

# SYSTEM FOR REHABILITATION AID AND INTIMATION FOR VEHICULAR DAMAGE AND TRAUMA

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## Abstract

Advanced techniques in communication infused into fashionable automobiles gives an opportunity to provide greater assistance to individuals harmed by vehicular accidents. New research show that communicative capacities must be aided by AI technological setups which would be able to automate among several choices which shall be picked by crisis teams, thus accustoming the aid stockpile to the abnormalities and decreasing assistance duration, so that the rehabilitation method is bettered, one quick as well as accurate estimation approximation of the extremity of the mishap signifies the importance of helping exigency overhaul properly account the specified utilities. The research would like to put forward the idea of a one of its kind smart system that would identify road accidents, warn them via networks, and estimate their degree of damage by using knowledge and mined data. This technology uses the essential variables which are pertinent to identify the severity of damage (speed, automobile type, impact speed, as well as airbag positioning). We can infer from the outcomes that an

entire information, with additional choice of required options, permits creating approximation modules which will be foreseeing the extremity of recent automobile abnormality. we tend to develop such a setup, showing that our system will noticeably reduce the reaction time for providing medical aid to automobile accident victims.

**Keywords:** automobile damage, rehabilitation methods, vehicular accidents, aid stockpile, mined data.

## 1 INTRODUCTION

During the past few years the whole population of the world has gained sizeable knowledge about vehicle and acquired enough wealth to own vehicles, thus increasing the density of traffic and thus leading to increasing need for drivers attention. The result of this is the sharp rise in the number of accidents witnessed due to heavy traffic accidents.

We can make the number off road accidents and fatalities much lesser by using intelligent transport setups. Most of such setups utilisations such as traffic security , ship and air navigation can place confidence in knowledge changed between the automobiles and thus the indirect marginal comparison, or maybe direct comparison between vehicles automobiles, the mixture of detection abilities aboard automobiles, aside intra-mobile conveyance among automobiles, predict important improvement in the area concerning security with respect to the nearest time ahead. Before advancing to the long term zero objective we should conduct a quick economic and technological survey so that the severity of injury from such trauma and unexpected damage is reduced. Therefore maximally utilise the advancement in electronic technology the vehicles must be supported by intelligent support systems consisting of a fair amount of variable sensors and code data mined to help cope with situation to reduce the extreme damages incurred from accidents.

Most of the manually mined data that are present today to cope with accidents can be replaced by these smart systems supported by variable sensors to help overcome the flaw of inaccuracy and incomplete information due to their quick adaptability and response time thereby significantly reducing the

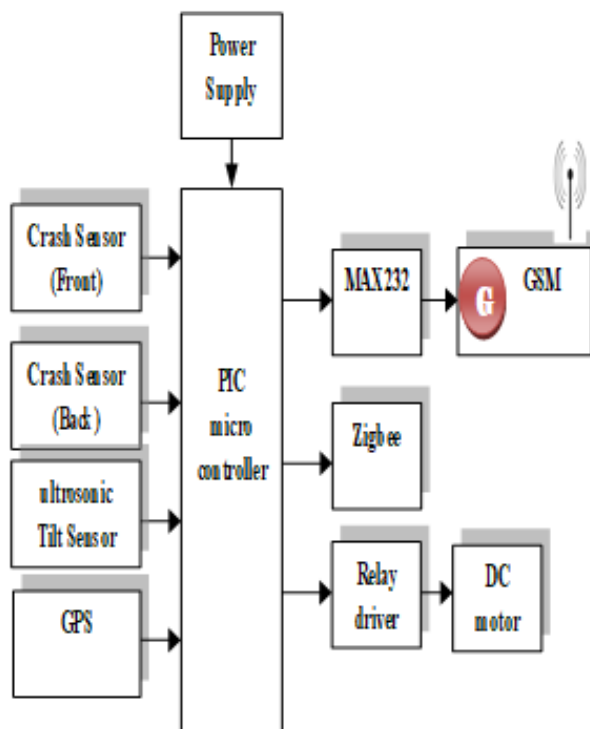
damages. A primary assesment of the situation on the basis of extremilty can help exigency serviceholders to quickly accustome all the utilities both and human and material to the predefined conditions of the abnormality , thereby greatly increasing the resultant quality of all the rehabilitaion and aid service systems that are present now.

## 2 DESIGN METHODOLOGY

The Design Methodology of system for rehabilitaion aid and intimaion for vehicular damage and trauma involves Several stages. Following are the block diagrams regarding the same.

Vehicle section:

Other Car section:



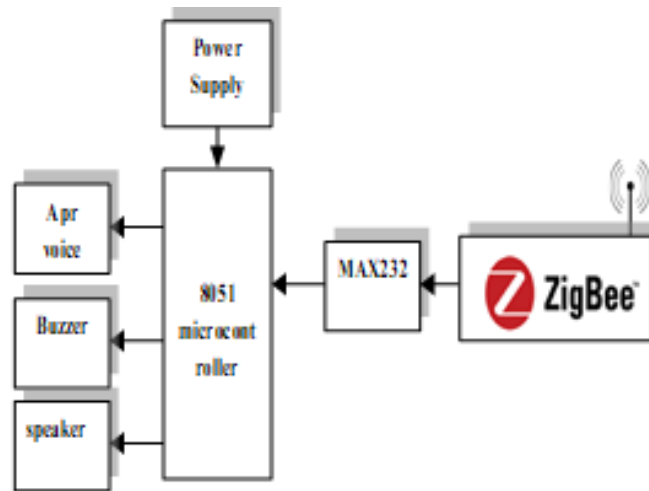


Figure 1: Project Flow Diagram

### 3 WORKING PRINCIPLE

To attain our projected system ought to use crash sensing element, tilt sensing element, GPS, GSM, Zigbee, electrical device, buzzer, battery, LCD. Crash sensing element is employed to seek out the accident. Tilt sensing element is employed to estimate the severity of accident. If accident is use it takes the coordination from GPS and send to the care center and conjointly relatives with facilitate of GSM and Zigbee. Accident happens vehicle motor can stop mechanically.

On road section carries with it Zigbee, LCD, buzzer, electrical device, battery. Generated power is hold on within the battery. Received values square measure displayed within the LCD and buzzer can provide intimation to the closest folks. Accident data

can sent to the opposite vehicle through Zigbee device victimisation ad-hoc technique.

## 4 HARDWARE REQUIRMENTS

- PIC Microcontroller
- Ultrasonic sensor
- GSM Modem
- GPS
- LCD
- Zigbee
- Buzzer
- Dc motor
- IR sensor
- Crash sensor

## 5 MODULE NAME

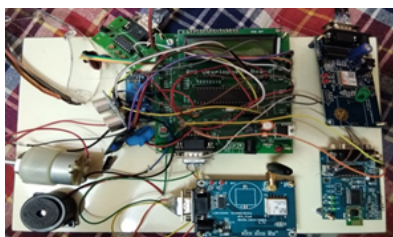


Figure 2: Accident Detection Module

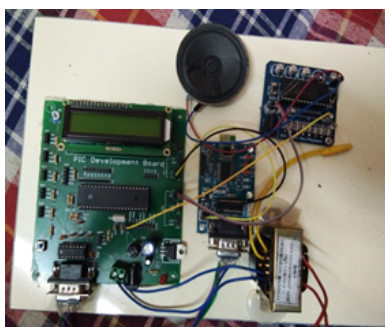


Figure 3: Accident Intimation Module

## 6 OUTPUT AND RESULTS

The motor in the prototype stops working as soon as the crash sensor detects movement. This is mirrored in the movement of a car when a crash occurs.

Also, LCD screen in other car notifies with message accident occurred along with voice message using APR 9600 IC.

The tilt sensor detects the severity by notifying as soon as the prototype tilts beyond a certain angle.

The IR sensor makes a beep sound when hand is close mirroring what will happen if a drivers eye closes while driving.

The Zigbee network allows the GPS to send longitudinal locations to the registered number of user in the prototype. In real time such a message will reach all rehabilitation centres.

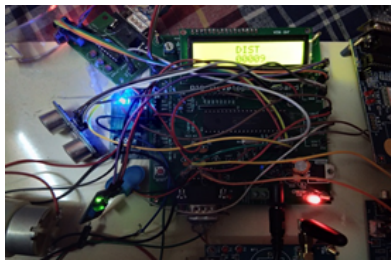


Figure 4: Vehicular section

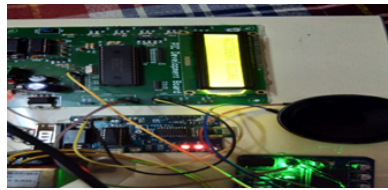


Figure 5: Other car section

## 7 CONCLUSION

This paper briefs about an efficient method of accident prevention and rehabilitation by using Zigbee, GPS and various sensors to curb the spurt of vehicular accidents in recent times.

The aim of the project is to make sure that driving accidents are fewer by using all the crash and tilt sensors to stop motors in case of abnormality.

The secondary objective being quick rehabilitation in case of accidents occurring. This is aimed to be achieved by using GPS and Zigbee.

## Acknowledgment

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