



ANDROID BASED ALCOHOL DETECTION SYSTEM USING AN IOT

S.Diwakaran , M.Venkata Rahul , P .Naveen Gandhi P. Kranthi kumar Reddy , P.Lakshmi Narayana

Electronics And Communication Engineering

Kalasalingam Academy Of Research And Education ,Srivilliputhur, India

Abstract— Alcohol detection system is mainly integrated and developed for road transportation Safety for the people Who are living in the smart cities can enjoy the availability of Alcohol detection system. This mainly works with the help of IoT. When it traces the breathing levels of host and trigger the necessary actions like deny the driving availability and reduces majority of the drunk and driving accidents. It will also aware the surrounded public by making noises and glowing red lights to alert the surroundings.

I. INTRODUCTION

1.1 OBJECTIVE

Drunken driving is taken into account together of the main reason of accidents in worldwide. Drivers under the influence of alcohol shows a transparent failure of perception recognition and vehicle control. So, by this accident occurs.

- * The project is on IOT based Alcohol Detection system for Transport buses/car.
- * Transports are used on Larger scale for daily Transport to distinct place, so secure and Healthy Environment should be repeatedly we may saw people taking alcohol in Prohibited place.
- * Transport driving is one among that places alcohol is strictly Prohibited.
- * are often installed at anywhere monitoring in driving person
- * This project are often utilized in various organizations to detect alcohol consumption of employees.

1.2 DOMAIN INTRODUCTION

Drunk driving is a almost most very dangerous in part of nation. Now a days so many members are drinking alcohol in crossing the limits, Thus why many traffic accidents are caused by drunken driving .Drunken driving is a most common reason for all over the world. For some purpose we are designed the system it will useful for police officers , hospitals, colleges. It is very easy full identified the drinking persons it will decrease the such type of road accidents . That type of system is basically in Iot the combination of hardware and software ,mainly it is used specific type of function ESP 32 Microcontroller. Alcohol sensor is detecting the crossed the limits persons automatically buzzer will ring . output will goes to sensor detects the and send message to blynk application app alert message will came automatic.

As this a IOT (INTERNET OF THINGS)- a combination of hardware and software. The hardware components are mainly used in Alcohol sensor MQ3 , ESP32 Microcontroller , Buzzer , RPC. Software is used an ARUDINO.

2. LITERATURE SURVEY

[1] Sai harsha proposed” mobile based drunk driving detection”. This is based on the mobile where mobile should be inside the vehicle. A program will be given to the mobile so that the mobile will read the sensors and whenever it detects that there is consumption of alcohol it contacts police/family

[2] Sai krishna proposed “Alcohol Detection and Vehicle Controlling”. This device is installed in vehicle. An alcohol identifier with PCB. Whenever the alcohol range crosses automatically the beginning of the vehicle is ended.

[3] Gupta proposed “Alcohol Detection with Vehicle Controlling”. A liquor finder and a GPS is used for this. And where as GSM is associated with Arduino. The liquor inside the body of a person crosses the limit the the Arduino will stop the vehicle and GPS sends the location of the drunker person to their family/police

[4] Goswami et al proposed “Alcohol Detection with Vehicle Controlling”. DUI is the system we used for detecting the alcohol present in the vehicle where the DUI works when there is presence of alcohol the vehicle stops and sends the alert message to the police /family

[5] Albin Thomas et al proposed “Smartphone and Sensor Based Drunk Driving Prevention System”. Smartphone is used for this method. The smartphone detects the alcohol sensor inside the person driving and a program is installed for smartphone where it detects the alcohol and controls the driving at the same time it makes sure that the vehicle is stopped and alerts the police/family

BLOCK DIAGRAM

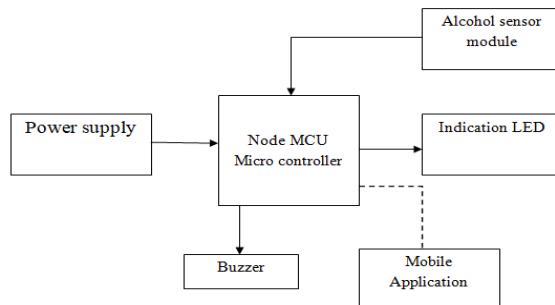


Fig. Block Diagram

This is the block diagram for our project and this will be implemented in the form of prototype also so if we plan something definitely we should know what should be connected and where it should be connected so with the help of this our work process will be completed according to this. We will be providing the power supply to the micro controller and the board come in to active stage to work and provide power supply to other components in the connected series. Infrared sensor is used for identifying whether the user is drinking alcohol or not.

2.1 Power Supply

In this project we use power supply input regarding the components we prefer or use in this project. Everyone know that we will be having different power supply for every particular components so we will be using +5v for the powering Arduino or other components in the project we use. We know that power supply plays major role and it is the source of the project. We should not exceed the power supply input for project which is not needed if the power supply is more than we require then it we cause a blast to circuit connect, so we will be using some alternative for limiting the power supply for the project.

2.2 NODE MCU ESP8266

The ESP32 is a low-cost system-on-chip (SoC) series created by Systems. It is an improvement on the popular ESP8266 that is widely used in IoT projects. The ESP32 has both Wi-Fi and Bluetooth capabilities, which make it an all-rounded chip for the development of IoT projects and embedded systems in general. In this tutorial, you will learn how to get started with the ESP32 and learn how to use it to connect to a Wi-Fi hotspot. This will equip you with basic knowledge that you will need when working on your ESP32 projects in the future.

The ESP32 chip contains 520KB of RAM. While it's sufficient for most projects, others may need more memory. To increase the capacity of the microcontroller, the manufacturer can add a memory chip to the board.



Fig 2. Node MCU ESP8266

2.2 BUZZER

A buzzer could be a tiny however economical part to feature sound options to our project/system. it's terribly tiny and compact 2-pin structure thus may be simply used on bread board, Perf Board and even on PCBs that makes this a wide used part in most electronic applications.



Fig 3.Buzzer

2.3 Alcohol Sensor

In this alcohol sensor detect the alcohol person. It is a low cost semiconductor device it have four pins first pin is AO, second pin is DO , third pin is VCC , fourth pin is ground. It is a sensitive material .A simple interface is could be a 0-3.3V ADC .



Fig 4. Alcohol Sensor

2.4 BLNK APPLICATION

Blynk is a Platform with IOS and Android apps to control Arduino, Raspberry Pi and the likes over the Internet. It's a digital dashboard where you can build a graphic interface for your project by simply dragging and dropping widgets.

3.CIRCUIT DIAGRAM

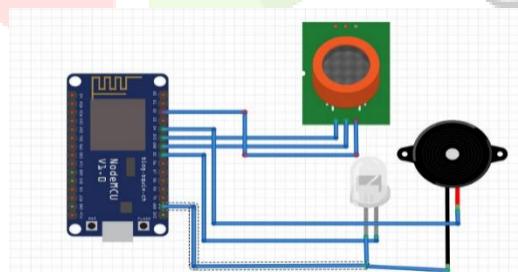


Fig 5: Circuit Diagram

This is a circuit diagram of the second part of project. Here we are connecting the Node MCU with alcohol sensor and Blynk application .With the help of Alcohol sensor we are able to find the drinking alcohol persons so that it is easily possible to detect the person where it is and we can track it. with the help of blynk application we can see the alert message in this blynk . we want connect this to our mobile.

4. RESULT

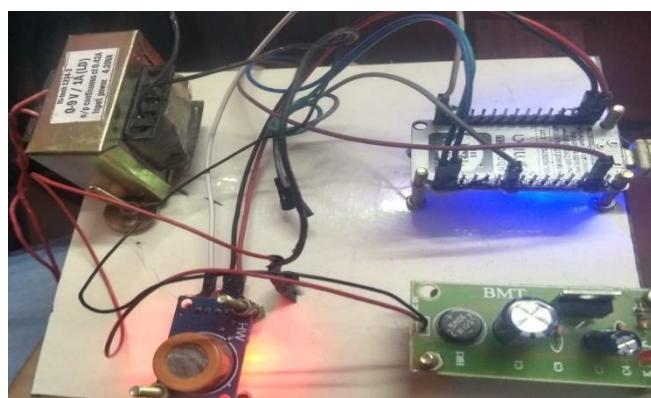


Fig 6 .Output

This is the final output. We implemented the process successfully. So by this we can easily identify whether everyone is drink or not. Not every accident who are not drinking will be saved but maximum we can save our life from risky. We developed a prototype for this project if this give's good result then we'll be implementing in real time project.

5. CONCLUSION

With the help of Alcohol detection system by using internet of things (IoT) we can improve the road safety in smart cities. With the help of vehicle coordinates send to the web server we can easily find the stopped vehicle. The technology that we used can detect the number of drunken vehicles. Every project can be improved day by day and our aim to make the device smaller and smaller. When the alcohol system is smaller the driver will agree to place it in his car. It should be placed in convenient location. so, we can easily read it. It has to detect the alcohol level with or without driver and it has to distinguish between the fragrance and the ethanol in the alcohol. The Alcohol detection should be act as an another key for the car. If the driver entered in to the, then it has to test the alcohol ethanol percentage ,if it is low it has to allow him to raid the vehicle otherwise it has to turn off the vehicle and should allow him raid it. It will reduces more road accidents.

REFERENCES

- [1] Phani, S.A., et al.: Liquor detection through automatic motor locking system: in built (LDAMLS). Int. J. Comput. Eng. Res. (IJCER) 4(7), 2250–3005 (2014)
- [2] Federal Highway Administration. Highway Statistics 2014 - Policy (2014). <https://www.fhwa.dot.gov/policyinformation/statistics/2014/>
- [3] Dai, Jiangpeng, Jin Teng, Xiaole Bai, Zhaohui Shen, and Dong Xuan. "Mobile phone based drunk driving detection." In Pervasive Computing Technologies for Healthcare (PervasiveHealth), 2010 4th International Conference on-NO PERMISSIONS, pp. 1-8. IEEE, 2010.
- [4] Bhuta, Pratiksha, Karan Desai, and Archita Keni. "Alcohol Detection and Vehicle Controlling." International Journal of Engineering Trends and Applications (IJETA) 2, no. 2 (2015): 92-97.
- [5] Gupta, Abhishek, Shriram Ojha, Vikash Kumar, Vikrant Singh, Vipin Malav, and Ramnagariya Gramothan. "Alcohol Detection with Vehicle Controlling." International Journal of Engineering and Management Research 6 (2016).
- [6] Goswami, Tanmoy D., Shrinivas R. Zanwar, and Zafar Ul Hasan. "Android based rush and drunk driver alerting system." International Journal of Engineering Research and applications, Page (s) (2014): 1-4.
- [7] Phalak, Piyush Vinay, Shashank Kowekar, and Shruti Joshi. "Smartphone and Sensor Based Drunk Driving Prevention System."
- [8] Sarkar, Dwipjoy, and Atanu Chowdhury. "A real time embedded system application for driver drowsiness and alcoholic intoxication detection." Technology (IJETT) 10 (2014). [9] Savania, Vijay, Hardik Agrawala, and Dhrumil Patel. "Alcohol Detection and Accident Prevention of Vehicle." International Journal of Innovative and Emerging Research in Engineering Vol.2, no. 3 (2015),pp. 55-59.
- [9] Deshmukh, S. V., D. P. Radake, and K. N. Hande. "Driver fatigue detection using sensor network." Int. J. Eng. Sci. Technol (2011): 89-92.

[10]Albert Mayan J, Kuldeep Anand D.S, Neha Sadhvi, "Efficient and secure server migration on cloud storage with VSM and dropbox services", International Conference on Information Communication and Embedded Systems (ICICES), Chennai , pp. 1-5,2017

[11]B.Bharathi and Mahesh kumar (2016), „Non invasive BG scrutinizer system”, Global Journal of Pure and Applied Mathematics, vol.12, No: 8, pp. 5123 – 5125

[12]Surendar E, Thomas V.M, Posonia A.M , "Animal tracking using background subtraction on multi threshold segmentation ", Proceedings of IEEE International Conference on Circuit, Power and Computing Technologies, ICCPCT, 2016 .

