

Alcohol Detection And Accident Alert System

Sakshi Rajendra Deshmukh¹, Dipti Pawar², Pranav Vaidya³

Student, *Electronics & Telecommunication, All India Shri Shivaji Memorial Society's Institute of Information Technology, Pune, India*^{1, 2, 3}

*sdsakshideshmukh9498@gmail.com*¹, *diptipawar0202@gmail.com*², *pranav.vaidya5555@gmail.com*³

Guide

Mr. Sachin Kokane

Professor

Abstract: Millions of people die each year as a result of road accidents, which are one of the main causes of death worldwide. The majority of deadly accidents happen on highways outside of the city. Some of the victims died right away, while others died later as a result of rescuers arriving late. The failure of rescue groups to arrive on time is primarily due to a lack of prompt and timely notification from the accident. As a result, this study suggests the use of location-based services to design a system that may be used to swiftly detect an accident and notify emergency services, allowing patients to be transferred to medical centres faster. There are two parts to this system. The system is activated when something impacts the vehicle's internal impact sensors, and it subsequently uses GPS to track the vehicle's whereabouts. Using GSM, the first part of the system sends an SMS to the second half of the system, which is located at the emergency department, with the vehicle's location and other pertinent information. Following the delivery of the SMS, The device can locate the accident on a map and send rescuers to the location.

Keywords: - Arduino nano, microcontroller, GSM module, GPS module, sensors, helmet, accident.

A.

B. I INTRODUCTION

More than a million people dying each year, street accidents are one of the top causes of death all over the world. These incidents are usually reported by people who are near the accident scene or by traffic cops on the streets. As the hour of mishap reports grows, so does the hour of police and salvage teams locating the mishap scene. The purpose of this research is to provide a framework for cutting down on the time it takes to report an accident and identifying its location more quickly and precisely. This will reduce the time it takes for the police and emergency responders to arrive at the accident scene. The suggested framework would programme the area distinguishing proof, making it more precise

and taking less time. As a result, the number of people killed or injured in road accidents will decrease.

II LITERATURE REVIEW

Bikes, like other vehicles, are becoming less important in terms of increasing their security levels. The threat to engine cycle riders is quite great due to the variety of vehicles. For their risk and labour, the keen cap is even used in digging expeditions. GPS and GSM are used to distinguish between confirmation of precise location and information about the rider. If the client is knocked down and the head protector strikes and damages him, there is a cause for this. When there is a high level of damage to an individual, the contact individuals are given directives. Remote exchanges, such as Zig-Bee and radio recurrence, are used to move data. Various types of distant correspondence frameworks are used in cap and bicycle. Temperature sensor, accelerometer, ultrasonic sensor, power detecting resistor, vibration sensor, and push catches are among the features used to ensure their security. Because of their versatility and affordable cost, microcontrollers such as Arduino and Raspberry Pi are used. According to a 2016 research study titled "Keen Helmet," the creator's point is that wearing a helmet for a bicycle rider is required for safety.

C. According to one study, the lack of a protective cap causes a large number of deaths and accidents in this dangerous environment. Traffic cops are unable to patrol large areas such as metropolitan settlements and other places where people are concentrated. Inspection of each and every engine cycle rider is quite challenging for them. As a result, the 'Savvy Helmet' is useful in some situations for traffic cops to observe engine cycle riders' actions.

D. III PROBLEM STATEMENT

AIM: To design and construct Alcohol Detection and Accident Alert System

OBJECTIVES - To avoid a road accident. To ensure that if something goes wrong, the person receives urgent help.

E. IV PROPOSED SYSTEM

F. Architecture

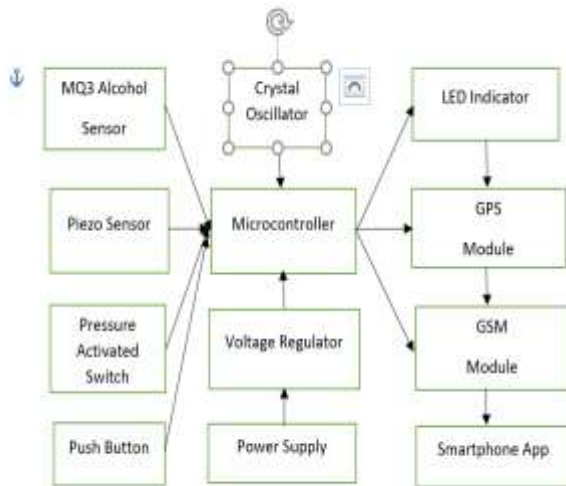


Fig.1 Block diagram of the system.

We'll place a MQ3 sensor, which is a liquor-based sensor, inside the protective cap to detect the rider's liquor substance. If the liquor level is below the explicit requirement number, the vehicle will start; otherwise, if the liquor requirement level exceeds the specific limitation number, the vehicle will not start. Following the majoring of the liquor content within the rider, an LED on the protective cap will show either a green or red tone. It will display the positive while the negative will be displayed in green. Liquor content exceeds the % level in positive approaches. If there is any green, it is due to their low percentage of alcohol. Furthermore, if the rider has to check the substance or precise measure of liquor rate on his body, there will be an arrangement that will be given on the application that will indicate the precise sum content present in the body. We're also going to include another factor that has to do with women's safety. Furthermore, we will include a piezo sensor that will detect a mishap and display a warning that will ask if the rider changes are done, providing the rider does not press the catch. At that time, no one else will be notified; instead, a note will be sent to the crisis contact.

V. IMPLEMENTATION AND RESULT

To avoid accidents caused by broken and driving. The test for the presence of alcohol in the body is simple and effective. It will also determine the lady's health. It will provide quick access for whoever is the rider to seek assistance in the event that he has met.

VI CONCLUSION

We have correctly surmised that using this framework will result in a significant reduction in the number of accidents. This framework will protect the rider's health and prevent drunken driving. This will be really beneficial in the future. Furthermore, it has numerous future extensions that will considerably increase its

productivity. We have analysed and created a framework for liquor identification and mishap alerts in this manner.

VII FUTURE SCOPE

The "Liquor Recognition and Mishap Ready Helmet" could help the rider's live area grow. It may also assist in determining vehicle conditions such as if the tyres are punctured, whether any part of the vehicle is damaged, or whether it requires overhauling, depending on the application that is selected. As a result, with the support of our current task, we can foster this. It might also incorporate wipers for the protective helmet, depending on the climate, so we may supply wipers to clear the screen and promote a better form of this effort. We can create a head protector that will give the climate moulding such that if it's too cold outside or too hot outside, the temperature of the cap will increase or decrease accordingly.

H. REFERENCES

- [1]. Lea Angelica Navarro, Mark Anthony Dino, Exechiel Joson, Rommel Anacan, Roberto Dela Cruz Electronics Engineering Department, Technological Institute of the Philippines- Manila Manila, Philippines- Design of Alcohol Detection System for Car Users thru Iris Recognition Pattern Using Wavelet Transform [2016 7th International Conference on Intelligent Systems, Modelling and Simulation]
- [2]. MUGILA.G, MUTHULAKSHMI.M, SANTHIYA.K, Prof.DHIVYA. P- SMART HELMET SYSTEM USING ALCOHOL DETECTION FOR VEHICLE PROTECTION [International Journal of Innovative Research in Science Engineering and Technology (IJIRTSE) ISSN: 2395-5619, Volume – 2, Issue – 7. July 2016]
- [3]. [Dhivya M and Kathiravan S, Dept. of ECE, Kalaingar Karunanidhi Institute of Technology- Driver Authentication and Accident-Avoidance System for Vehicles [Smart Computing Review, vol. 5, no. 1, February 2015]
- [4]. A. ISuge, H. Takigawa, H.Osuga, H.Soma, K.Morisaki, Accident Vehicle Automatic Detection System By Image Processing Technology , ©IEEE 1994 Vehicle Navigation & information Systems Conference
- [5]. Paul Baskett, Yi Shang, Michael V. Patterson, Timothy Trull, Towards A System for Body-Area Sensing and Detection of Alcohol Craving and Mood Dvsregulation,2013 IEEE
- [6] Wireless accident information using GPS and GSM, Research Journal of Applied Sciences, Engineering and Technology, Scientific Organization, 9, 2012.
- [7] Drunken driving protection system, International Journal of Scientific & Engineering Research, 2(12), 2011.
- [8] Vehicle accident alert and locator, International Journal of Electrical & Computer Sciences IJECS-IJENS, 11(2).
- [9] W Wei, F Hanbo Traffic Accident Automatic Detection And Remote Alarm Device, ISBN- 978-1-4244- 8039- 5.