Review on to Design and Develop an Anti-Sleep Alarm for Drivers

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Abstract- The Worldwide, sleepiness and driver weariness play a major role in traffic accidents and fatalities. We have created an inventive Anti-Sleep Alarm system especially for drivers in order to solve this pressing problem. Advanced sensor technologies, and an intuitive design are combined by this system to efficiently identify and warn drivers when they are in danger of while operating a vehicle. The three main parts of the Anti Sleep Alarm system are an alert mechanism, and a design of the Anti-Sleep Alarm system user- friendliness, ensuring that it is easy to use, comfortable to wear, and non-intrusive during normal driving conditions. It offers customization options to adapt to individual driver preferences and sensitivities.

Index Terms- drowsiness detection, automated call receiving/declining system, accident detection, Tilt Sensor, Buzzer

I. INTRODUCTION

In modernisms owing to hectic schedules it becomes very difficult to remain active all the time Imagine a situation where a person is driving home from works dead treed acer facing all the challenges of the day His hands are on the wheel and foot on the pedal but suddenly he starts feeling drowsy his eyes start shutting and his vision blurs and before he knows its he's asleep Falling asleep on the wheel can lead to serious consequences there may be accidents and people may even lose their lives This situation is much more common then we notice and hence it is very important to counter this problem So to address this issues we have come up with a Driver Antisleep device This system alerts the user if he/she falls asleep at the wheel thereby avoiding accidents and saving lives This system is useful especially for people who travel long distances and people who are driving late at night

The technique for detecting tiredness can identify drowsiness rapidly. The ability of the technology to distinguish between fatigue and a regular eye blink can stop a driver from falling asleep behind the wheel. The device functions effectively in both low light and while the driver is wearing glasses. The technology can determine if the eyes are closed or open during the monitoring. An alert is sent out when the eyes are closed for an extended period of time. The system's ultimate objective is to assess the driver's level of tiredness.

The driver's eye movements are used to detect tiredness. When the driver blinks, an alarm is set off to warn the driver and lower the speed of the car while also indicating a parking light. This will decrease the number of accidents and protect the driver and the vehicle. The driver safety and vehicle security system is only available in high-end, expensive vehicles. It is possible to integrate driver security and safety using eye detection into a regular automobile as well. The driver's eye movements are used to detect tiredness. When the driver blinks, an alarm is set off to warn the driver and lower the speed of the car while also indicating a parking light. This will decrease the number of accidents and protect the driver and the vehicle.

II. OBJECTIVE

1. Alcohole Detection Sensor
Enhancing safety and preventing impaired activities by detecting alcohol levels in individuals. Primarily used in co contexts such as vehicle operation, workplace safety, and public spaces to ensure compliance with alcohol-related regulations Measures alcohol concentration, providing real-time monitoring and acting as a deterrent against impaired driving or other alcohol-related activity.

- **Safety Enhancement:** Improve road safety by preventing accidents caused by driver drowsiness.
- **Alert Mechanism:** Implement a reliable system to detect signs of drowsiness and promptly alert the driver.
- **Real-time Monitoring:** Continuously monitor driver behavior .
- **Customizable Sensitivity:** Allow users to adjust the sensitivity of the system based on personal preferences and driving conditions.
- **User-Friendly Design:** Create an intuitive and non-intrusive system that is easy for drivers to use and understand.

III. LITERATURE SURVEY

Md. Yousuf Hossain [1] At present, drowsy driving has become one of the major issues of traffic collisions. According to statistics, a large number of road accidents occur due to drowsy driving which results in severe injuries and deaths. For this reason, various studies were done in designing systems that can examine the driver fatigue and alert him beforehand, thus preventing him from falling asleep behind the wheel and causing an accident. Some traditional approaches used vehicle based measures to design their system, however, such measurements are highly influenced by the structure of the road, type of vehicle and the driving skill. Other approaches used psychological measures for their system that tend to provide better accuracy in monitoring the drowsiness of the driver. However, such techniques are usually intrusive as electrodes are required to be placed on the head and body. Furthermore, there are few existing researches in which subjective measurements are used as the input for the system, but such methods can distract the driver and lead to an ambiguous result. In this paper, we proposed a system that is absolutely nonintrusive and realtime. Our proposed system used the eye closure ratio as input parameter to detect the drowsiness of the driver. If the eye closure ratio deteriorates from the standard ratio, the driver is alerted with the help of a buzzer. For our system, a Pi camera is used to capture the images of the driver's eye and the entire system is incorporated using Raspberry-Pi.. Hitendra Garg [2] The developments in technology over the years bring the support to drivers using smart vehicle systems. In the past few years, there has been a substantial increase in road accidents in India and worldwide as well. The most significant reasons for the same are drowsiness and fatigue. Therefore, driver drowsiness and fatigue detection is a major possible area to prevent a large number of sleep induced road accidents. Considering this problem, this article proposes a Real-Time Drowsiness Detection System (RTDDS) applicable in motor vehicles with the help of Conventional Computer Vision applications. The system employed various Computer Vision applications using blink rate, eye closure, yawning to effectively and quickly identify the drowsiness of a driver during driving the vehicle and alter the driver accordingly. The proposed work tried to contribute to reducing the increased number of road accidents while keeping the methodologies simple and intact. Danghui Liu [3] Fatigue driving easily causes traffic accidents. Drowsiness is an important hint of Fatigue. A novel drowsiness detection algorithm based on eyelid movement is proposed in the paper. The cascaded classifiers algorithm is used to detect the driver's face and the diamond searching algorithm used to trace the face. A simple feature is then extracted from temporal difference images and used to analyze rules of eyelid movement in drowsiness. Furthermore, three criterions are also presented and used to judge whether a driver is drowsy or not. Experimental results show that this new algorithm achieves a satisfied performance for drowsiness detection.

1. P.Sandeep Chary,2. S.Pranay, 3N.Sai Kishore, 4M. Ravi Kumar: The drowsiness detection system is capable of detecting drowsiness in quickly. The system which can differentiate normal eye blink and drowsiness can prevent the driver from entering the state of sleepiness while driving. The system works well irrespective of driver wearing spectacles and under low light conditions also. During the monitoring, the system is able to decide if the eyes are closed or opened. When the eyes have been closed for too long a warning signal is issued. The ultimate goal of the system is to check the drowsiness condition of the driver. Based on the eye movements of the driver, the drowsiness is detected and according o eye blink, the alarm will be generated to alert the driver and to reduce the speed of the vehicle along with the indication of parking light. By doing this, many accidents will be reduced and provides safety to the driver and vehicle. A system that is driver safety and car security is presented only in luxurious costly cars. Using eye detection, driver security and safety can be implemented in normal car also.
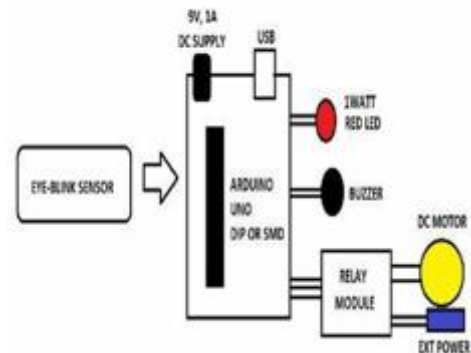

Fig.1 of Circuit diagram

Procedure: The project uses the eye blink sensor which consist of IR sensor There are two sections in IR sensor .The IR transmitter is used to transmit the infrared rays to our eyes The IR receiver is used to receive the reflected infrared rays of eye If the eye is closed then the output of IR receiver is high otherwise the IR receiver output is Lowe And if the eye is closed more than 3 sec it activates an alarm which in turn wake the driver If the driver doesn't wake up acer 3 sec car engine will automatically turn off.

Functions of the Components

IR Sensor: It is a electronic device used to detect some objects near-by surroundings. It detects the movement of an object. In this project we used IR Sensor as an input to detect the moment of eye-blink.

Arduino Uno Smd: The Arduino Uno SMD is a microcontroller board based on the ATmega328. It has 20 digital input/output pins (of which 6 can be used as PWM

outputs and 6 can be used as analog inputs), a 16 MHz resonator, a USB connection, a power jack, an in-circuit system programming (ICSP) header, and a reset button.

Buzzer: A piezo Buzzer is used to get output of the executed program and any errors occurs in process an immediate buzzer is generated.

IV. CONCLUSION

The analysis and design of driver drowsiness detection and alert system is presented The proposed system is used to avoid various road accidents caused by drowsy driving e This project involves avoiding accident to unconsciousness through Eye blinked Here eye blink sensor is feted in a transparent spectacle which driver need to wear while driving the vehicle where if driver lose his consciousness then it alerts the driver through buzzer to prevent vehicle from accident.

In this pepper will study the reviews of the previous peppers and get her references for the further process.

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