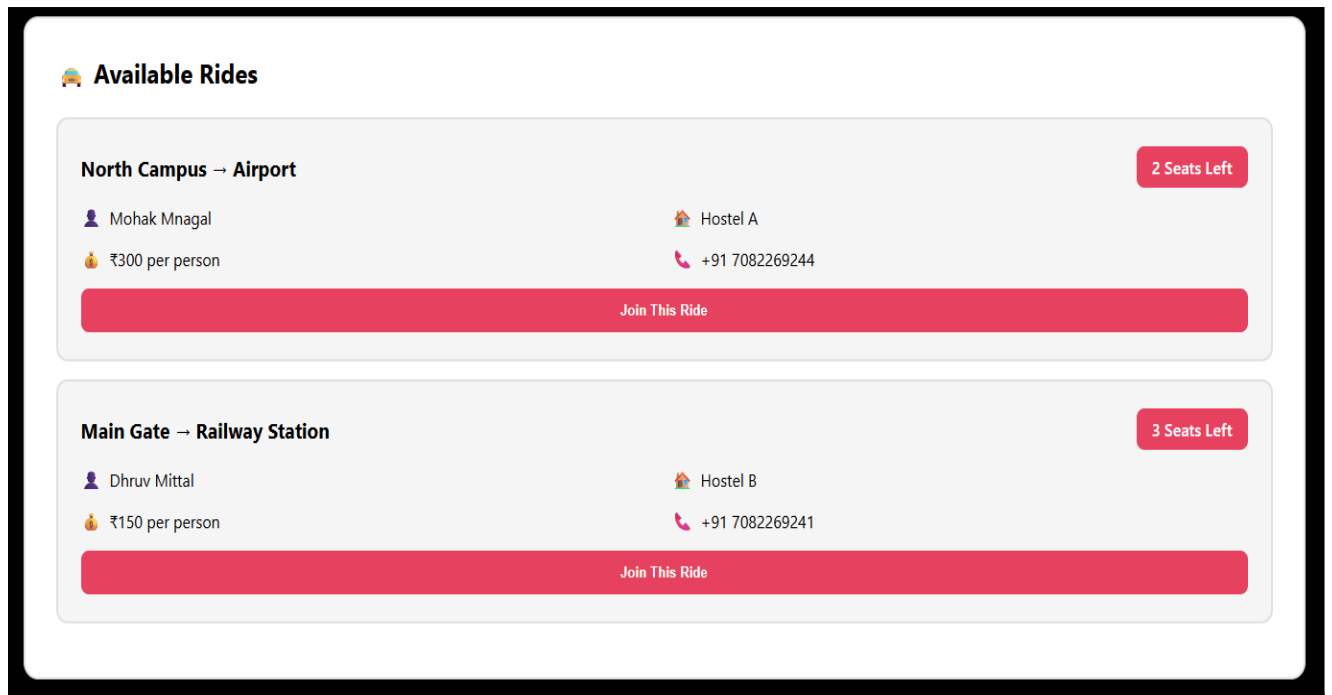
Available Seats

Number of seats

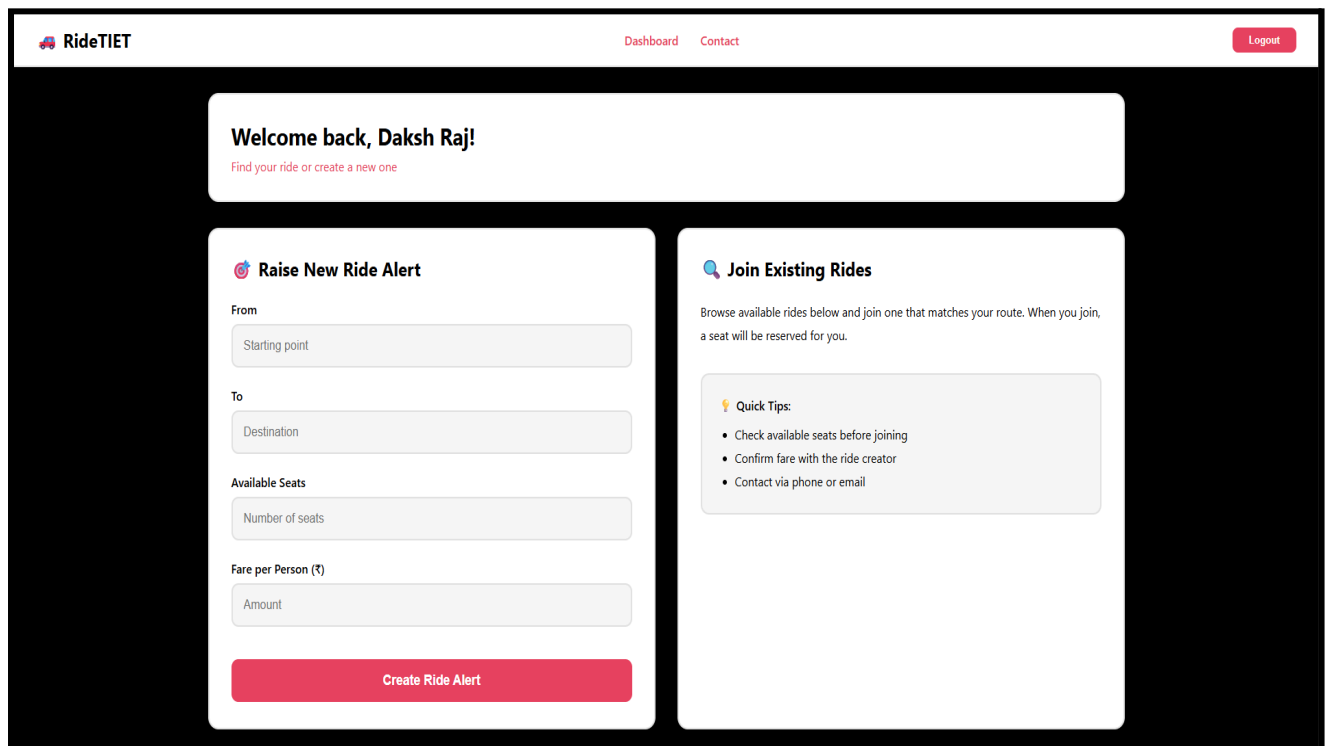
Fare per Person (₹)

Amount

Create Ride Alert





4) Dashboard



5) Contact Page

We're here to help you with your rides










Image copyright: Rapunzel Cafe, Kota Bharu



Email Us
support@campusrider.edu
rides@campusrider.edu



Call Us
+91 XXXXX XXXXX
Mon-Fri, 9 AM - 6 PM

CONCLUSION

The development of the RideTIET College Cab Sharing System has been a comprehensive journey involving multiple aspects of modern web application design and functionality. This project was created with the goal of offering students a convenient, efficient, and streamlined way to book and share cabs within and around the campus. By integrating essential front-end and back-end features, the system ensures smooth interaction between users, ride details, and administrative operations.

One of the key achievements of this project is the clean, responsive, and user-friendly interface that allows students to browse available rides, create bookings, and interact with essential features effortlessly. The structured data handling and well-organized workflow support real-time tasks such as viewing ride availability, submitting ride details, and managing user access securely and reliably. Additionally, the back-end logic has been optimized to maintain consistency in data processing, ensuring that information flows accurately across all functional components.

The project also focuses on scalability and future adaptability, making it suitable for enhancements such as automated fare suggestions, location-based ride recommendations, or integration with official college systems. Strong emphasis has been placed on reliability and user convenience, allowing the platform to operate smoothly in everyday student scenarios.

In conclusion, the RideTIET platform successfully demonstrates how thoughtful design and practical features can be combined to create a dependable, easy-to-use solution for campus transportation needs. While the project meets its current objectives, it also sets a strong foundation for future upgrades that align with the evolving requirements of students and institutions. This accomplishment reflects both technical skill and the ability to convert real-world needs into an effective digital solution.
