

Modern Accident Alert System for Vehicles using Global Positioning System Technology

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Abstract

This research paper introduces an innovative accident alert system utilizing Global Positioning System (GPS) technology, mainly integrated with Global System for Mobile Communication (GSM), Arduino and accelerometer components. The primary objective of this system is to mitigate fatalities resulting from unforeseen accidents in public areas. By promptly notifying emergency services, hospitals and the police, and including the precise accident location, the system aims to address the critical issue of delayed response and limited awareness. The system operates by triggering an alert whenever sudden de-acceleration of the vehicle indicative of an accident occurs. In less severe accidents, the system retains the capability to continuously transmit the location. This feature is particularly crucial in rural areas during night time when accidents often go unnoticed, leading to unfortunate fatalities. It is disheartening to acknowledge instances where individuals succumb to injuries or experience severe consequences hours after the accident due to the absence of immediate awareness. To further enhance the system's capabilities, future improvements can be implemented, such as incorporating shock sensors, fire alarm systems, and smoke-detecting sensors. These additions would extend the system's functionality beyond deacceleration detection, facilitating a more comprehensive approach to accident detection and emergency response. The research paper delves into the development, implementation and potential advancements of this accident alert system. The findings of this study offer insights into the effectiveness and significance of deploying such systems to minimize fatalities, enhance emergency response, and raise awareness regarding accidents, especially in rural and remote areas. By leveraging advanced technologies, this system serves as a crucial step toward mitigating the devastating impact of accidents and ensuring prompt assistance.

Keywords: *Accident alert system, GPS technology, GSM*