IOT Based Accident Prevention and Reporting System using GSM and GPS

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Abstract: *In recent years, road accidents have become a major cause of death and injury worldwide, necessitating the development of intelligent systems to enhance road safety. This project presents an IoT-based accident prevention and reporting system that utilizes GSM and GPS technologies to detect potential accidents, alert drivers, and ensure immediate emergency response.*

The system integrates various sensors such as ultrasonic sensors for obstacle detection, accelerometers for crash detection, and alcohol sensors for monitoring driver sobriety. Upon detecting abnormal driving behavior or a collision, the system automatically captures the vehicle's GPS coordinates and sends a real-time alert via GSM to predefined emergency contacts and nearby authorities. This enables quick assistance and can potentially save lives by reducing response times.

Moreover, the system acts as a preventive mechanism by issuing alerts to the driver when risky driving patterns or hazardous conditions are detected. By combining real-time monitoring, location tracking, and automated communication, this project aims to create a smart, responsive vehicle environment that improves road safety and reduces accident-related fatalities.

Keywords: *road accidents*

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