Geofencing and Location based Attendance System

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Abstract*: The project titled "Student Attendance Using Geofencing" aims to revolutionize the traditional methods of attendance tracking in educational institutions by leveraging modern Geofencing technology through an Android application. Traditional attendance systems, which often rely on manual input or biometric systems, are time-consuming, prone to errors, and lack transparency. This project introduces an automated solution by utilizing Geofencing technology that sets virtual boundaries around specific locations, such as classrooms or campus areas. When a student enters or exits the predefined geographic boundary, the system automatically records their attendance in real-time using GPS data from the student's device.*

The integration of Geofencing within an Android app ensures that the attendance process is seamless, accurate, and efficient, without the need for manual intervention. In addition to automatic attendance marking, the system offers students a convenient interface to view their attendance records in real-time. This promotes transparency, allowing students to track their attendance across multiple classes, thus encouraging better accountability and engagement.

Furthermore, the system enhances administrative efficiency by reducing the time and effort required for attendance tracking, minimizing errors, and providing educational institutions with a streamlined solution for monitoring student presence. With customizable Geofencing parameters and detailed reporting features, this solution caters to a wide range of educational settings, providing a scalable and cost-effective alternative to traditional attendance methods. The project not only simplifies attendance management but also fosters a more connected and engaging academic environment for both students and educators..

Keywords: Geofencing, GPS-based attendance Automated attendance system, Android application Real-time attendance tracking, Student engagement Attendance management, Educational technology Location-based services, Classroom automation Student accountability, Mobile attendance system