



# Design and Development of QR Scan Code based Intelligence System for Matoshri Global School Bus Tracking

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**Abstract:** *The widespread use of private vehicles contributes significantly to the already challenging issue of traffic congestion. Many parents, concerned about safety, are reluctant to rely on traditional school buses for their children. However, the introduction of secure and user-friendly school buses has the potential to alleviate traffic congestion, especially during school hours. A proposed intelligent tracking system for school buses aims to enhance safety and provide peace of mind for parents. This system incorporates an Android application that notifies guardians when students enter or exit the bus, utilizing a Barcode scanner for dual authentication to confirm a student's arrival. The research focuses on demonstrating the feasibility of a secure and intelligent school bus through authentication procedures. The anticipated outcome of this initiative is to restore parents' confidence in school buses, ultimately reducing reliance on individual transport. A smart school bus not only ensures the safety of students but also contributes to a smoother traffic flow in the city.*

**Keywords:** School Bus, GPS, QR Scan, Smartphone Application, Android Google Maps API

## REFERENCES

- [1]. Limon, August 24 2016, FOX 5 News, "4-year-old dropped off at wrong bus stop on first day of school".
- [2]. A Ferguson, September 29, 2016, City News (Toronto), "Exclusive: Toddler dropped off at wrong school busstop, found by stranger".
- [3]. M. Norwood, October 30th, 2018, ABC11 Eyewitness News, "Fayet-teville child found shivering inside wrongschool bus".
- [4]. K. Sridevi, A. Jeevitha, K. Kavitha, K. Narmadha, K. Sathya, "Smart Bus Tracking and Management System using IOT", International Journal for Research in Applied Science Engineering Technology (IJRASET), Volume5 Issue III, pp. 372-374, March 2017.
- [5]. Olarte-Ulherr, October 10, 2014, Khaleej Times, "Abu Dhabi school bus tragedy: Family still in shock". [6]. T. Zriqat, April 20, 2015, The National, "Girl, 6, found locked inAjman school bus".
- [7]. J. Willey, July 20th, 2018, ABC13 Eyewitness News, "3-year-oldboy left behind in hot day care van after field trip dies".
- [8]. K. Shaaban, A. Bakkali, E. Ben Hamida, and A. Kadri, "Smart tracking system for school buses using passive RFID technology to enhance child safety", Journal of Traffic and Logistics Engineering, Volume 1, No. 2, pp. 191-196, December 2013.
- [9]. V. Asundkar and S. P. Godse, "A survey on enhance securityand tracking system for school bus and children", International Journal of Tand Development, Volume-2, Issue 6, pp. 272-276, December 2015.
- [10]. V. Asundkar and S.P.Godse, "Enhance safety security and track- ing system for school bus and children", International Journal of Innovations in Engineering Research and Technology", pp 162- 166, June 26, 2016.
- [11]. Amit Bhojar, Jagdish Pimple "GP S based real time vehicle t racking system for kids safety using RFID and GSM" 2018.



- [12]. S. Sangeetha, S. Krishnapriya, Ms. S. Janani "SCHOOL BUS TRACKING AND SECURITY SYSTEM" March 2018.
- [13]. Eken, Sleyman & Sayar, Ahmet. (2014). A Smart Bus Tracking System Based on Location-Aware Services and QR Codes. INISTA 2014 - IEEE International Symposium on Innovations in Intelligent Systems and Applications, Proceedings. 10.1109/INISTA.2014.6873634.
- P. Ambedkar, P. Suresh Babu "Smart School Bus for Children Transportation Safety Enhancement with IOT" July 2017
- [14]. Supriya Sinha, Pooja Sahu, Monika Zade, Roshni Jambhulkar, Prof. Shrikant V. Sonekar "Real Time College Bus Tracking Application for Android Smartphone" Feb 2017
- [15]. P. A. Shinde and Y. B. Mane, "Advanced vehicle monitoring and tracking system based on Raspberry Pi", IEEE 9th International Conference on Intelligent System and Control (ISCO), Coimbatore, India, pp. 1-6, January 2015.
- [16]. S. C. Savitha, S. Natya, and J. Parinitha, "Smart College Bus Tracking Management System and its Application" International Journal of Emerging Technologies and Engineering (IJETE), Volume 1, Issue 5, pp 142-147, June 2014.
- [17]. S. Sangeetha, S. Krishnapriya, Ms. S. Janani, "School Bus Tracking And Security System" International Journal of Advance Research in Science and Engineering (IJARSE), Volume No.07, Special Issue No.(02), pp 218-227, March 2018.
- [18]. M. S. Minu, Deepak Adithya K. N, "Real Time College Bus Monitoring and Notification System" International Journal of Advance Research in Science and Engineering (IJARSE), Volume-7 Issue-4, pp 14-16, September 2018.
- [19]. V. Asundkar and S. P. Godse, "A survey on enhance security and tracking system for school bus and children", International Journal of Tand Development, Volume-2, Issue 6, pp. 272-276, December 2015.
- [20]. Amit Bhoyar, Jagdish Pimple "GPS based real time vehicle tracking system for kids safety using RFID and GSM" 2018