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SMART-LOCATE: REAL-TIME COLLEGE BUS TRACKING SOLUTION

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PROBLEM STATEMENT

To develop a smart real-time location-tracking system aimed at college students that provides following features:

- Provide information about every college bus in the campus.
- Track the location of selected college bus in real-time.
- Track every student pickup at each bus in real-time.
- Notify students about estimated arrival of bus for their pickup.
- Store information about every student pickup/drop and he corresponding location.

ABSTRACT

Our project introduces a Smart Real-time Location-Tracking System tailored to the specific needs of college students.

It encompasses features such as comprehensive bus information, real-time bus tracking, live student pickup and drop monitoring, estimated bus arrival notifications, and secure data storage.

This solution aims to greatly enhance the convenience, safety, and efficiency of college campus transportation, offering students a more streamlined and secure commuting experience.

ABSTRACT

This innovative system addresses the distinct challenges of college life by providing precise tracking of campus buses, monitoring student pickups in real-time, and notifying students about bus arrivals.

Additionally, it offers administrative insights through secure data storage.

By modernizing and optimizing college transportation, this project aims to elevate the overall student experience while meeting the unique demands of the college demographic.

TECHNICAL DETAILS

- **IDE:** JetBrains Rider, Android Studio
- **Frameworks:** ASP.NET Core API, Flutter
- **Comm. Protocol:** REST (HTTPS), Low-level UDP (Location Tracking)
- **Database Provider:** Microsoft SQL Server
- **Deployment Platforms:** Android, iOS
- **Third-Party Integrations:** Google Map Platform Services (or) OpenStreetMap + Valhalla

REFERENCES

- M. Haklay and P. Weber, "OpenStreetMap: User-Generated Street Maps," in IEEE Pervasive Computing, vol. 7, no. 4, pp. 12-18, Oct.-Dec. 2008, doi: 10.1109/MPRV.2008.80.
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THANK YOU