

REC TRANSPORT

2.0

DANUSHNARAYAN S 221701012

PRITHIGA K 221701041



ABSTRACT

This project aims to develop a real-time bus tracking system designed to improve the efficiency and convenience of college transportation. The system enables the live tracking of buses through a mobile application, leveraging the phone number of the bus driver for easy access and security. The application provides students, faculty, and staff with the current location of buses, estimated arrival times, and updates on delays. The project incorporates GPS tracking, real-time data processing, and user-friendly interface design to offer an efficient way for users to plan their travel and reduce waiting times. Additionally, the system will feature notifications and alerts to inform users about route changes or delays. The development of this bus tracking system enhances communication, safety, and overall satisfaction for those relying on the college transportation services.



"To provide technically competent professionals with character and humane values to the society."



Introduction

The project aims to improve the overall experience of the college community by offering a more reliable and convenient method of accessing transportation services. With features such as real-time updates and seamless user interaction, the app will streamline communication between the bus drivers and the passengers, ultimately enhancing the efficiency and reliability of the college transportation system.



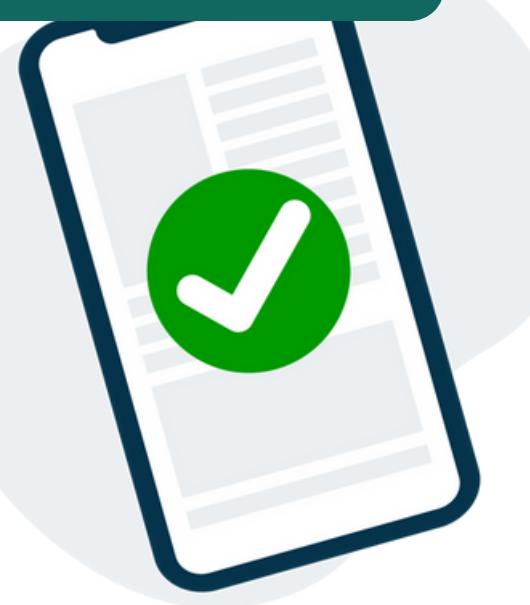
OBJECTIVES

TRACKING



To provide a real-time bus tracking system using GPS technology, allowing users to view the live location of buses and estimated arrival times

ACCESSIBILITY



To develop a user-friendly mobile application that can be easily accessed by students, faculty, and staff for tracking college buses.

NOTIFICATION



To implement notification and alert features that inform users about bus arrival updates, delays, or route changes.

SCALABILITY



To design a scalable system that can accommodate more buses and routes in the future as the college transportation network grows.

LITERATURE SURVEY

Sathyabama
University

1 Real-Time
Tracking 

Students can't see the
exact location
of the bus.

University of
Minnesota

2 Notification
System 

No instant alerts for
bus delays, route
changes.

Binghamton
University

3 Mobile app

easy user experience
with a
attractive interface.

METHODOLOGY

PROJECT OVERVIEW

Goal:

Real-time college bus tracking for students and drivers.

Main Features:

- Live location tracking
- Arrival notifications
- Easy-to-use app

SYSTEM COMPONENTS

- Mobile App (for students)
- GPS on Buses (tracks location)
- Backend Server (handles data)
- Admin Dashboard (for monitoring)

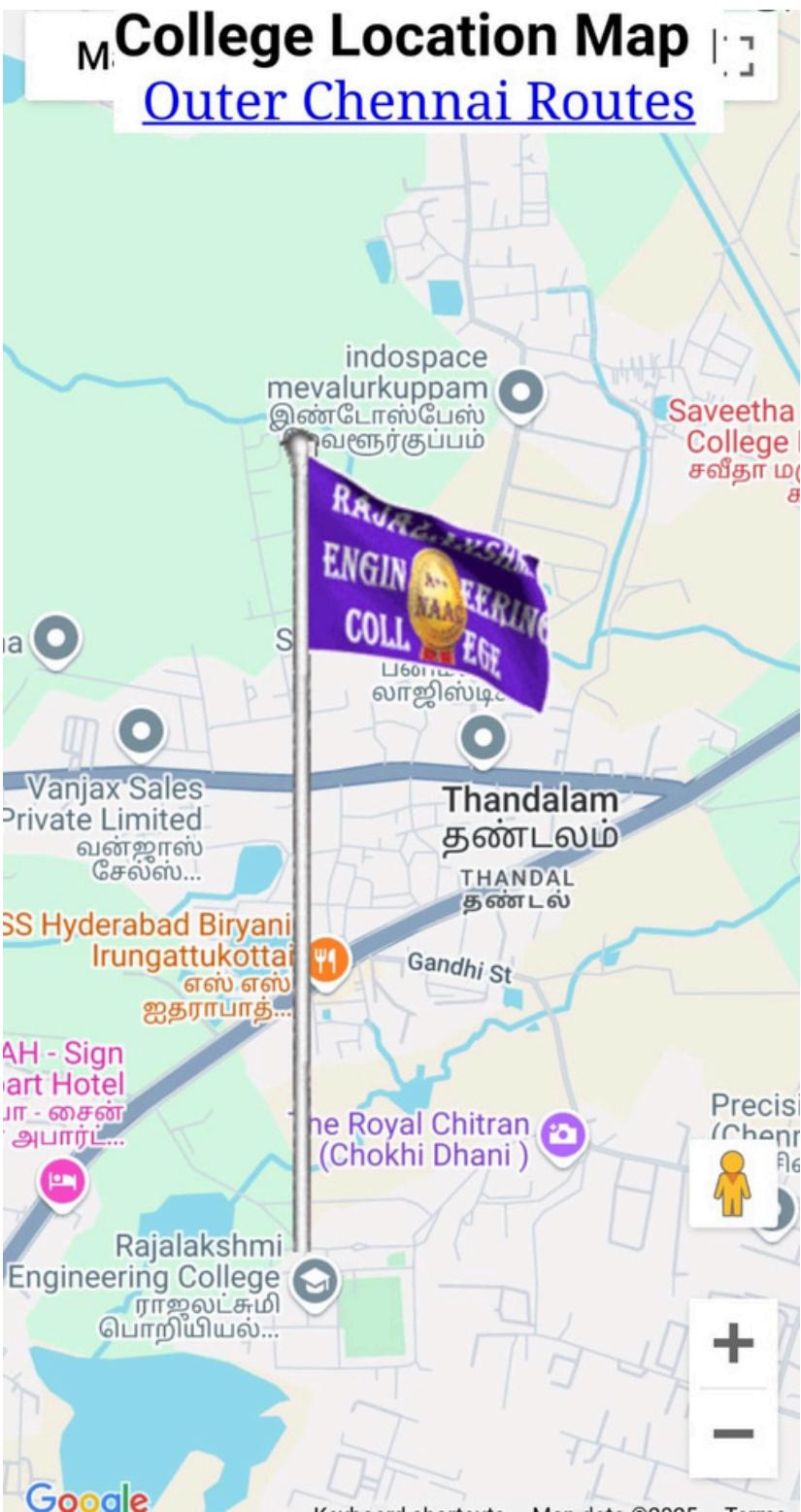
TECHNOLOGY USED

- Mobile App: Android/iOS (maps)
- Backend: Node.js or Python
- GPS Tracking: Real-time location updates
- Database: For data storage
- Notifications: Alerts for arrivals

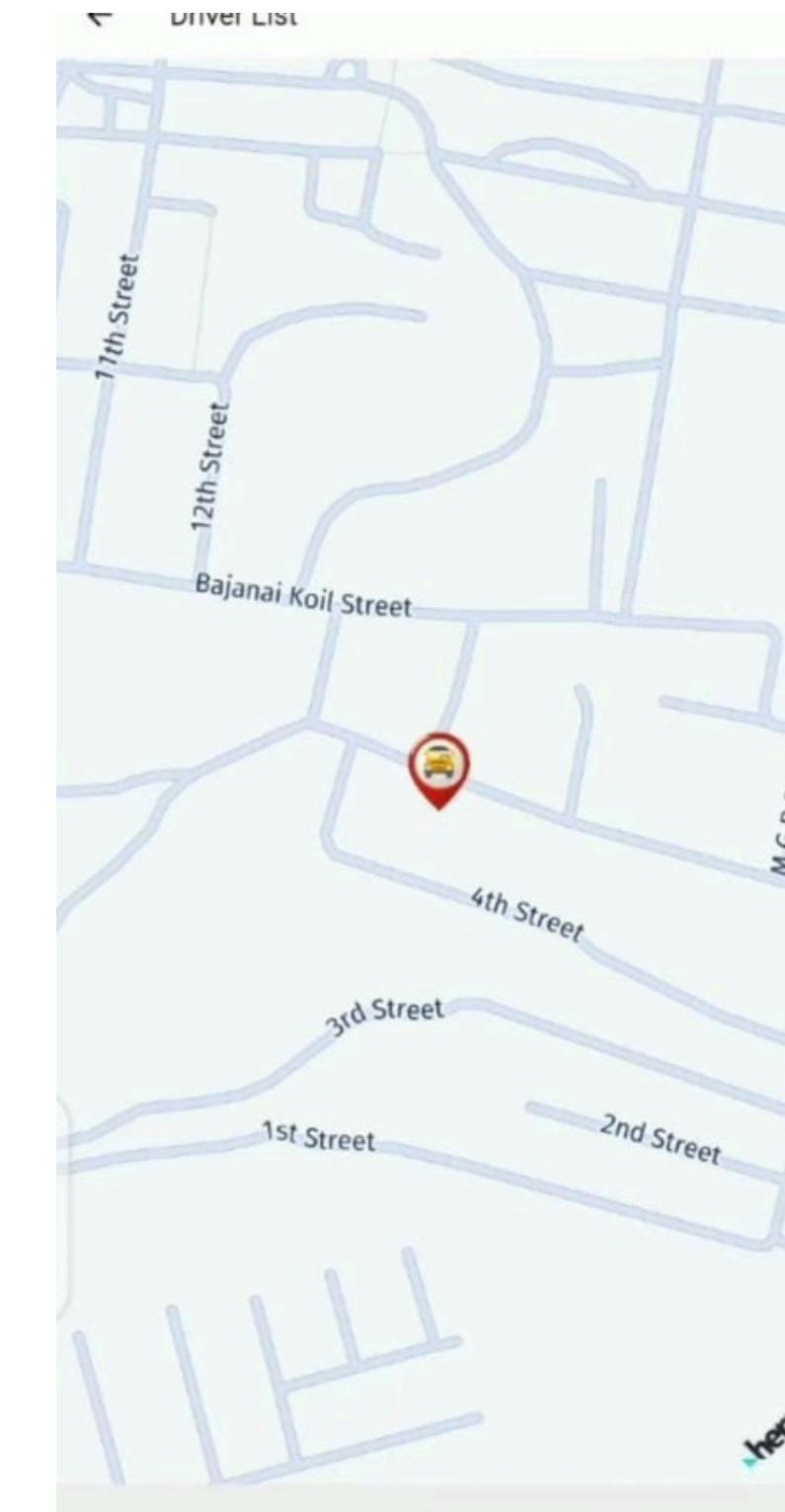
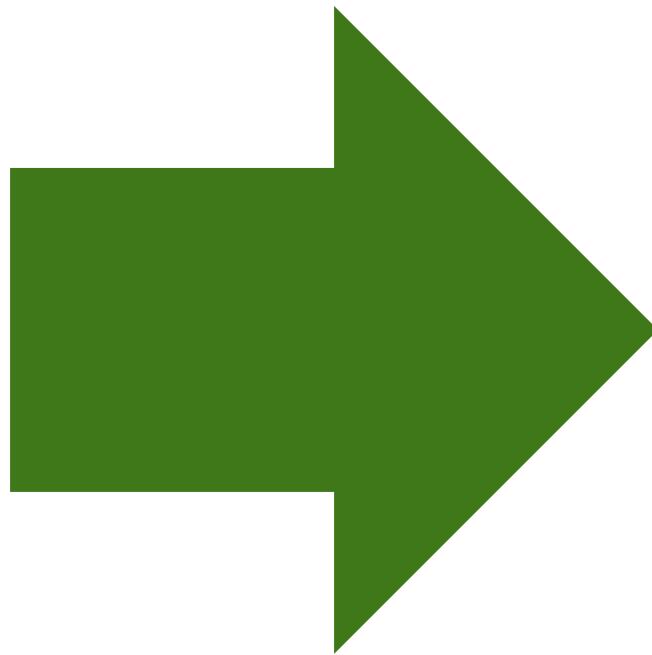
IMPLEMENTATION

- GPS on buses
- Build backend APIs
- Develop mobile app
- Create admin dashboard

Expected output

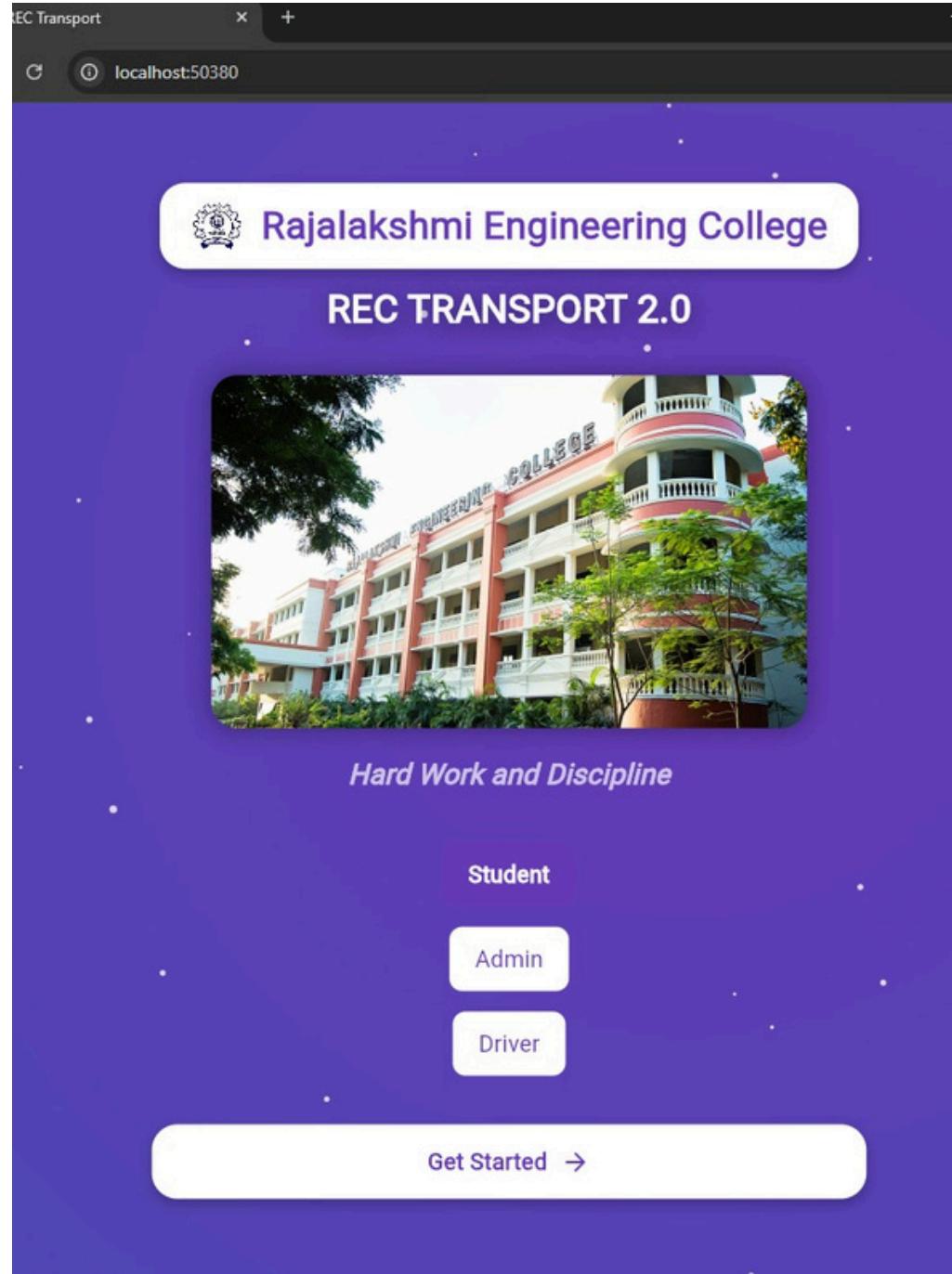


College location

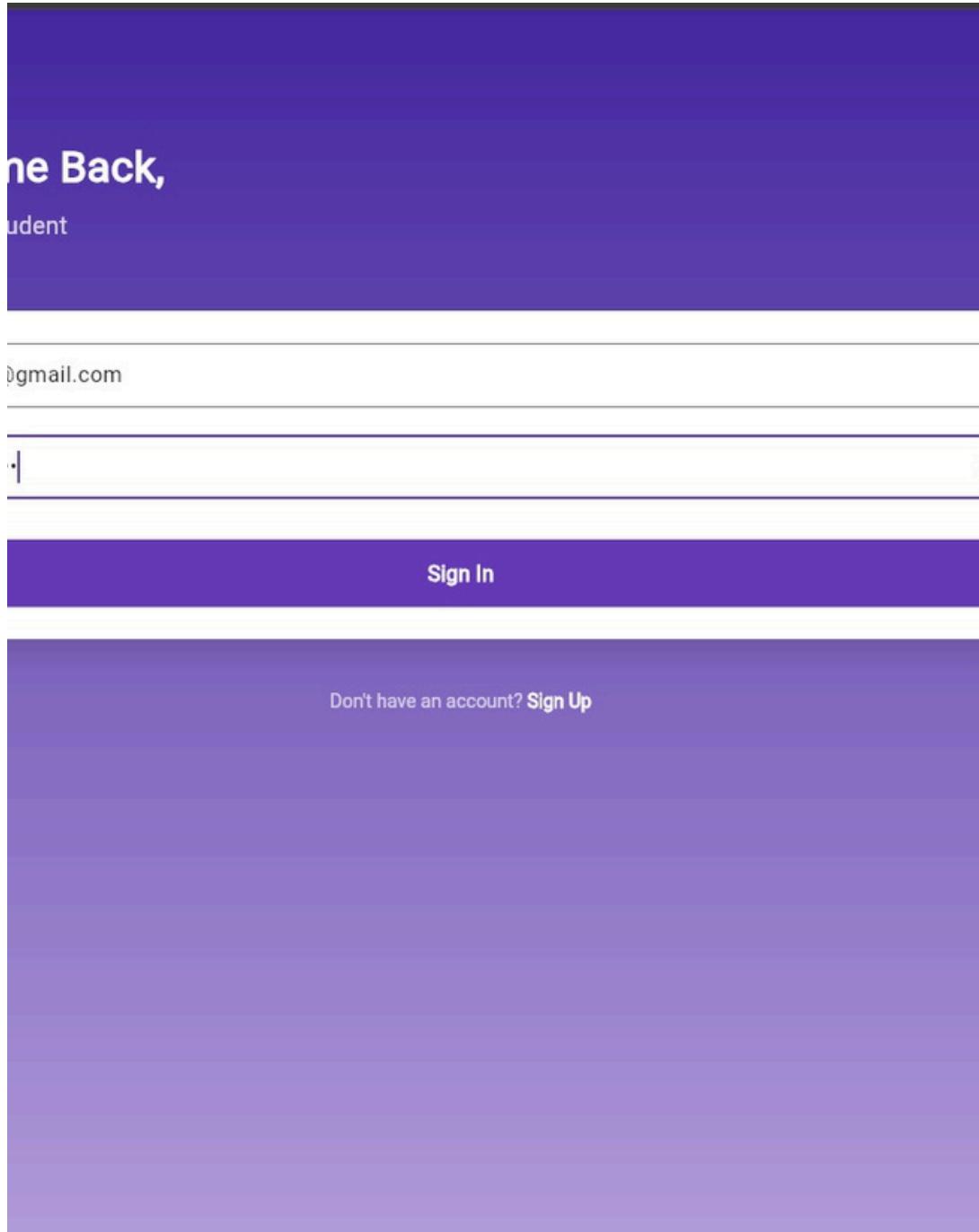


Live location

OUTPUT



FRONT PAGE



LOGIN PAGE

The signup page of the application. It has a purple header with "Create Account" and "Register as Student". Below the header is a form with fields for "Full Name" (containing "Student"), "Email" (containing "student@gmail.com"), "Password" (containing "Studenthere"), and "Confirm Password" (containing "....."). There is also a "Create Account" button.

SIGNUP PAGE

OUTPUT

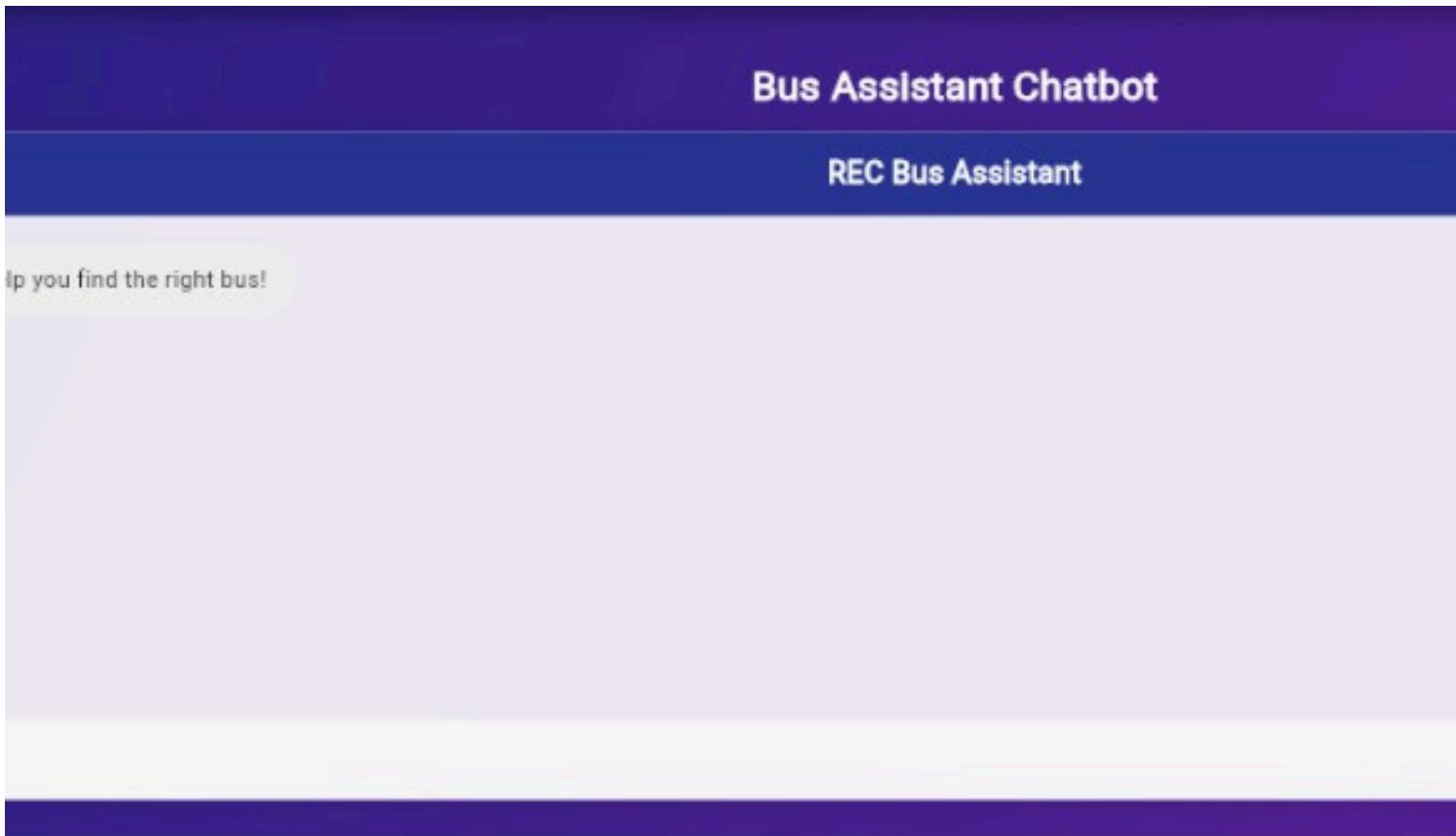
The screenshot shows a web-based bus information system for Rajalakshmi Engineering College. At the top is the college's logo and name. Below it is a red banner with a warning about metro work skipping some boarding points. A search bar follows. The main area contains five sections: 'Morning to College' (131 buses), 'Forenoon to College' (6 buses), 'Return after 3:45 PM' (125 buses), 'Return after 5:00 PM' (6 buses), and 'Return after 7:20 PM' (6 buses). At the bottom are links for 'Bus Assistant Chatbot' and 'REC Bus Assistant'.

BUS INFO

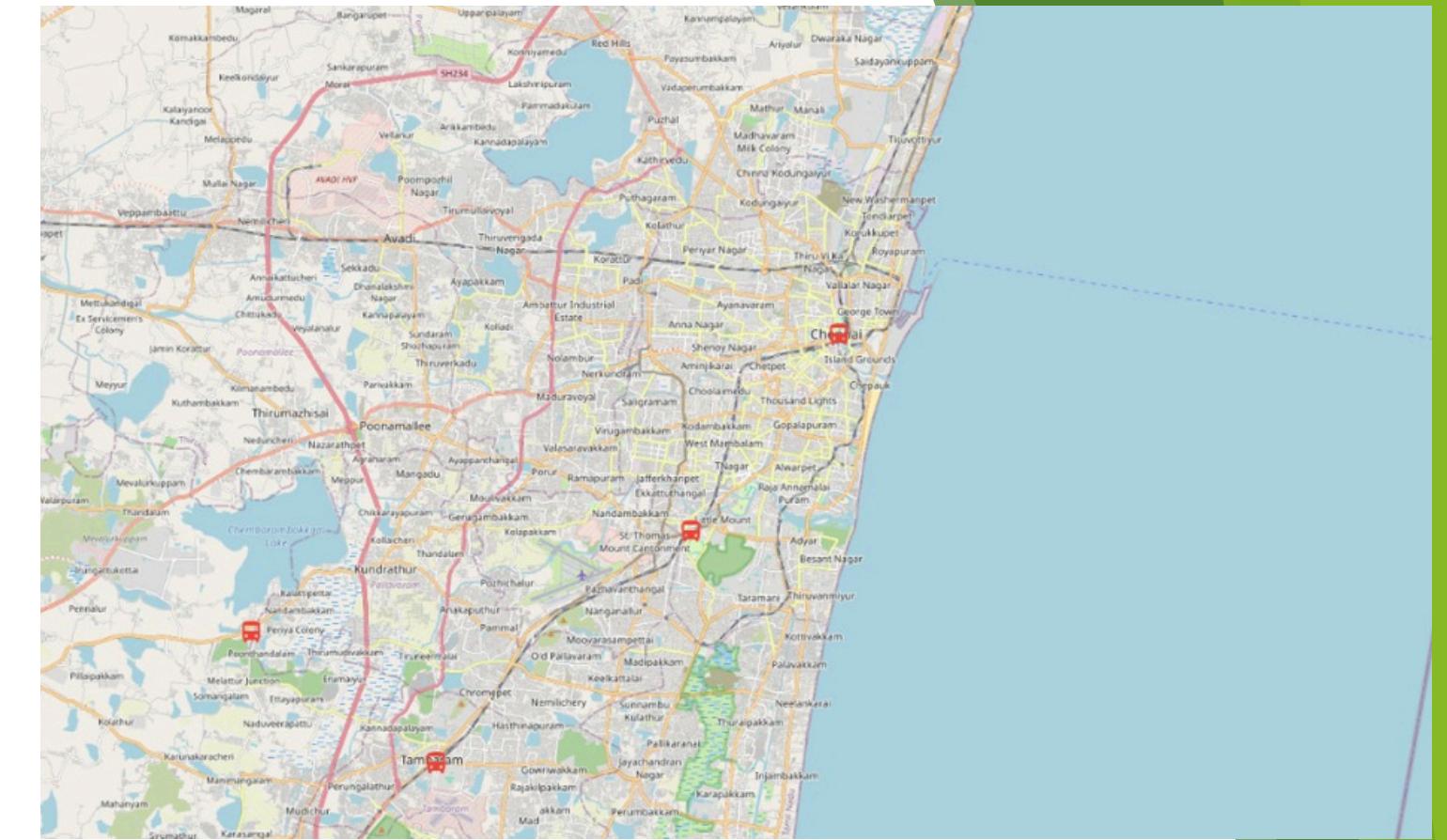
1. Ennore Bus Stand - 5.45 am
1C. Tollgate (Thiruvottiyur) - 6.05 am
2. Tondiarpet - 6.10 am
2C. Ajax - 5.50 am
3. Choolai - 6.15 am
3C. Doveton Bridge - 6.15 am
4. Chintadripet - 6.15 am
4C. Loyola College - 6.35 am
5. Chintamani
5B. Maduravoyal Erikkai
5C. Thirunagar (Ambica Empire Hotel)
6. New Avadi Road Water Tank
7. Anna Nagar East
7A. Collector Nagar
7C. Wavin
8. SIDCO Villivakkam
8C. Waves

BUS ROUTES

OUTPUT



CHATBOT



LIVE LOCATION

CONCLUSION

The REC Transport 2.0 - Bus Tracking App is designed to enhance the efficiency convenience of college transportation by providing a seamless , real-time tracking experience. By integrating Flutter for the frontend and Firebase for the backend, the app ensures a robust, scalable, and high-performance solution that caters to the needs of students and faculty.

With live GPS tracking, users can monitor bus locations in real time, reducing uncertainty and wait times. The app's ability to provide instant notifications about bus schedules, delays, and route changes ensures that students remain informed at all times. Additionally, features like a complaint and feedback system allow users to report issues and suggest improvements, contributing to a better transport experience combination of an intuitive user interface and a powerful backend infrastructure makes REC Transport 2.0 not just a tracking tool, but a comprehensive transport management solution. The use of Google Maps API, Firebase Authentication, and Cloud Firestore ensures that the app delivers accurate and secure data while maintaining a smooth user experience.



THANK YOU