

Accident Prevention Breaking System by using Eye Blink and Alcohol Detector Sensor

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Abstract

This framework gives a novel strategy to check inebriated and sluggish individuals. This framework has a liquor sensor and eye flickering sensor implanted in the vehicles. At the point when the driver starts the vehicle, the sensors sense the eye flicker and measure the substance of liquor in his inhale and naturally conveys the message to signal, WIFI and lcd. In this framework the results of sensors are given to the microcontroller for examination. On the off chance that the worth ranges as far as possible, consequently Wi-Fi will send the SMS. These sorts of mishaps happen because of tiredness and the driver doesn't have the option When the driver awakens up, the car must be controlled. The sluggishness is indented by the eye squint conclusion and flickering recurrence by means of an infrared sensor vehicle's headgear through displays casing or IRS. If the driver is sleepy, the framework will give a bell and the speed of the vehicle is diminished in 3 to 5 sec.

Keywords- Eye Blink Sensor, Alcohol detector.

1.INTRODUCTION

This task includes measuring and controlling the eye squint and liquor content utilizing IR sensor and liquor finder. The laser rays in our eyes are communicated through the Infrared sensor. To get the reflecting thermal radiation of the eye, the IR collector is used. If the eye is closed, the IR sensor yield is likely to be high, while the IR receiving value is likely to be low. This allows you to see if your eye is closed or open. Liquor identifier recognizes the substance of liquor in the breath and in this manner it endeavours to clip down heavy drinkers. This framework utilizes microcontroller, LCD show, liquor finder, WIFI and ringer. The result of the sensor is straightforwardly relative to the substance of liquor consumed. This result is given to a rational circuit to show caution. This venture includes controlling mishap because of obliviousness through eye flicker and liquor locator. Here one eye flicker sensor and liquor identifier are fixed in the vehicle assuming anyone loses cognizant and demonstrated through alert, LCD and WI-FI. The circuit has a liquor sensor. This sensor estimates the substance of liquor from the breath of plastered individuals. Result of the sensor is straightforwardly relative to the liquor content. At the point when the liquor particles in the air meet the cathode that is among alumina and tin dioxide in the sensor, ethanol consumes into acidic corrosive then more current is delivered. In this way, the more liquor atoms the more will be the current created. Result of the sensor is then taken care of to the microcontroller for examination. The result of the sensors is in the simple nature which ought to be changed over into computerized design. This is finished by the simple to advanced converter of the microcontroller unit. The microcontroller controls the whole circuit. The LCD shows the message, WIFI sends the message, and the ringer produces an alert. The functioning circumstances and different limitations were appropriately concentrated prior to completing further advances.

This task is blend of three sub parts Eye flicker Sensor, Alcohol locator, IR finder

Eye Blink Sensor-This eye squint sensor depends on IR. It comprises an IR transmitter and IR collector. The eye squint sensor enlightens the eye with infrared light and screens the progressions in the mirrored light. The infrared light reflected from the eye is utilized to decide the outcomes. The sensor yield is dynamic high for Eye close and can be given straightforwardly to the microcontroller for connecting applications. At the point when this result stays high for a particular time frame (limit), the driver is sluggish. Thus, a ringer can be initiated to wake the driver. At the point when the module distinguishes snags before the sign the circuit board green marker light level, while the OUT port nonstop results in a low-level sign, the module recognizes 2-10cm, discovery point 35. the recognition distance can be possible with change potentiometer clockwise the expansion in discovery distance counterclockwise change potentiometer. the location distance diminished.

Alcohol detector- The MQ-3 alcohol detector was employed in this case to determine whether or not the operator had ingested alcohol. The sensing permeability rises when liquor is abundant in the atmosphere, resulting in the desired output. The detector is acutely vulnerable to booze, but less so to benzene, gasoline, smoking, and condensate. This sensor has a value of up to 2 metres and may be used to identify liquor at varying concentrations.

IR Sensor- To avoid accidents and to prevent collisions we propose “Accident-avoidance system by using IR sensors”. The system works by using the inputs from the IR sensors. It detects if the driver has fallen asleep by observing the eye blinks and sends pulses via the microcontroller

2. Accident Prevention Breaking System



Fig.2. Accident prevention breaking system by eye blink and alcohol detector.

3. HARDWARE AND SOFTWARE USED

☐ HARDWARE USED

1. Arduino
2. Alcohol sensor
3. Eye blink sensor
4. Battery
5. Resistor
6. Capacitor
7. Voltage regulator
8. Dc motor
9. IR sensor
10. Relay
11. op amp IC

SOFTWARE USED

Arduino ide (Integrated Development Environment)

4. COMPONENTS

4.1. Arduino- The Arduino is a board in view of an ATMEL AVR microcontroller. Microcontrollers are coordinated circuits where directions can be recorded, which you compose with the programming language that you can use in the Arduino IDE climate. These guidelines permit you to make programs that collaborate with the hardware on the board. The most utilized microcontrollers on Arduino stages are the ATmega328 for their straightforwardness, yet it is being extended to Atmel microcontrollers with 32-cycle ARM design and to Intel microcontrollers. The Arduino microcontroller has correspondence ports and info/yield ports. with which we can interface various kinds of peripherals on the board. The data of these peripherals that you associate will be moved to the microcontroller, which will supervise handling the information that comes through them. Then again, Arduino gives us programming consisting of an improvement climate (IDE) that carries out the Arduino programming language, the devices to move the firmware to the microcontroller and the bootloader executed on the board. The primary component of the product and the programming language is its effortlessness and convenience. Arduino vows to be a straightforward method for completing intuitive ventures for anybody. For somebody who believes they should do a task, the cycle is to download and introduce the IDE, search the web a little and essentially "reorder" the code that intrigues us and transfer it to our HW. Then, at that point, make the relating wiring with the peripherals and we as of now have the product communicating with the Hardware. This with a negligible financial venture: the expense of the Arduino and the fringe.

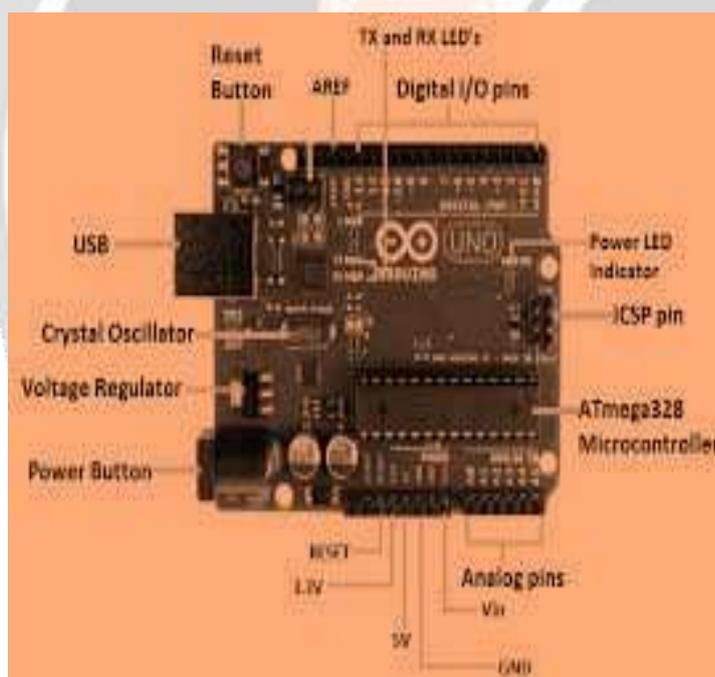


Fig.4.1. Arduino

4.2. IR Sensor- To avoid accidents and to prevent collisions we propose "Accident-avoidance system by using IR sensors". The system works by using the inputs from the IR sensors. It detects if the driver has fallen asleep by observing the eye blinks and sends pulses via the microcontroller.



4.3. Alcohol Sensor- The MQ-3 alcohol detector was employed in this case to determine whether or not the operator had ingested alcohol. The sensing permeability rises when liquor is abundant in the atmosphere, resulting in the desired output. The detector is acutely vulnerable to booze, but less so to benzene, gasoline, smoking, and condensate. This sensor has a value of up to 2 metres and may be used to identify liquor at varying concentrations.

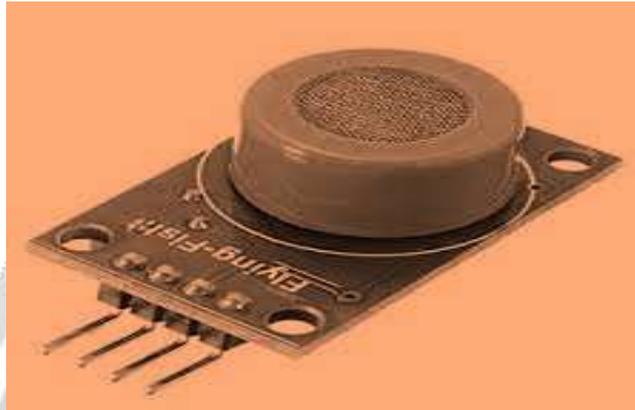


Fig.4.3. Alcohol detector

4.4. WI-FI- The ESP8266 is a well-coordinated chip designed to meet the needs of a different connected world. It provides a comprehensive and self-contained Wi-Fi organising solution, allowing it to either run the programme or transfer all Wi-Fi organising functions to that other underlying hardware.

The ESP8266 features powerful on-board managing and accumulating capabilities, allowing it to communicate with detectors and other application-specific devices via its GPIOs with minimal front-end development and minimal layering during playtime. Its high degree of on-chip synchronization overlooks little external drive, and the entire setup, even on the front component, is designed to take up minimal PCB space.



Fig.4.4. WI-FI

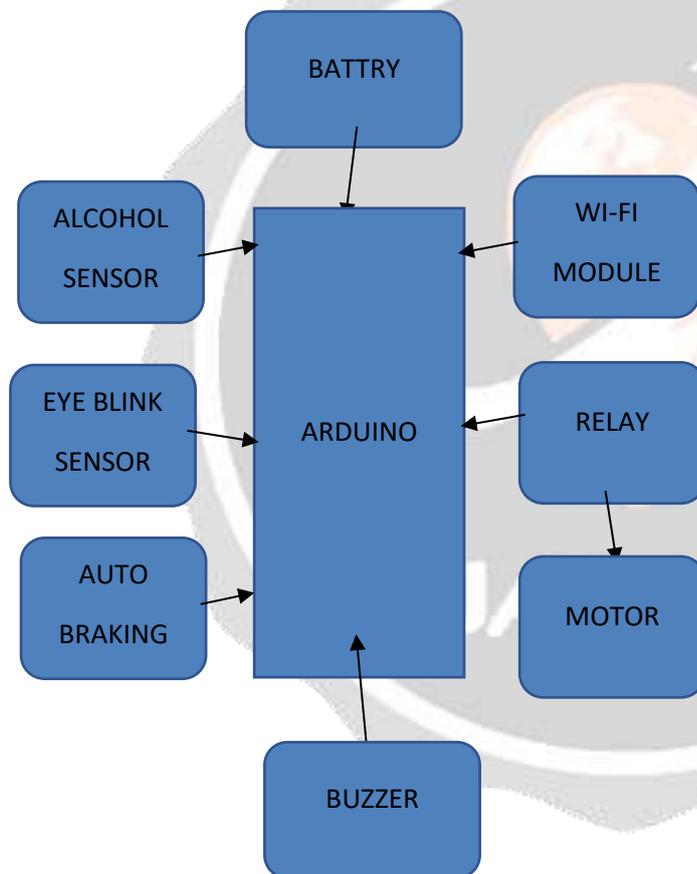
4.5. DC MOTOR- An electric motor is a mechanism that converts electrical power into mechanical power. The vital functioning standard of a DC engine is: "the point at which a current conveying guide is set in an attractive field, it encounters a mechanical power". Fleming's left-hand rule

determines the energy's direction, and $F = BIL$ determines its magnitude. Where B is the thickness of the attracted movement, I is the current, and L is the length of the lead within the external field. An Engine is an electricity machine that converts straight flow electrical energy to mechanical energy.



Fig.4.5 DC Motor

5.BLOCK DIAGRAM



6.CONCLUSION

Our task Accident Prevention by Eye Blinking Sensor and Alcohol Detector was carried out effectively. This gadget gives a lot of cutting-edge offices in nowadays life as it very well may be effectively executed in vehicles. In this manner, we can decrease liquor and sleepy related street mishaps and thus these sorts of locators have an extraordinary pertinence. It can likewise be utilized in schools, universities, workplaces, and a few public places, for example, emergency clinics, libraries and so on. Through this task we present equipment programming of microcontrollers to work with as liquor sensors, eye flickering sensors.

6.REFERENCES

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