NEXT-GENERATION SCHOOL BUS TRACKING: A MOBILE-CENTRIC APPROACH FOR REAL TIME MONITORING

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Abstract: The use of school buses is so common for students, as they travel long distances. However, they travel along in the school buses and the parents wait for updates at different times from the driver. It is a disturbance for the driver, but still the driver fulfills the requests of parents over the phone in the present setting. It is acceptable when the driver is not driving, otherwise there is a risk of answering the phone during the drive. The implementation of a School Bus Tracking System is crucial for enhancing safety, security, and efficiency of student transportation. By providing real-time updates of the location of school buses, the system allows parents and school authorities to monitor the journey of buses, ensuring that children reach their destinations safely. It also improves the management of student attendance by tracking when and where students board and alight the bus, reducing the risk of children being left behind or lost. Furthermore, the system's notifications features keep parents informed about their child's attendance and the bus's status, fostering peace of mind and enabling better coordination. Overall, the School Bus Tracking System not only safeguards students but also streamlines transportation logistics, making it an essential tool in modern education systems. However, there is no school bus tracking system catering to the unique requirements of Sri Lankan context for an affordable price. In this paper, a system integrated with advanced technologies providing real-time updates on the location of school buses is introduced as an Android based mobile application.

Keywords: School Bus Tracking, Smart Mobile Application, Location Based System.