

An Abstract  
On

# Smart College Bus Tracking System Using Hybrid GPS and AI Chatbot

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# **Smart College Bus Tracking System Using Hybrid GPS and AI Chatbot**

## **ABSTRACT**

This project presents a Smart College Bus Tracking System designed to provide reliable real-time bus location information using a hybrid GPS approach and AI-based communication. Traditional bus tracking systems either rely on costly GPS hardware or manual communication methods, which often lead to interruptions and inconvenience. To overcome these limitations, the proposed system combines mobile-based GPS tracking with a dedicated GPS tracking device, ensuring uninterrupted and accurate bus location updates.

The system is developed with three main modules: Admin, Driver, and Student. The Admin module allows administrators to manage buses, drivers, students, routes, and complaints through a centralized platform. The Driver module enables drivers to update live bus locations using a mobile application, while the GPS device acts as a backup source for continuous tracking. The Student module provides real-time bus tracking, estimated arrival time (ETA), stop-based alerts, route details, and complaint submission through a web or mobile interface.

To enhance communication, an AI chatbot is integrated into the system, enabling students to instantly query bus location, arrival time, and other transportation-related information without manual intervention. This reduces dependency on phone calls or messaging applications and improves response time.

Overall, the proposed system improves transportation reliability, reduces waiting time, enhances user convenience, and ensures effective communication. By using cloud computing, hybrid GPS tracking, and AI-based interaction, the system offers a smart, scalable, and cost-effective solution for college transportation management.

**PROJECT GUIDE**

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