



# Smart Tracking System for Students using RFID

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**Abstract:** *In many nations, school buses are viewed as effortless options for parents to send their children to their schools. However, nowadays, parents are distressed regarding their wards because of more incidents of students going missing. In certain situations, for the school bus to arrive, pupils may have to wait for a prolonged period. Waiting for school buses to drop off/pick up the children in the morning and then in the afternoon is a waste of time, even for parents, peculiarly with the congestion at peak hours. Certain technologies are available that are employed to guarantee the security of the students, yet they fall short of providing parents with efficient services. The proposed work describes the design of a Bus Boarding Deboarding and Location Notifying System, capable of yielding effective services by providing the amenity to track the bus location using cutting-edge technologies like Global Positioning System (GPS) tracking and Radio Frequency Identification (RFID). The suggested system uses RFID, GPS, and GSM technologies to track pupils within a school bus. Through short messaging services, parents may stay updated on their child's boarding/deboarding status, as well as monitor the bus route and estimate its arrival time. Safe and convenient school buses can cut back on the usage of private cars and eventually alleviate traffic congestion in cities, particularly during school hours. The suggested intelligent and secured tracking system for school buses allows parents to keep track of all buses.*

**Keywords:** Arduino, Global Positioning System (GPS), Monitoring, Radio Frequency Identification (RFID), Vehicle Tracking, Global System for Mobile Communications (GSM)

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