Safety Equipment for Bike Rider

Goduguluri Venkata Yashwanth[1]
Asst. Prof., KKR & KSR Institute of Technology &Sciences, JNTUK, Guntur
Email:yashwanth455@gmail.com,

Abstract- Now –a – days many accidents are occurring around us. One of the major reason is people are not wearing the helmet which leads to the death. we propose a model i.e. ingenious head protector. The idea of Ingenious Head protector system is implemented as to prevent the intensity of accidents. In this proposed model as user will not be able to start the bike unless user wears the helmet. Even if user wears the helmet but he is in drunken state, then the bike will not start. Here we are using GPS for tracking the user and GSM is used for sending the message to referrer when if he met an accident.

Key Words: Global positioning system, Global system for mobile and Alcohol sensor.

1. INTRODUCTION

Recent survey reveals that over 1,37,000 people were died only in the road accidents. For every four minutes a road accident is taking place. 25% of the road crash deaths are due to the two wheelers. Recent statistics of motorbike accidents studied by U.S. National Highway Traffic Safety Administration (NHTSA) states that 4,668 motor cyclist's loss their lives in the traffic crashes. The people between the age group of 15-34 losses their lives majorly in the traffic crashes. The accident occurs due to rash driving, over speed, drunk and drive and also because of not wearing the helmet.

Fig 1: Road accident

Fig 2: Drunk and drive

2. PROPOSED METHOD

In proposed system we are going to design one Ingenious head protector. In this proposed method, Arduino microcontroller is used for controlling all the hardware components that are connected to it. Here we are using different types of components like alcoholic sensor, ignition switches and GPS and GSM modems.
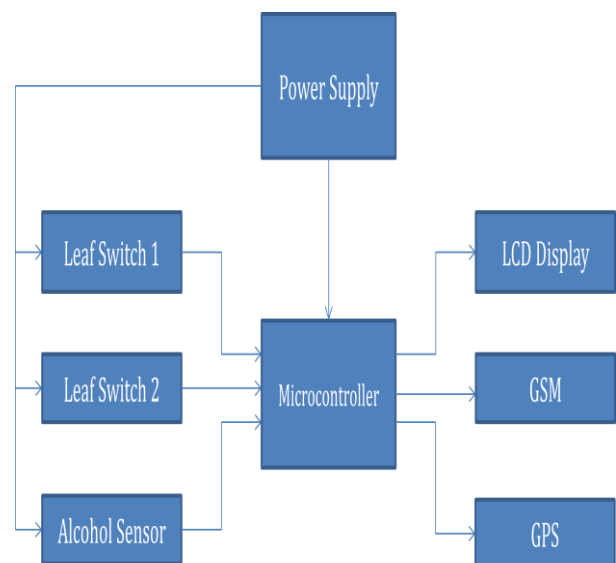
2.1. Block Diagram

Fig 3: Block diagram

2.2. Alcohol Sensor

The MQ-3 alcohol sensor is useful to tests levels of alcohol, benzene, hexane or LPG in the air but it is most popularly used as a Breathalyser (breath analyser) for someone who drank beer, wine or other liquor. An alcohol sensor detects the attentiveness of alcohol gas in the air and an analog voltage is an output reading. The sensor can activate at temperatures ranging from -10 to 50° C with a power supply is less than 150 Ma to 5V. The sensing range is from 0.04 mg/L to 4 mg/L, which is suitable for breathanalysers.There 4 leads are +5V, AOUT, DOUT, and GND.The +5V and GND leads establishes power for the alcohol sensor.The other 2 leads are AOUT (analog output) and DOUT (digital output). How the sensor works is the terminal AOUT gives an analog voltage output in proportion to the

International Journal of Research in Advent Technology, Special Issue NCKIETS'19
E-ISSN: 2321-9637
Available online at www.ijrat.org

amount of alcohol the sensor detects. The more alcohol it detects, the greater the analog voltage it will output. Conversely, the less alcohol it detects, the less analog voltage it will output. If the analog voltage reaches a certain threshold, it will send the digital pin DOUT high. Once this DOUT pin goes high, the arduino will detect this and will trigger the LED to turn on, signalling that the alcohol threshold has been reached and is now over the limit. How you can change this threshold level is by adjusting the potentiometer to either raise or lower the level.

2.3. Arduino

Arduino is an open source programmable circuit board that can be integrated into a wide variety of projects both simple and complex. This board contains a microcontroller which is able to be programmed to sense and control objects in the physical world. By responding to sensors and inputs, the arduino is able to interact with a large array of outputs such as LEDs, motors and displays.

2.4. Buzzer

A buzzer is a signalling device, usually electronic, typically used in automobiles, household appliances such as a microwave oven, or game shows. It most commonly consists of a number of switches or sensors connected to a control unit that determines if and which button was pushed or a preset time has lapsed, and usually illuminates a light on the appropriate button or control panel, and sounds a warning.

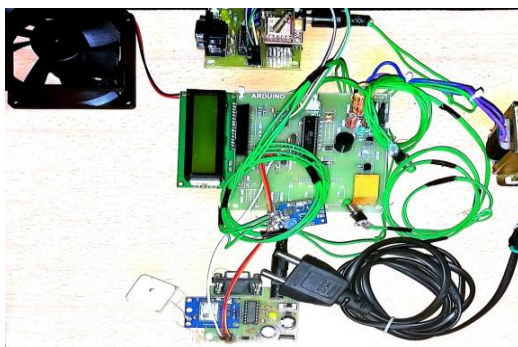### 3. RESULTS AND DISCUSSIONS

Fig 4: Project diagram

4. CONCLUSION

This helmet ensures the safety of the bike rider. A rider can't start bike if he drank alcohol or he/she hasn't wear helmet, so he/she has to follow the traffic rules, and accident reporting feature will save the bike rider's life.

REFERENCES

[1] International Journal of Science and Research (IJSR) ISSN (Online): 2319-7064 Volume 3 Issue 3, March 2014
[2] International Journal Of Computer Science And Applications Vol. 6, No.2, Apr 2013 ISSN: 0974-1011 (Open Access)
[3] Article from The Hindu [online] 2011 Feb. 10 Available from:URL:http://www.hindu.com/2011/02/10/stories/2011021063740500.htm