

IOT Based Fuel Theft Detection and Vehicle Tracking System

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Abstract: *The IoT-Based Fuel Theft Detection and Vehicle Tracking System is designed to enhance vehicle security and safety by leveraging advanced Internet of Things (IoT) technology. Utilizing an ESP32 microcontroller as the central hub, the system integrates multiple sensors and modules to provide real-time monitoring and alerts. An ultrasonic sensor continuously monitors fuel levels, triggering SMS alerts to the vehicle owner if a sudden drop indicates potential theft. A GPS module offers precise, real-time location tracking, while an ADXL345 accelerometer detects sudden impacts or abnormal movements, signaling possible accidents. The system also sends alerts for high-speed driving and logs all data on a cloud platform for remote access and analysis. This comprehensive solution not only prevents fuel theft but also enhances overall vehicle security and safety, making it suitable for both individual vehicle owners and large fleets..*

Keywords: IoT, Fuel Theft Detection, Vehicle Tracking, Real-Time Monitoring, ESP32

