International Journal of Advanced Technology in Engineering and Science
Vol. No. 09, Issue No. 07, July 2021
www.ijates.com
ijates
ISSN 2348 - 7550

Accident Prevention Technique Using Smart Goggles

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ABSTRACT

In the developing countries, accident is the major cause of death. Accidents can be controlled and prevented with the help of new technology that we use in this project. In this project, we had use many sensor to minimize road accident. Accident due to such as drink and drive can be controlled and prevented with the help of alcohol detector sensor. There are so may way by which we can advance our vehicle to reduce road accident. And this project is based on advance accident prevention technique. But it is not possible to control all accident that is why if accident occur then this project will provide information about that accident along with location. And also inform to the nearest police station as well as hospital, so that immediate precautions can take place to reduce property as well as life.

1. INTRODUCTION

Accident is an unfortunate incident that happens unexpectedly and typically leading to damage or injury. It's seems that global death rates from road accidents will rise because of rapid growth in mountain roads, industrialization and a rise in road vehicles. If we look at top 10 dangerous roads in the world, all of them are mountain roads and curve roads. In the mountain roads there will be sharp curves and the roads will be narrow. In these condition the driver of a vehicle cannot see vehicles coming from opposite side, due to which thousands of people lose their lives each year[1]. Around 1.2 million people lose their lives in road traffic accident every year, and another 20 to 50 million are injured[2].To reduce this accident, we had made a system in which sensor are used to detect the problem which cause road accident. The design of the vehicle accident prevention system using wireless technology, with the aim of sending information to other vehicles through RF module, when drowsiness is detected was successfully implemented[3]. At present time there are a lot of vehicles used by humans and there are no safety in these vehicles still millions of consumers are using these vehicles to travel from one place to another[4]. This system also includes two form of driving modes i.e Automatic and Manual. In Automatic mode, sensors are going to be active, and if any sensor detect problem then it'll perform the corresponding task such as reducing speed, playing alert sound and in Manual mode, sensors are going to be inactive, steering and braking system are under the control of driver. The main objective of the project is to prevent road accidents using technologies. In this project, we had used sensors which detect the problem which causes road accident such as alcohol, high temperature, overspeed etc.

1.1 Advantage

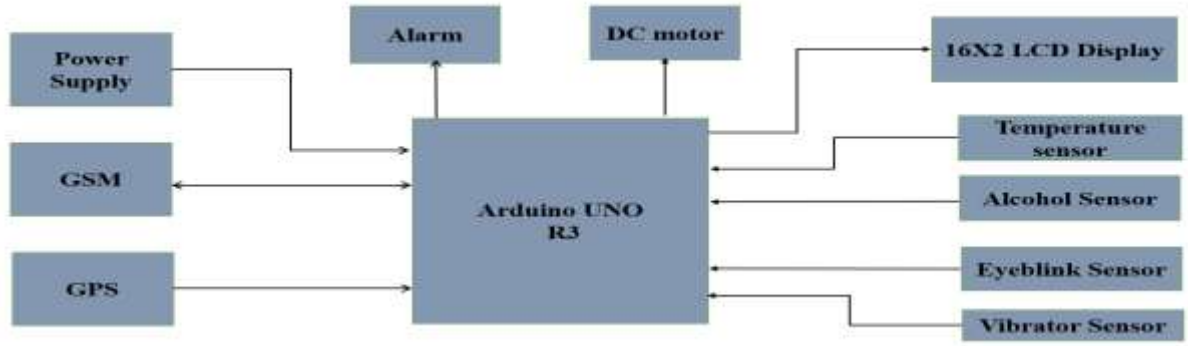
- Intelligent and safe transportation.
- Drunken driving also prevented by using alcohol detector.
- Safe parking with no damage or distraction to nearer vehicles.
- Reduces the number of accidents

- Reduce property damages.
- Increase the safety of driver**.**

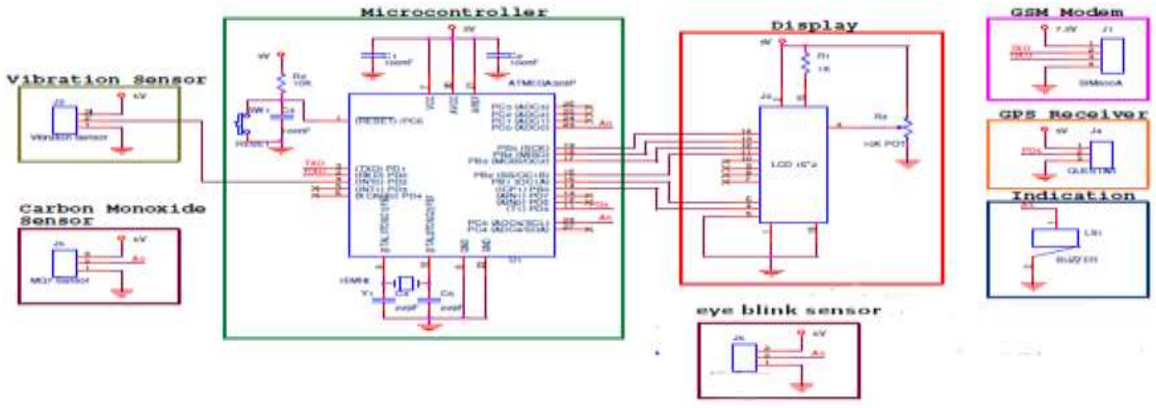
2. WORKING

In this project, Arduino is used for controlling the whole process with a **GPS Receiver, GSM module and Sensors**. GPS Receiver is used for detecting coordinates of the vehicle, GSM module is used for sending the alert SMS with the coordinates and the link to Google Map. Sensor use to detect problem which cause road accident. When we are ready with our hardware after programming, we can install it in our vehicle and power it up. Now whenever there is an accident, or sensor detect problem. These values read by Arduino and checks if any change occurs in any standard value. If any change occurs then Arduino reads coordinates by extracting $GPGGA String from GPS module and send SMS to the predefined number to the nearest police station or ambulance or family member with the location coordinates of accident place. The message also contains a Google Map link to the accident location, so that location can be easily tracked. When we receive the message then we only need to click the link and we will redirect to the Google map and then we can see the exact location of the vehicle. **Details of Vehicle** will also send in the SMS and displayed on the LCD panel.

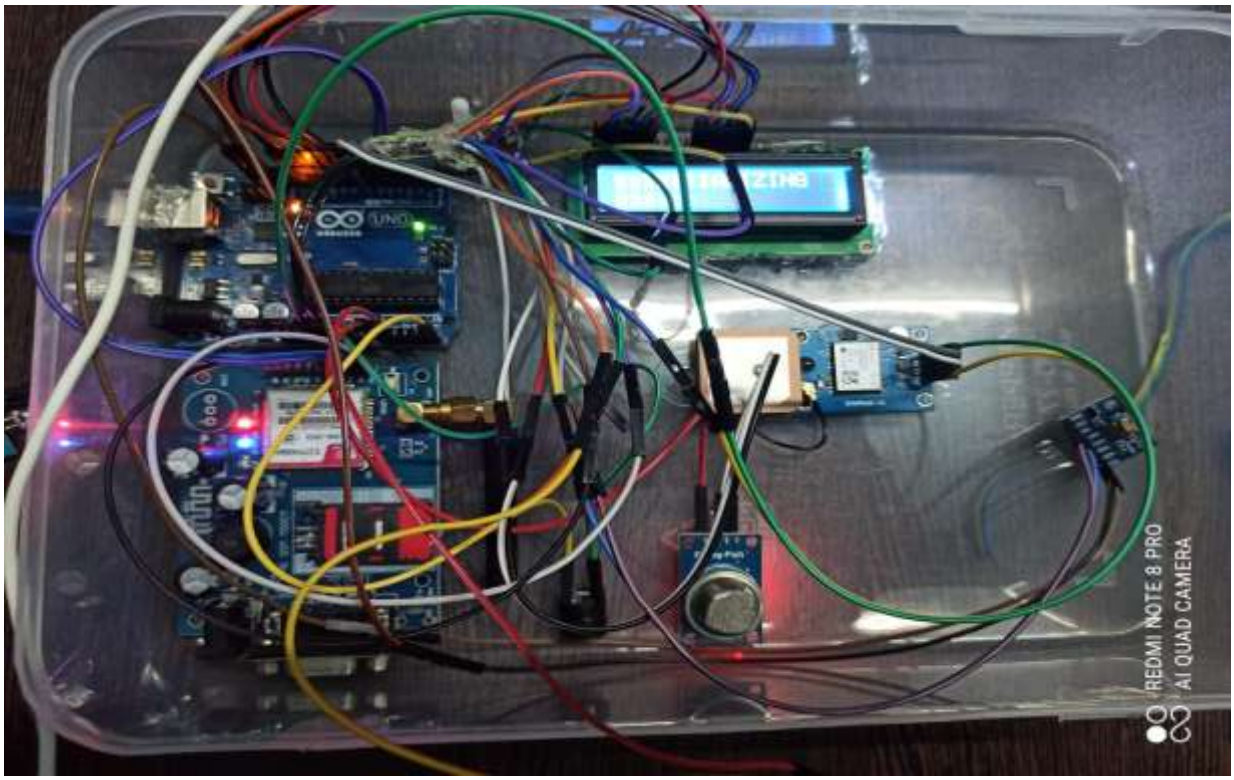
2.1 Block Diagram



2.2 CIRCUIT DIAGRAM



2.4 Device



3. CONCLUSION

The framework of the proposed system is developed for preventing road accident using sensor and to make a vehicle with less human attention to the driving. Result of the project help in the reduction of road accident caused by alcohol drinking, overheating, overspeed etc. The property damage during road accident will also decrease if we use this project in upcoming vehicles. The project will also help in safety of individuals.

4. REFERENCES

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