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Location Based Safety and Accident Informer

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ABSTRACT

The expanding number of road mishaps is because of an expanding populace and a huge number of vehicles on the street. We can't stop mishaps yet we can find a way to forestall it. This paper presents a method to prevent the accidents. This is an wireless based system consisting of microcontroller (ATmega328) board, GPS (Global Positioning System) module, voice announcement system. In this project we are going to focus some unexposed areas about road accidents. There are many of areas in every road where some repetitive accidents has occurred in past. It may be due to road conditions over there, sharp turns where an new driver won't know about etc. in such cases repetitive accidents will happen over there so we will find such data about repetitive accident area and we will develop an system where we make an GPS module based system which will continuously monitor the location details and when the vehicle in which our device is placed enter such areas this device will alert user about road information and that locations previous data and it may help the user very much while driving on unknown roads and it will reduce the chances of accidents

Keywords: Accident Informer, Location Alert, IOT Module, GPS, Voice Record & Playback Module

1 INTRODUCTION

With the headway of innovation, it has seemed, by all accounts, to be both a gift and blast. Innovation has filled our heart with joy to day life simple, then again; it has additionally showed up as a danger to human life. Insights show that consistently more than 1.25 million individuals lose their life because of street mishaps.

The high demand of automobiles has also increased the traffic hazards and the road accidents. Life of the people is under high risk. This is because of the lack of best emergency facilities available in our country. An automatic alarm device for vehicles about accident prone zones is introduced in this paper. location based alert system will help the driver to know dangerous situation of road very early also our system will also indicate driver about speed limit into that particular area and other conditions like school, no overtaking zone etc. which will help to improve driving conditions on road for them and for others and insure safety of passengers.

2 PROBLEM DEFINITION

Often repetitive accidents does occurs in some areas due to bad road conditions or sharp turns, rush areas etc.

1. In such situations an driver who drives from that area regularly can reduce the speed of his vehicle at predefined locations since he/she is well aware of that area hence chances of happening accidents of that vehicle over that location is very less.
2. But if we consider general scenario where an new driver is passing by these locations he/she doesn't know the road or area conditions then he might drive fast, do overtakes and drive rash which will increase chances of accidents & this is our main problem.

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So if we make an system which will alert the driver about the road conditions, or specific areas then mostly driver will follow the instructions & chances of accidents will get reduced as like case 1 stated above.

3 LITERATURE SURVEY- Repetitive Accidents

NHAI's deadly S-shape curve near Pune: 117 accidents, 73 deaths and 50 letters, no action yet

This latest mishap spot, one kilometer from the Khambatkighat towards Pune, on a highway under the National Highways Authority of India (NHAI), has once again underlined the flawed design of the road, which has seen 116 accidents involving 55 deaths from 2008 till 2017.The stretch starting from Khambatkighat on the Satara-Pune patch of National Highway number 4 has been identified as an accident-prone spot .
by the highway police. The S-shaped stretch has two curves and a steep slope, often making it difficult for drivers to negotiate the turns.

To remove the flaw and make structural changes to the road, the local police in Satara district have written over 50 letters to NHAI, urging them to take corrective steps. However, the highway authorities said the project, which involves structural changes to remove the curves and straighten the road, is stuck due to land acquisition problems.

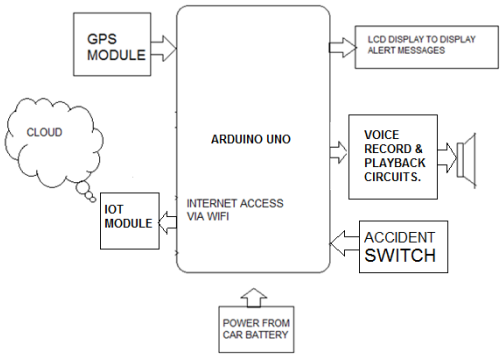
4 METHODOLOGY

Below shown block diagram explains the operation of this alert system. This system is built around an power full microcontroller (ATmega328) controller. This system has the data about road conditions or the areas over road where repeated accidents happen. We will collect such data and feed that database into our cloud server.

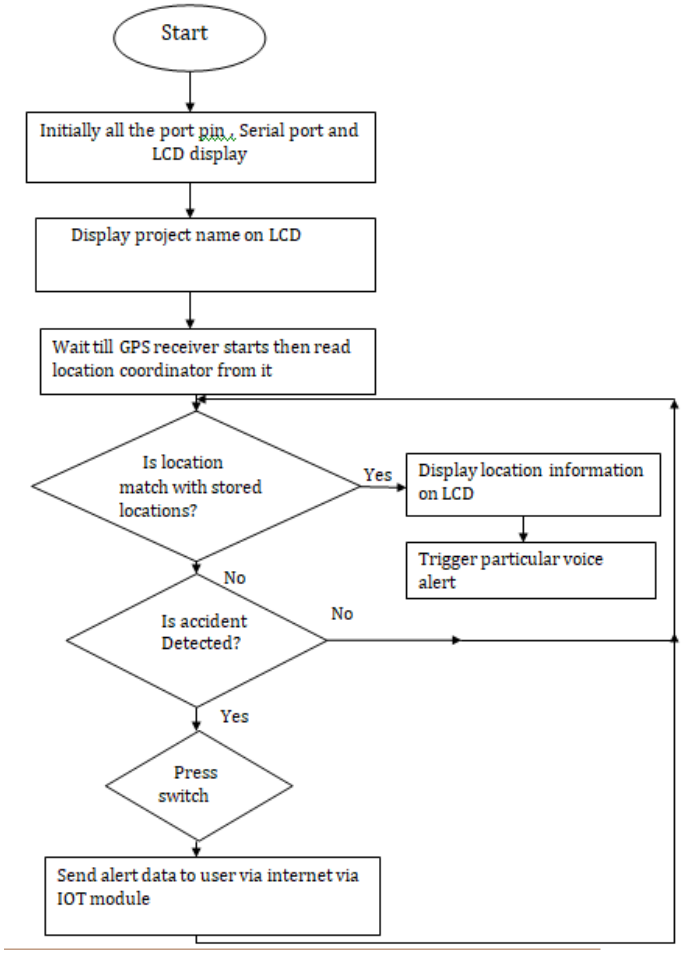
Whenever we turn on the system raspberry pi initialize all the devices connected to it. Then GPS module gets connected to satellite and fetches current location details. As vehicle moves the data from GPS module will gets updated. This location coordinates coming from GPS is collected by raspberry pi and sent to the cloud server continuously via GSM module GPRS communication.

Cloud server will have an algorithm such that it will compare latest received data with stored database. As soon as vehicle enter into accident prone zone its location gets matched with saved database (when vehicle enters into 1km radius of database location) then cloud server will send data to our raspberry pi based system then this system will alerts the user with voice feedback through voice module about that location. Also alert message is displayed into the LCD display connected to our system.

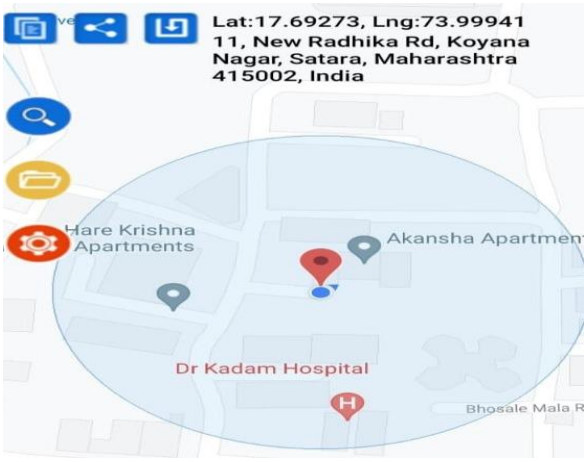
BLOCK DIAGRAM-



Flow chart-



4 RESULT AND ANALYSIS



We have done this project to prevent the accident by fetching the current location through GPS by its latitude and longitude values of the particular area. And the notification is send to the family member mobile device by IFTTT App. An due to this we can reduce the rate of accident .

REFERENCES

[1] R. Ganiga, RohitMaurya, ArchanaNanade,"Accident detection system using Piezo Disk Sensor", International Journel of science, Engineering and Technology Research(IJSETR) volume6,Issue3,March 2017,ISSN 2278-7798.

[2].HemjitSawant, Jindong Tan, Qingyan Yang Qizhi Wang," Using Bluetooth and Sensor networks for intelligent transport systems", In proceeding of Intelligent Transport System; 2004