REVIEW PAPER ON ALCOHOL DETECTION DEVICE FOR ORGANISATIONS

Priya Bhoyar[1], Pravina Gotmare[2], Kaveri Gayagwalin[3], Nehal Bhoskar[4], Asst.Prof.N.K.Warambhe [5]

[1] *Student, Department Of Electronics and Telecommunications , Priyadarshini J.L College of Engineering/RTMNU, Maharashtra, India*
[2] *Student, Department Of Electronics and Telecommunications , Priyadarshini J.L College of Engineering/RTMNU, Maharashtra, India*

[3] *Student, Department Of Electronics and Telecommunications , Priyadarshini J.L College of Engineering/RTMNU, Maharashtra, India*
[4] *Student, Department Of Electronics and Telecommunications , Priyadarshini J.L College of Engineering/RTMNU, Maharashtra, India*
[5] *Asst.Professor, Department Of Electronics and Telecommunications , Priyadarshini J.L College of Engineering/RTMNU, Maharashtra, India*

ABSTRACT

The aim of our project is to make human work safer . This project presents a embedded system which implements RFID based alcohol detection and auto fine collection . First the alcohol sensor will detect the alcohol content in human breath, if the alcohol concentration is above threshold level, then message will be displayed on the system. Then after with the help of RFID card reader we scan the code and then the specific amount will be deducted from that person's bank account. The project provides an efficient solution to control mishaps while doing the physical or machinery work . In this way, our proposed framework takes into account liquor checking in addition to announce framework that screens the result and reports it to concerned individual remotely over web .. This guarantees no marvel of mishaps because of liquor affect.

Keyword : - *Alcohol detection; Rfid card and tag ; MQ3 Alcohol sensor ; Node MCU ESP8266 module.*

1. INTRODUCTION

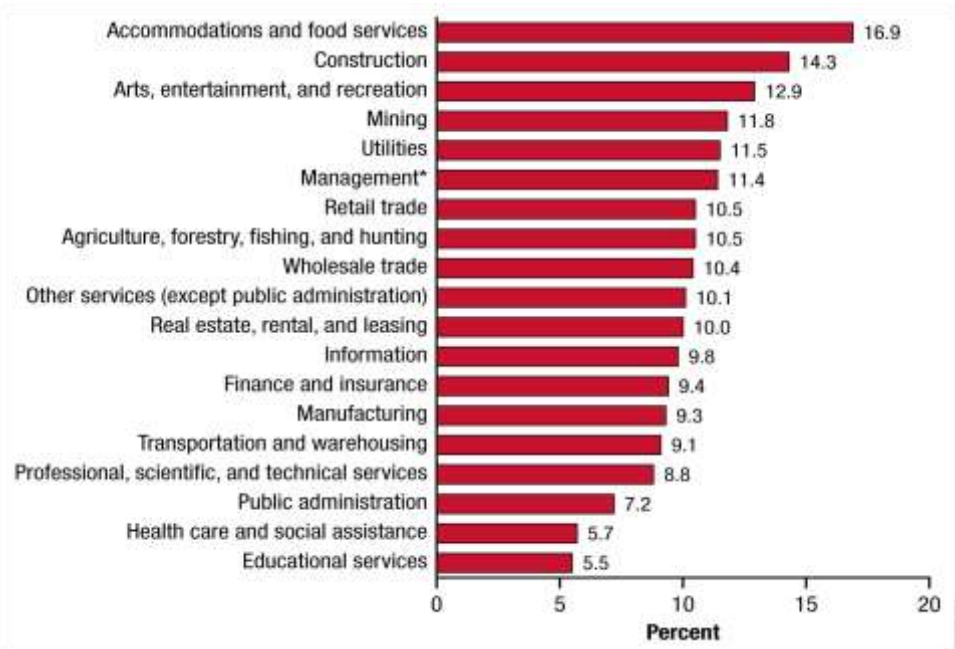
Drinking and working is a serious public health problem which is likely to emerge as one of the most significant problems in near future the system implemented by us aims at reducing the work related accidents in the factories . In this present the progress in using the alcohol detector a device that senses a change in alcoholic gas content of the surrounding air these device is more commonly referred to as breath analysis the alcohol content from the persons breath .

The report says that ignorance is the foremost reason for these accidents , it will safely be inferred that almost all the cases are can be tackled using this device.

2. PROBLEM STATEMENT

- The main problem is the work related accidents which is taking place nowadays in the industries where physical word is mandatorily done.

- So to avoid such mishaps this device can helpful.
- It can be done with the help of the MQ3 alcohol sensor .
- With the help of Node MCU ESP8266 and rfid card and tag.
- The graph for the work related accidents has increased can be seen in the graph below.
- The graph not only shows the accidents occurring in construction or factories or industries it does shows it in every field.
- So this device will not only help particular sector but all.

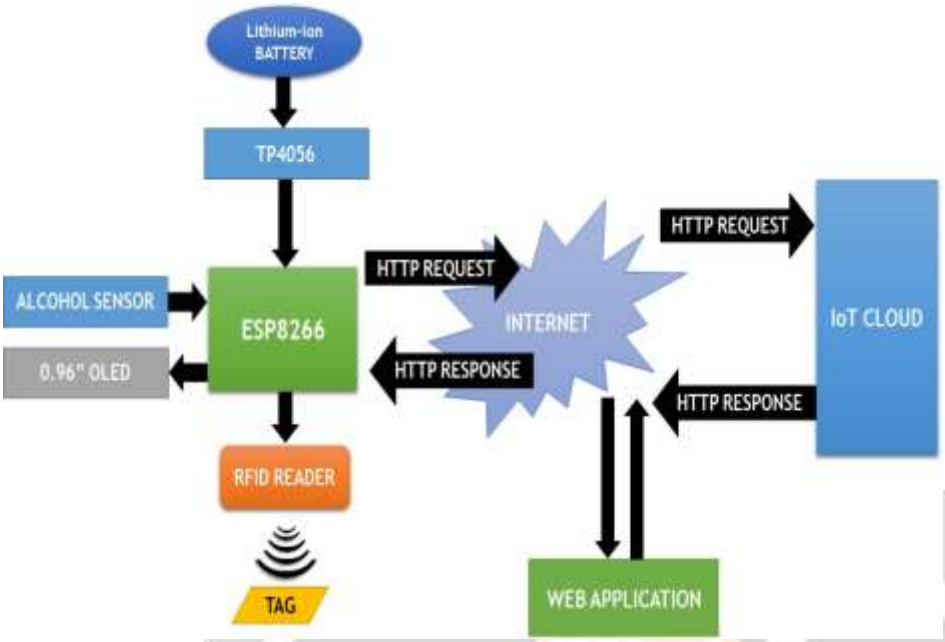


Graph -1: Work related mishaps in different sectors

2.1 PROPOSED SYSTEM

- To overcome the above disadvantages, here MQ3 alcohol sensor is used.
- Node MCU ESP8266 is used so that the internet connectivity will be provided easily.
- This prototype use lithium ion battery for the power supply
- Rfid card and tag is further used for payment purpose.

2.2 Purposed Block Diagram



- ESP8266 NodeMCU CP2102: ESP8266EX is capable of functioning consistently in industrial environments, due to its wide operating temperature range. With highly-integrated on-chip features and minimal external discrete component count, the chip offers reliability, compactness and robustness
- MQ-3 Alcohol Sensor: This module is made using Alcohol Gas Sensor MQ3. It is a low cost semiconductor sensor which can detect the presence of alcohol gases at concentrations from 0.05 mg/L to 10 mg/L.
- RFID RC522:RFID or Radio Frequency Identification system consists of two main components, a transponder/tag attached to an object to be identified, and a Transceiver also known as interrogator/Reader.
- TP4056 Charge Controller:TP4056 is a very efficient 3.7V Lithium-ion cell charging module. We can recharge any rechargeable battery by applying the required voltage and current but it may damage due to overcharging.
- OLED Display:2.44 cm (0.96 inch) OLED Display Module is a precise small, White OLED module which can be interfaced with any microcontroller using SPI protocol. It is having a resolution of 128x64.

3. LITERATURE SURVEY

In this paper author describes the alcohol detection system for vehicle by using alcohol sensor, GPS and GSM module. [1]
In this paper author discuss about the smart helmet system using alcohol detection for vehicle protection.[3]
This paper introduces methods such as alcohol detection, heart beat rate monitoring system and personal identification system and discuss how they can be implemented to avoid accidents.[4]
Instead of using Arduino board in this project they used microcontroller 16F877A [5]
In this paper author discuss about driver's behavior, safety application & auto theft prevention system [6].
This paper represents accident vehicle automatic detection system by image processing [8].
In this paper they describe about body area sensing, alcohol detection craving [9].
This paper represents the overview of the alcohol based device [10].

4. CONCLUSIONS

The execution of Embedded system by utilizing RFID reader , tag and alcohol sensor has been successfully designed and tested. The work of each and every component has been successfully provided.

5. REFERENCES

[1] Lea Angelica Navarro, Mark Anthony Diño, 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] Cahalan, D., I. Cisin, and Crossley, American Drinking Practices: A National Study of Driving Behaviour and Attitudes. 1969, Rutgers University Press: New Brunswick, NJ.

[3] 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]

[4] Dhivya M and Kathiravan S, Dept. of ECE, Kalaignar Karunanidhi Institute of Technology- Driver Authentication and Accident Avoidance System for Vehicles[Smart Computing Review, vol. 5, no. 1, February 2015]

[5] Babor, AUDIT: The alcohol use disorders identification Test: Guidelines for use in primary health care. 1992, Geneva, Switzerland: World Health Organization. International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395 -0056 Volume: 04 Issue: 06 | June -2017 www.irjet.net p-ISSN: 2395-0072 © 2017, IRJET | Impact Factor value: 5.181 | ISO 9001:2008 Certified Journal | Page 291

[6] Lee, Assessing the Feasibility of Vehicle-Based Sensors To Detect Alcohol Impairment. 2010, National Highway Traffic Safety Administration: Washington, DC.

[8] A. ISuge, H.Takigawa, H.Osuga, H.Soma, K.Morisaki, Accident Vehicle Automatic Detection System By Image Processing Technology , ©IEEE 1994 Vehiclee Navigation & information Systems Conference

[9] 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

[10] Kaveri Gaygwalin, Nehal Bhoskar , Pravina Gotmare, Priya Bhoyar , Mrs. N.K.Warambhe IOT based smart alcohol detector device with auto-fine collection , IJEEBS