

IOT Based Intelligent Transportation System

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Abstract: *The IoT Based Intelligent Transportation System is a ground-breaking project that leverages the power of Internet of Things (IoT) technology to revolutionize the monitoring, tracking, and management of vehicles. This project incorporates various sensors, a microcontroller, and communication modules to collect real-time data from vehicles, enabling enhanced safety, efficiency, and communication within the transportation sector. The main objective of this project is to develop a comprehensive IoT-based solution that monitors critical vehicle parameters, tracks their location, detects accidents, and provides an alert messaging system for emergency situations. By integrating advanced technologies, such as the PIC18F4520 microcontroller, fuel level sensors, force sensors, MEMS sensors, temperature sensors, GSM module, and GPS module, the system creates an intelligent platform for effective vehicle management and safety. In addition, the system incorporates GPS technology for precise and real-time vehicle tracking. An alert message is sent to the vehicle owner, enabling quick action or assistance. The system utilizes a GSM module to enable seamless communication and data transfer. This module uploads vehicle data to the designated web platform, Thing speak, where it is stored, analyzed, and visualized. The GSM module also ensures timely transmission of alert messages to vehicle owners in emergency situations and risk mitigation. This project report provides comprehensive insights into the design, development, and implementation of the IoT Based Intelligent Transportation System. It covers component selection, integration, microcontroller programming, sensor calibration. The report presents the results and findings obtained from the collected data, showcasing the system's efficacy in improving vehicle monitoring, tracking, and safety. The successful completion of this project demonstrates the practical application of IoT technology in the transportation domain. The IoT Based Intelligent Transportation System has the potential to transform vehicle management and safety, leading to smarter and more efficient transportation networks.*

Keywords: Internet of Things, Transportation Management, GPS Location Tracking, GSM, Accident Alert

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