



## Smart Vehicle Accident Detection and Alerting System

<sup>1</sup>Prof Manas Ramteke, <sup>2</sup>Prof Pooja Raut, <sup>3</sup>Akash Turare, <sup>4</sup>Nagsen Waware

<sup>1</sup>HOD (ECE) SSCET, Bhadrwati

<sup>2</sup>Professor (ECE) SSCET, Bhadrwati

<sup>3,4</sup>Student (ECE) SSCET, Bhadrwati

### ABSTRACT:

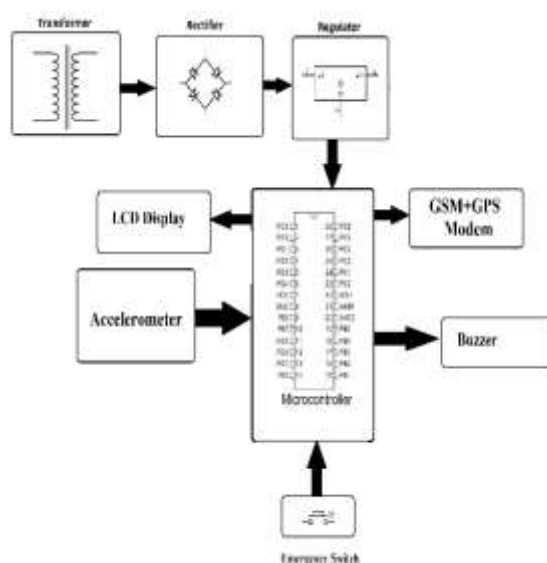
The advent of technology has also increased the traffic hazards and road accidents take place frequently which causes huge loss of life and property because of the poor emergency facilities. Our project will provide an optimum solution to this drawback. A Tilt Sensor can be used in a car alarm application so that dangerous driving can be detected. It can be used as a crash or rollover detector of the vehicle during and after a crash. With signals from a tile sensor, a severe accident can be recognized. According to this project when a vehicle meets with an accident immediately Impact sensor will detect the signal or if a car rolls over, and Tilt sensor will detect the signal and sends it to a microcontroller. The microcontroller sends the alert message through the GSM MODEM including the location to the police control room or consultant people. So the police can immediately trace the location through the GPS MODEM, after receiving the information. Then after confirming the location, necessary action will be taken. If the person meets with a small accident or if there is no serious threat to anyone's life, then the alert message can be terminated by the driver by a panic switch.

**Keywords:** ARM controller, Accelerometer, Vibration sensor, GSM module.

### Introduction:

Due the more road accident takes place in various cities. Nowadays the cause of death increasing more by accident. If an accident met in a national highway roads no one there to rescue the person to met with an accident this is due to lack of emergency facilities and rescue team to overcome these drawback our paper proposed this method can automatic indicating device for vehicle accident is used in this paper it is used protect the people from the risk as soon as possible after occurrence the accident wasting a time may leads to death. so this system will detect the accident within the less time and convey the information to the police station and to rescue system after a few seconds. The location of the accident place will be detect by GPS by tracking the vehicle ARM controller is used to save the mobile number in the EE PROM and send the message to require person when an accident occurred. One more facility is provided for critical time incase of heat attacks or other health problems if the person requires help he can press the single switch provided in the system through GPS module the location of vehical accident is tracked and the message is transmitted through GSM modem.[1]

### Block Diagram:



---

## Working

The system includes a sensor, sound meter, GPS and GSM module. The sensors will detect the accident & sound meters will trigger an alarm. The GPS will track the location coordinates and the GSM will send an alert notification to the nearby hospital & police authorities. Thus, this system will send an instant alert to the nearby rescue team & hospital facility to notify them of the accident occurred for them to take immediate actions. This Application aids in having a better coordination and keeps all the concerned bodies and authorities informed and alerts them quickly which also saves time in rescuing an accident patient. When a person meets an accident, he is usually not in a condition to interact with an application on his phone and ask for help. In such situation Accident is detected automatically in user app based on sound reading and sensor reading, user app continuously senses for such accidents. App then quickly assigns and sends notification to the nearby Ambulance, nearby hospital and also the police informing in case of an accident detected. Ambulance then keep updating of the status of patient whether dropped to the hospital. Hospital can also update status if admitted to the hospital from their app. This helps in keeping the assigned hospital prepared and informed. Also, the User details are shared with hospital and police which helps hospital to see the medical records of the patient and police gets to see required details of the user in an accident.

---

## Advantages:

The sensor connected to the vehicle gets activated in the case of any accident. Phone calls and notification messages will be sent to the nearby hospital, police station, and family members through the Global System for Mobile Communication (GSM).

Every concerned body involved in an accident is included in this system to keep them notified and get the required information on their phone through the application thus speeding the process of rescuing the patient.

Accident is notified automatically by the application. Also, user is given the option to stop the alert before being sent by app in case of a false alarm in notification bar.

All the major systems like hospital, ambulance, users and accident reports can be monitored by Admin[3]

---

## Conclusion:

The proposed system deals with the accident alerting and detection. Microcontroller is the heart of the system which helps in transferring the message to different devices. The information is transferred to the registered number through GSM module. Using GPS the location can be sent through tracking system to cover the geographical coordinates over the area

---

## Future Scope:

The proposed system deals with the detection of the accidents. But this can be extended by providing medication to the victims at the accident spot. By increasing the technology we can also avoid accidents by providing alerts systems that can stop the vehicle to overcome the accidents.[2]

---

## References:

- [1]. <https://www.ijert.org/automatic-vehicle-accident-detection-and-messageing-system>
- [2]. <https://www.ijitee.org/wp-content/uploads/papers/v8i4s2/D1S0048028419.pdf>
- [3]. <https://nevonprojects.com/accident-detection-alert-android-app/>
- [4]. [www.wikipidea.com](http://www.wikipidea.com)
- [5]. [www.slideshare.com](http://www.slideshare.com)