A Smart Helpline System for Crash Notification

Andhe Parnika
Students of IV Semester ECE Department,
R.N.S Institute of Technology, Bengaluru- 98
Affiliated to VTU, Belagavi

Anjani Reddy J
Students of IV Semester ECE Department,
R.N.S Institute of Technology, Bengaluru- 98
Affiliated to VTU, Belagavi

Abstract- **In this booming technological era,Intelligent transport systems are increasing to facilitate all end-to-end solutions for transport. India being the second majorly populated country, the ever increasing growth in vehicular usage and the accidents are also increasing day-by-day. The major concern in this mobile world, every person is more bothered about their own needs and ….% of people die in accidents which are not reported in time to the medical help line. This paper majorly deals with a smart system which sends an immediate notification automatically to the help line during an accident. This work is based on using sensors connected to cars, which senses any crash happens and transmits the signal. The algorithm uses Global Positioning System (GPS) to find the location of the crash and sends message using GSM to the helpline.**

Keywords : Crash Notification, GPS, GSM, Arduino

I. INTRODUCTION

Road accidents are one of the most common causes of death among citizens. Real-time traffic information is essential for supporting the development of many Early Crash Notification Service for Portable Device applications: accident detection, vehicle navigation etc. It is widely accepted that providing rapid assistance to victims of road accidents is of utmost importance, especially in severe accidents, in which the victims are not able to call for help [2]. Thanks to advances in wireless technologies, intelligent systems are arising to help develop safety and efficiency services for road transportation. For these reasons, an intelligent emergency call system or data message (eg: sms) system utilizing sensors to automatically detect a crash, and uses a wireless network to send critical information (e.g., location of the accident, vehicle identification and number of passengers) to emergency services in a rapid manner would save lives [3]. We target a mobile smartphone as an alternative device for Driving Assistance System (DAS) that can assist the driver and compliment any existing active safety features. Given its accessibility and portability, the phone can bring a driver assist to any vehicle without regard for on-vehicle communication system requirements.
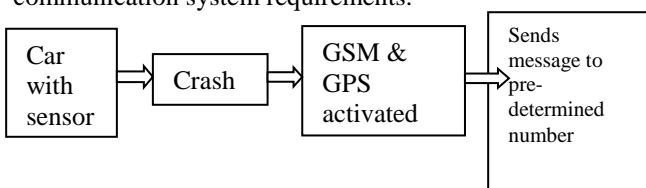
Block diagram Explanation : Car is inserted with an sensor with detects the impact. When the car meets with an accident, the sensor will first detect the impact and if the impact is more than the threshold then it will send an information bearing message signal through GSM about the location of accident to a pre-determined number using GPS.

II. RELATED TOOLS AND TECHNOLOGIES

This section deals with the tools and technologies used in the development of the system. The work carried out using this kit is easier to implement.

GSM – global system for mobile communication is a digital mobile telephony system that is widely used in Europe and other parts of the world. GSM uses a variation of time division multiple access (TDMA) and is the most widely used among other technologies.

ARDUINO –
GPS - Global Positioning System uses satellite navigation. The GPS system is operated by the government of the United States of America, which also has sole responsi-bility for the accuracy and maintenance of the system. In mobile system which is having Android platform support GPS tracking. In that case it communicates with GPRS, and then to a database which will store the location of the device has found itself to be at, so that multiple devices path or our designated path would be tracked. That would require inter-net connection. Maps are either stored on the device or received over a connection. Navigation is computed based on those maps' databases.

ACCELEROMETER SENSOR - One of the common inertial sensors is the accelerometer, a dynamic sensor capable of a vast range of sensing. Accelerometers are available that can measure acceleration in one, two, or three orthogonal axes. An accelerometer measures proper acceleration, which is the acceleration it experiences relative to freefall and is the acceleration felt by people and objects.

Android - In recent years, mobile phones has been changed by the emergence of smart phones. It is no longer just a communication tool, but also become an essential part of the people's daily life. We use this power tool to save people's life.

CONCLUSION – The output of the work is to provide a real time information of the location where the crash takes place immediately through a message format with the necessary tools and technology.

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III. DESIGN MODEL

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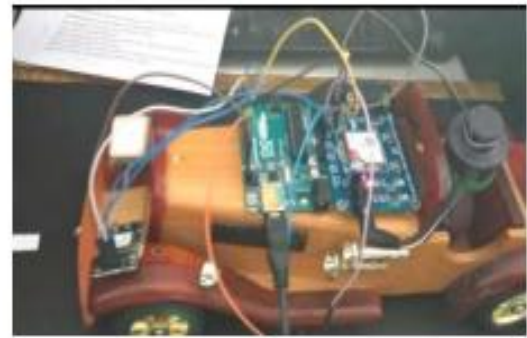

Figure-2: Design Model

Figure-3: Design Model

Figure–4: Design Model

Figure-4: Design Model

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