

# Accident Alert and Event Localization

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*Abstract-Everyone concern the Primary Security in travelling time. Accident Alert mainly focus the design of effective alarm system that can monitor an automotive / vehicle / car condition in travelling. It mainly uses a piezo-electric sensor which can detect the abrupt vibration when an accident is occurred. Idea presents an automatic vehicle accident detection system using GPS and Zigbee. The system can be interconnected with the car alarm system and alert is provided to the owner through his mobile phone. The detection and messaging system is composed of a GPS, Microcontroller and a Zigbee. GPS Receiver gets the location information from satellites in the form of latitude and longitude. Zigbee sends a message to the predefined mobile number and informs about this accident. It allows monitoring situations and it can immediately produce alerts the nearby rescue systems.*

**Index Terms**-Global Positioning system (GPS), Radio Frequency Transmitter (RFTx), Radio Frequency Receiver (RFRx), vibration Sensor

## I. INTRODUCTION

Wherever you go by a smart car, it is used to find the current Location (or) Position, and also to identify the Petrol Banks, Hotels and Tourist Places and to check the latest news headlines. The smart car is mostly used to keep in touch with the Family , Friends and Relatives. In this application, it's more useful to the people who are not aware about the environment in which they are. Because, it automatically shows the information about Where You are, When you will be , current location and entire information will be clearly identified through the GPS (Global Positioning System)[1]. In proposed idea components such as GPS, ZigBee and Microcontroller and, Vibration sensor are used. The GPS is used to find the current latitude & longitude. Further information is transmitted through the ZigBee transmitter and received by the ZigBee receiver, it automatically sends information to the microcontroller and then it displays through LCD display [2]. When speed goes beyond limit, the vibration sensor gives an alert to control your speed particularly in schools, hospital, and temple, Passenger has to change the speed according to the environment in which he/she travels alert is sent immediately to the parent and nearby emergency service. Safe switch is pressed by the victim if he/she is ok so alert is sent to the parent alone. If that switch is not pressed, alert is sent to both entities [3].

## II. PROBLEM STATEMENT

Everyone has a passion towards travelling but the main problem associated with it is absence of safety. To ensure that

proposed idea consist of system which mainly focuses on exploring safety[4]. Earlier systems lack safety assurance systems so that there will be no intimation about accident and there will be no rescue systems to safeguard the people on occurrence of accident. Also passengers are not familiar about nearby entities which lead to the wastage of time while travelling. People may not be residing at the same place always and they will be shifting from one area to another [5]. Travelling routes will not be perfect as per people count. Therefore the travelling vehicles lack the variation of speed which has to be followed in different areas. In the developed idea areas refer to various zones [6].

## III. SYSTEM GOAL

Passengers can be safeguarded if the accident alert is provided to the nearby emergency service. Even though alert is produced identifying person is a tedious task. So in order to avoid that problem, all the details of victim are fed in to the microcontroller [7]. It will be easy to identify that person and intimation will also be sent to the nearby emergency service and the relatives. Speed control can be easily done by making use of zone detection technique which focuses on monitoring various entities in that zone such as school, hospital, temple etc. Exact location of accident can be found out by utilizing Global Positioning System. An automatic vehicle accident detection system using GPS and Zigbee [8]. The system can be interconnected with the car alarm system and alert the owner on his mobile phone. This detection and messaging system is composed of a GPS receiver, Microcontroller and a Zigbee. GPS Receiver gets the location information from satellites in the form of latitude and longitude [9].

## IV. SYSTEM DESIGN

The proposed idea comprises of an crash detection and alert system which ensures the occurrence of accident and proper warning alert to the relations of passengers. Control circuit which resides in the microcontroller controls the overall progress of the system also the exact location of the accident can be found out by utilizing the global positioning system main entities which are focused here are the latitude and longitude of the exact location. Safety of the passengers is the main concern in the explored theme.

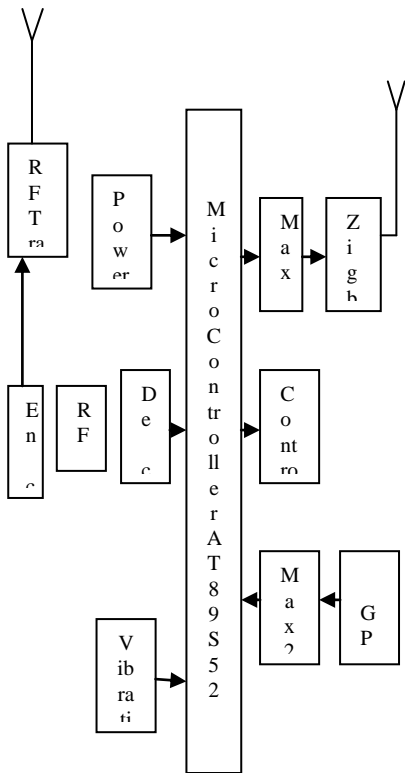


Fig 1. System Architecture

### V. IMPLEMENTATION

Intimation of accident and zone to identify the GPS system is used to find the exact location of accident. It can be given by means of using latitude and longitude and speed control from the Vibration sensor is used to detect the presence of accident. Certain range is fixed in that so, when the crash reaches that limit alert is produced. It assures that accident has occurred. When the vehicle crosses even a speed break certain vibration level is observed. To differentiate it that range is fixed. If the safe switch is pressed alert will be sent only to the parent. Passenger has to change the speed according to the environment in which he/she travels. In order to intimate the speed control this model is set up. Though the passenger is aware of the environment or not, alert is given accurately to control speed. As soon as accident has occurred, alert is sent immediately to the parent and nearby emergency service. Safe switch is pressed by the victim if he/she is ok so alert is sent to the parent alone. If that switch is not pressed, alert is sent to both entities. ed. It avoids the accidents Global Positioning System (GPS) is used to find the exact location of the accident. It is done by making use of latitude and longitude. Google map is attached with the system set up to display the place of accident..Nearby emergency service and parents reach the accident zone easily because of this information.

### VI. CONCLUSION

By using GPS techniques the accident occurred in a particular place can be easily identified. Automatic speed can be controlled by the zone such as school, temple and hospital

by installing the use of vibration sensor. The safe mode button in a car can be pressed by a person if an accident occurred when he/she is unconscious stage. Otherwise the smart car intimated to the emergency service with the help of communication support provided by ZigBee protocol. Future Work deals with the task of exploring nearby entities such as( Hotels, Petrol bank, and tourist place ).

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