

ACCIDENT MONITORING AND RESCUE SYSTEM

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Abstract— In the world of increasing vehicles because of rapid growth in automobile sector number of accidents on the roads also increased. After accident happens sometimes car owner or driver becomes unconscious. Then it will become a necessary thing to inform his/her relative or police or hospital to prevent loss of life caused due to any delay. This protocol demonstrates how sensors can be optimized by implementing IoT (Internet of Things) and can save a person's life. In this proposed system as soon as car struck hardly to any object or its accelerometer value get changed after particular point that set as threshold then a message or call will be send to his/her relative, police or emergency services. This information message contains the information about the accident location. This protocol has been made using free cloud services and various types of smart devices like temperature sensor, on board accelerometer and GPS module embedded with CC3200 Launchpad. It includes jumper wires, connectors, power bank, USB cable and small car. Twilio cloud is a developer platform for communication that provides various API's like SMS, video, audio, call services. Temboo is an IoT based cloud platform for sending messages by using ssid and unique number.

1. INTRODUCTION

In the world of increasing vehicles because of rapid growth in automobile sector number of accidents on the roads also increased. After accident happens sometimes car owner or driver becomes unconscious. Then it will become a necessary thing to inform his/her relative or police or hospital to prevent loss of life caused due to any delay. This protocol demonstrates how sensors can be optimized by implementing iot (internet of things) and can save a person's life. In this proposed system as soon as car struck hardly to any object or its accelerometer value get changed after particular point that set as threshold then a message or call will be send to his/her relative, police or emergency services. This information message contains the information about the accident location. This protocol has been made using free cloud services and various types of smart devices like temperature sensor, on board accelerometer and gps module embedded with cc3200 launchpad. It includes jumper wires, connectors, power bank, usb cable and small car. Twilio cloud is a developer platform for communication that provides various api's like sms, video, audio, call services. Temboo is an iot based cloud platform for sending messages by using ssid and unique number.

2. LITERATURE SURVEY

To monitor the accident and tracing of the vehicle various technologies have been implemented and are available in present days. A former way of accident detection was

calling to the nearest hospital after occurring of accident manually. But it causes delay in arrival of ambulance.

Other system used Arduino board as microcontroller unit but it needs extra Wi-Fi module to communicate with other devices. That cause complexity in implementation of system due to increase in number of devices embedded with Arduino. Moreover Arduino has less memory as well as GPIO (General Purpose Input Output) pins than CC3200 that makes it less advanced than the present proposed system.

Other existing system used IoT and cloud services which detect the vehicle by SVM (support vehicle machine) that is developed by Ant Colony Algorithm (ACA). Its aim is to differentiate accident occurred between traffic area and non-traffic area.

One system used GSM module to send the information message having value of GPS in the form of latitude and longitude. But our proposed system can send the information message having GPS value, temperature readings and accelerometer value.

3. PROBLEM IDENTIFICATION

This paper has been written for bringing out the major problem of accident and to reduce the death rate increased in accidents is basically the actual area of concern. The condition of Indian roads is not good cannot be improved immediately. According to NDTV, there is one death every four minutes due to a road accident in India. So we start working on how we can reduce road accident and rescue them. so we make a IoT based device that will helpful for all human beings.

4. HARDWARE COMPONENTS

CC3200 LAUNCHPAD:

CC3200 LAUNCHPAD IS A MICROCONTROLLER BOARD FOR WIRELESS COMMUNICATION, THE INDUSTRY'S FIRST SINGLE-CHIP PROGRAMMABLE MCU WITH BUILT-IN WI-FI CONNECTIVITY. CC3200 LAUNCHPAD IS THE CENTRAL PART OF THIS SYSTEM USED TO DETECT WHEN AN ACCIDENT OCCURS AND COMMUNICATE WITH OTHER DEVICES. IT RECEIVES THE INFORMATION FROM ON-BOARD ACCELEROMETER AND GPS MODULE AND UPLOADS THE DATA OVER THE TEMBOO CLOUD.

7. REFERENCES

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