

Review on “Smart Bus Tracking System for Students Using RFID”

Komal Dambre¹, Yogita Gend², Prachi Kadam³, Harshita Shewale⁴, Prof. B. M. Gawale⁵
Department of Computer Engineering^{1,2,3,4,5}

Loknete Gopinathji Munde Institute of Engineering Education & Research, Nashik, Maharashtra, India

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)

REFERENCES

- [1] Asif Ahmed, M M Rayhan Parvez, Md Hridoy Hasan, Fernez Narin Nur, Nazmun Nessa Moon, An Intelligent and Secured Tracking System for Monitoring School Bus, IEEE, ICCCI, Jan. 23 – 25, 2019.
- [2] Devyani Bajaj, Neelesh Gupta, GPS Based Automatic Vehicle Tracking Using RFID, International Journal of Engineering and Innovative Technology (IJEIT) Volume 1, Issue 1, January 2018, pp. 31-35.
- [3] K.R. Prasanna, M. Hemalatha, RFID GPS and GSM based logistics vehicle load balancing and tracking mechanism, International Conference on Communication Technology and System Design, 2019, pp. 726-729.
- [4] Dr. N. Dhanasekar, Chitra Valavan, S. Soundarya, IoT based Intelligent Bus Monitoring System, International Journal of Engineering Research & Technology, Volume 7, Issue 11, 2019, pp.1-5.
- [5] S. A. Salunke, Vitthal B. Jagtap, Avinash D Harale, Vehicle Tracking System for School Bus by Arduino, International Research Journal of Engineering and Technology, Volume 04 Issue 03, Mar -2017, pp.2179-2185.
- [6] Dr. M. V. Vyawahare, S. Lambat, M. Belsare, Kritika Latwe, Richa V., IOT Based School Bus Monitoring and Security System, International Journal of Innovative Science and Research Technology, Volume 4, Issue 3, March 2019, pp. 244-247.
- [7] Ajit Jadhav, Ashish Shinde, Nilesh Nanavare, Ganesh Ranmode, A.B. Gavali, RFID Based Secure Smart School Bus System, IAETSD Journal for Advanced Research in Applied Sciences, Volume 5, Issue 3, MAR/2018, pp.127-134.
- [8] A. Nasneen Fathima, P. S. Nivedha, T. Sangavi, S. Selvalakshmi, Vehicle Tracking System for Children Safety Using RFID, GPS and GSM, International Journal for Trends in Engineering & Technology, Volume 13 Issue 1 – MAY 2016, pp.16-20.
- [9] Ajay Hemant Jethwa, Vehicle Tracking System Using GPS and GSM Modem, International Journal of Recent Scientific Research, Vol. 6, Issue, 6, June, 2015, pp.4805-4808.

[10] Tarneem M. Hamadto, Zakaria A. Adam, M.H.Elsayed, An Android Application of School Bus Tracker Based on RFID Technology, IEEE Xplore (ICC EEE), 2020