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Provision of a Security Mechanism for Drivers

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Abstract: ***Sensor is really a device that detects changes or occasions in amounts and offers an output akin to the input the signal usually in optical or electrical signal. Sensors obey certain condition and rules. Within this paper alcohol recognition and heartbeat monitoring system, person level identification system, eye blink that's sleepiness level, thievery recognition and mobile free auto reply technique is accustomed to avoid any sort of accident. The primary goal would be to provide awareness and safety mechanism for that driver. Primary reason of the accident is a result of sleepiness, drinking and abnormal pulse rate of driving person. Additionally for this thievery recognition, home security system and person level identification is decided. Both ways can be used to rectify the negligence from the driver and immediate intimation strategy is produced by utilization of GSM technology.***

Keywords: Sensor, Heart rate monitoring system, Accident, Abnormal pulse rate, GSM technology, Security system, Alcohol consumption

1. Introduction

Road accidents and collisions occur frequently. Because of health problem accident can happen, assuming there's a less pulse level then person can lead to unconscious stage. Lack of individual is mainly because of cardiac arrest, drunk driving only so this is often reduced by utilizing different techniques. For Heartbeat heartbeats are usually expressed as bpm. Sensor is really a device that detects changes or occasions in amounts and offers an output akin to the input the signal usually in optical or electrical signal. The sensor converts the resulting alternation in the incoming infrared radiation into a general change in the output current, which triggers the recognition. For counting the attention blink and discovering the sleepiness level by utilization of IR sensor. Generally Hybrid word can be used for mixing more quantity of components in one system. Likewise you will find pulse level monitoring, sleepiness recognition process can be found. Different process used together to supply a comprehension for that driving person. Three techniques namely drunk driver prevention, human level recognition and heartbeat measurement techniques are utilized. These 3 techniques mostly are accustomed to steer clear of the accident. Alcohol Recognition product is accustomed to appraise the alcohol content contained in the body. If alcohol submissions are high, then there's a decrease in breathing level, for this reason accident can happen. The quantity of alcohol in bloodstream is known as bloodstream alcohol level. Alcohol level is measured by utilisation of the gas discovering sensor. Heartbeat sensor method is a straightforward device that gets to be a sample of signal healthy of pulse rate and calculates the centre beat signal as bpm. Normally human heartbeat is all about 70 bpm for males and 75 beats for adult women. Generally there are various kinds of condition for heartbeat. When the heartbeat signal is of ordinary conditions is known as bradycardia and if it's in condition then it's called tachycardia. Human Level Identification Method: or no person within the vehicle human level identification technique is accustomed to identify quantity of person within the vehicle after which intimation is send to who owns vehicle. The primary utilization of human level identification technique is to recognize the individual within the vehicle. Passive infrared sensor can be used this detects a person's level. If vehicle is not being used for the reason that situation window from the vehicle is within closed symptom in such situation or no individual is within the vehicle with any understanding from the owner then your person within the vehicle will forfeit their oxygen level, here the carbon-di-oxide level is elevated for this reason person may die.

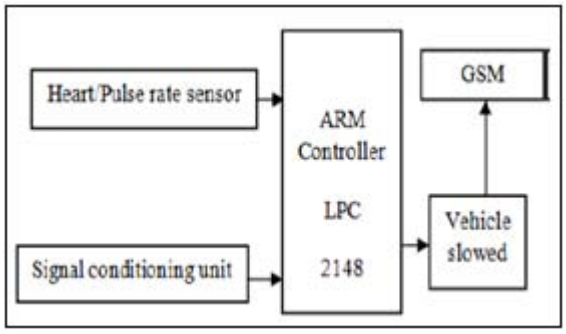

Figure: An overview of heart rate sensor method

2. Methodology

The majority of the city accidents result from negligence of driver but outdoors the town, accidents occurs because of drunk driving only. The majority of the accidents occur, if person attends an appointment while driving. To avert this problem many technique happen to be used. Sensors obey certain condition and rules. It's responsive to the measured property only. It's insensitive holiday to a property likely in the application. A person PIR sensor detects alterations in the quantity of infrared radiation. Their value varies around the temperature and surface qualities from the objects while watching sensor. There's a very efficient automatic system for early recognition of outgoing and incoming call. Discovering the reasons for example drinking, range pulse level, person and sleepiness level identification, thievery recognition and home security systems are handled within the hybrid driver safety awareness method. Hybrid driver safety method includes different techniques. Vigilance technique is only sleepiness recognition method. Safety method is dependent on thievery recognition system this really is recognized by utilisation of the password

authentication process. In accident avoidance system: Drunk driver prevention, human level recognition and heartbeat measurement technique is used. These preventive techniques mostly are employed for staying away from accident. If your driving person consumes any alcohol or drug this made the individual to get an unconscious stage for this reason accident happens. Accidents occur because of lack of health problems or with no understanding of owner that is a result of less oxygen level within the vehicle is reduced then person die. Hybrid security and safety system for vehicle uses different sensors for example alcohol sensor, passive infrared sensor, MQ7 gas sensor. These techniques mostly are accustomed to sense the signal which signals are controlled through the controller. ARM controller LPC 2148 is designed according to alcohol condition, human level recognition and pulse rate monitoring. Three method driver vigilance levels is detected and when the individual is within condition then for driver side alarm is offered then for that thievery recognition method thievery is recognized by utilisation of the password matching method. For home security system password technique is used. Then accident happens because of attending telephone call to avert this process call diverting strategy is used. These types of techniques are utilized within the hybrid driver security and safety method. There's an alcohol testing feature which instructs the motive force to blow air in to the sensor unit after which it inspections the alcohol content contained in the motive force breathe. When the value has entered a particular limit the automobile ignition is going to be locked which prevents a drunk driver from beginning the automobile. Alcohol Recognition Method accustomed to identify the alcohol content, within this MQ3 alcohol sensor unit can be used to determine the breath of the person if the alcohol consumed or otherwise. Here the analog signal is transformed into digital form then your signal is offered towards the ARM circuit because controller consumes just the digital form. The ARM is designed with certain threshold current. The reduced medium and also the high threshold degree of an alcohol condition are designed in to the ARM circuit, if greater then alarm acquired in the vehicle side. When the drinking is less, then your condition is verified. Alcohol consumed through the driver is measured and also the output graph seen in LABVIEW for various values. Out of this drinking of driver is checked therefore, the crash or accident is prevented as well as for different ranges of input value the output is acquired. When the driver consumes more alcohol therefore the problem isn't satisfied. Therefore power inadequate towards the controller and also the relay switch. Therefore, the ignition product is not connected and also the Electricity motor switched to OFF condition. Alarm seem is acquired.

3. An Overview of Proposed System

Recognition techniques include two ways. One of the ways is Eye blink sensor method, next is thievery recognition process. Both of these techniques are utilized to avoid accident and safeguard the automobile. Driver fatigue caused by lack of sleep or sleep problems is a vital element in the growing quantity of accidents on today's streets. The majority of the accident happens because of sleepiness. This sleepiness level is detected by utilization of eye blink sensor. IR sensor can be used identify the blink of the eye. Within this IR transmitter can be used to deliver the infrared sun rays in eye. There's an inverting and non inverting input terminal by which in line with the reference signal and input signal the output is acquired. The IR receiver can be used to get the reflected infrared sun rays from the eye. When the eye is closed means the creation of IR receiver is high otherwise the IR receiver output is low. This to understand the attention is closing or opening position. The signal is offered to IR transmitter whenever the signal is high, the IR transmitter Brought is performing it passes the IR sun rays towards the receiver. The IR receiver is associated with comparator that is built with LM358 operational amplifier. The in comparison output is share with the ARM controller and when their value is more than the brink value. When the value is high then alarm seem is created. Counting of the eye blink is calculated. For each 20sec eye blink is counted and when the count of eye blink is under the brink value then alarm seem is created and immediately intimation is send to who owns the automobile. For every power offered as well as their outputs are seen in module. The automobile anti thievery system includes different layers for example password recognition and also the matching process. Thievery happens according to that the doorways are opened up. When the vehicle is switched ON then using the mechanical keys together with correct key number door is opened up. Automobiles thievery is recognized by utilisation of the password method. When the password is matched up then just the vehicle is begun after which intimation is send to who owns the automobile. Keyboard switch can be used for authentication process. If Password matched up - intimation is send to owner, ignition is begun. The password is offered towards the ARM controller in the keyboard switch the password is offered. When the password is matched up then your intimation is send towards the owner therefore, the vehicle is began. If password isn't matched up then vehicle isn't began then intimation is send towards the owner. Thus thievery from the vehicle is recognized and therefore home security system is supplied.

4. Conclusion

Accidents mainly occur because of driver negligence. The primary goal would be to provide awareness and safety mechanism for that driver. The presented jobs are accustomed to steer clear of the accident by utilization of heartbeat monitoring system, alcohol recognition and person level identification method additionally for this three method there's recognition method for example eye blink sensor, thievery recognition, home security system can be used. Alcohol recognition and heartbeat monitoring system, person level identification system, eye blink that's sleepiness level, thievery recognition and mobile free auto reply technique is accustomed to avoid any sort of accident. Password authentication, calls divert method, pulse level and eye blink checking mechanism is processed.

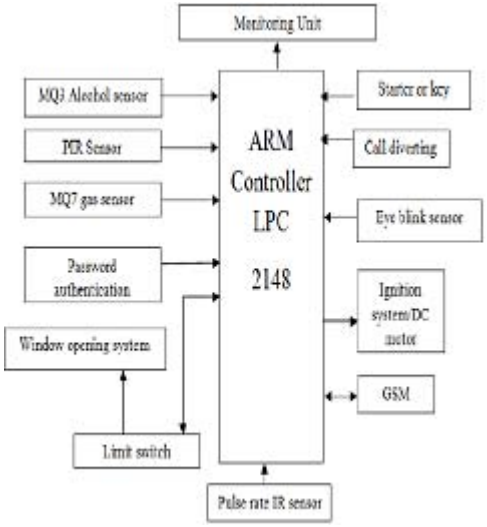

Figure: An overview of hybrid safety and security system for vehicle.

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