

Microcontroller Base Normal Engine Lock Scheme Intended For Drunken Drivers

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Abstract:

Most of nowadays, we pay attention lot of injuries due to drunken using. Drunken drivers will now not be in solid circumstance and so the rash using is the inconvenience for different avenue users and also query of life and death for the drunken driver and for others. This system offers automatic detection engine ignition locking gadget with remarks SMS the use of GSM Technology. In this task, we are developing an Auto Lock System. The input for the machine is from Detection Sensors both from Alcohol Breath or some other mechanism. The controller continues seeking out the output from those sensors. If there are any traces of Alcohol above the set restriction, then the machine will lock the Engine. This machine continuously video display units the motive force to keep away from drunk and force injuries. In this gadget we're the use of LPC2148 Microcontroller, GSM, LCD, Relay, and DC Motor with motor driving force and Buzzer. The controlling device of the entire machine is a ARM7 processor to which GSM module, LCD, Relay, DC motor are interfaced through a motor motive force. If motive force takes alcohol at any time then this gadget will perceive and manipulate the ignition straight away, also send on the spot sms alert to the traffic office and respective preloaded numbers. The ARM7 processor is programmed using Embedded C language.

Keywords

ZigBee, GSM, ambulance vehicle, stolen vehicle, congestion control, traffic junction.

1. Introduction

This Project offers an automobile coincidence alerting device using GSM-SMS offerings. This machine is also supplied with emergency accident identity sensor and signals through an SMS.

The gadget can be interconnected with the automobile alarm machine and alert the proprietor on

his cellular smartphone. This gadget is composed of a vibration sensor, Microcontroller and a GSM Modem. The Microcontroller approaches this records and this processed data is despatched to the person/proprietor the usage of GSM modem. Microcontroller also gets the accident detection signals and sends it to consumer/proprietor.

The supplied software is a low value answer for automobile position and status, very useful in case of automobile theft situations, for tracking adolescent drivers by means of their mother and father as well as in vehicle tracking device applications. The proposed answer may be utilized in different varieties of software, where the records needed is requested not often and at abnormal time period (while requested).

An embedded system is a aggregate of software program and hardware to perform a devoted undertaking. Some of the primary devices utilized in embedded products are Microprocessors and Microcontrollers.

Microprocessors are usually known as fashionable cause processors as they virtually be given the inputs, technique it and give the output. In comparison, a microcontroller no longer only accepts the records as inputs however additionally manipulates it, interfaces the records with various gadgets, controls the information and as a result finally gives the end result.

Using PIC16F876 Microcontroller is an distinct challenge that can offer protection at homes according to the instructions given by using the above said microcontroller.

2. Literature Review

Traffic jam is an issue in metropolitan areas of developing Nations like India. Development in urban population and also the middle-class segment lead considerably towards the rising quantity of automobiles within the metropolitan areas.

Congestion on streets eventually leads to slow moving traffic, which boosts the duration of travel, thus stands-out among the major issues in metropolitan areas. A 'green wave' may be the synchronization from the eco-friendly phase of traffic signals. Having a 'green wave' setup, an automobile passing via an eco-friendly signal is constantly receiving eco-friendly signals because it travels lower the street. Additionally towards the eco-friendly wave path, the machine will track a stolen vehicle if this goes through a traffic light. Benefit of the machine is the fact that Gps navigation within the vehicle doesn't need additional power. The greatest drawback to eco-friendly waves is the fact that, once the wave is disturbed, the disturbance may cause traffic problems that may be exacerbated through the synchronization. In such instances, the queue of automobiles inside an eco-friendly wave develops in dimensions until it might be too big and a few of the automobiles cannot achieve the eco-friendly lights over time and should stop. The actual-time operation from the system emulates the judgment of the traffic policeman working. The amount of automobiles in every column and also the routing are proprieties, where the computations and also the choice are carried out. The drawback to the work is it doesn't discuss what techniques can be used for communication between your emergency vehicle and also the traffic signal controller. The main focus of the jobs are to lessen the delay in arrival from the ambulance towards the hospital by instantly clearing the lane, by which, ambulance is travelling, before it reaches the traffic signal. This is often accomplished by turning the traffic signal, within the road to the ambulance, to eco-friendly once the ambulance reaches a particular distance in the traffic junction. Using RFID differentiates between your emergency and non-emergency cases, thus stopping unnecessary traffic jam [2]. The communication between your ambulance and traffic signal publish is completed with the transceivers and Gps navigation. The machine is fully automated and needs no human intervention in the traffic junctions. The drawback to this technique could it be needs all the details concerning the beginning point, finish reason for the travel. It might not work, when the ambulance must take another route for many reasons or maybe the beginning point isn't known ahead of time. Visitors are a vital issues of transportation system in first and foremost the metropolitan areas of Nations.

3. Methodology

In the current problem section, it may be observed that, existing technology is inadequate to handle problems of congestion control, emergency vehicle clearance, stolen vehicle recognition, etc. To resolve

these complaints, we advise to apply our Intelligent Traffic Control System. It mainly includes three parts. First part consists of automatic signal control system. Here, each vehicle is outfitted by having an RFID tag. As it pertains in the plethora of RFID readers, it'll send the signal towards the RFID readers. The RFID readers will track the number of automobiles have undergone for any specific period and determines the congestion volume. Accordingly, it sets the eco-friendly light duration for your path. Second part is perfect for the emergency vehicle clearance. Here, each emergency vehicle consists of ZigBee transmitter module and also the ZigBee receiver is going to be implemented in the traffic junction. The buzzer is going to be started up once the vehicle can be used for emergency purpose. This can send the signal with the ZigBee transmitter towards the ZigBee receiver. It'll make the traffic light to alter to eco-friendly. When the ambulance goes through, the receiver no more has got the ZigBee signal and also the traffic light is switched to red. The 3rd part accounts for stolen vehicle recognition. Here, once the RFID readers read the RFID tag, it compares it towards the listing of stolen RFIDs. If your match is located, it transmits SMS towards the police control room and changes the traffic light to red, so the vehicle is built to stay in the traffic junction and native police may take appropriate action. The CC2500 is really a RF module and it has Tran's receiver, which supplies a good way to make use of RF communication at 2.4 GHz. Every CC2500 is outfitted using the microcontroller, which consists of Unique Identification Number. This UIN is dependent on the number plate from the vehicle. Probably the most important features are serial communication with no extra hardware with no extra coding. Hence, it's a Tran's receiver because it provides communication both in directions, only one direction. Other two pins are utilized to energize Tran's receiver. You can easily store and send UINs. In the junction, you can easily store many emergency automobiles. Before switching to eco-friendly, it ought to satisfy all of the conditions. Simple interrupt option provides the advantage like jump in one loop to a different loop. You can easily switch whenever. It consumes less power and works by vehicle battery itself with no extra hardware. Here, a GSM modem is associated with the microcontroller. This enables the pc to make use of the GSM modem to speak within the mobile network. These GSM modems are commonly accustomed to provide mobile Internet connectivity, most of them may also be used for delivering and receiving SMS and MMS messages. GSM modem must support an "extended AT command set" for delivering/receiving SMS messages. GSM modems are an inexpensive solution for receiving SMS messages, since the sender has to pay for that

message delivery. Rf Identification (RFID) is definitely an IT system that transmits signals without worrying about physical devices in wireless communication. It's categorized under automatic identification technology that is well-established protocol [3]. The significant of the RFID system really is easy. The machine utilizes tags that are affixed to various components to become monitored. The tags store information and data in regards to the particulars from the product of products to become tracked. The reader's reads radio stations frequency and identifies the tags. The antenna offers the method for the integrated circuit to deliver its information towards the readers. There are two kinds of RFID groups, passive and active tags. The tags that don't utilize power are known to as passive and they're driven by an antenna that allows the tag to get electromagnetic waves from the readers. On the other hand, active tags depend on power and they've built-in power sources which allow it to transmit and receive signals from RFID readers. RFID range is dependent on transmit power; receive sensitivity and efficiency, antenna, frequency, tag orientations, surroundings.

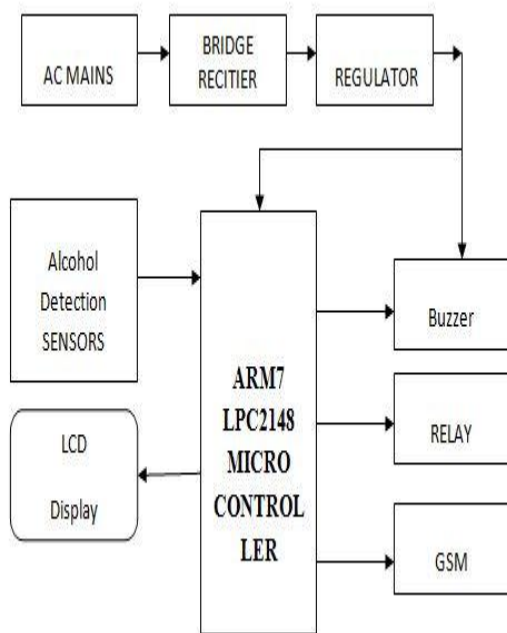
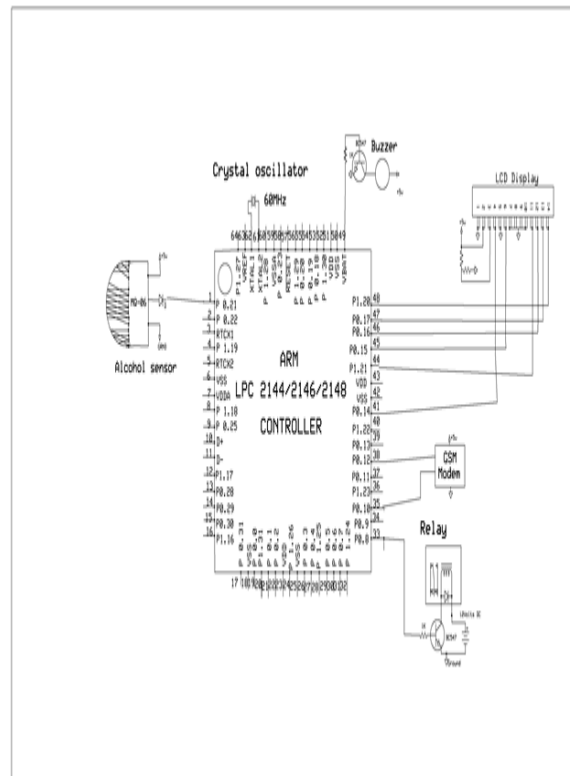


Fig.1. Block Diagram of Traffic system

In this chapter, schematic diagram and interfacing of PIC16F877A microcontroller with each module is considered.



The above schematic Microcontroller Based Automatic Engine Locking System for Drunken Drivers explains the interfacing section of each thing with micro controller and alcohol sensor. The crystal oscillator connected to 9th and tenth pins of micro controller and regulated strength deliver is also linked to micro controller..

In this Project Alcohol sensor has used and at a time fuel sensor has interfaced and hearth sensor ha interfaced with the microcontroller. Among these sensor prompt the auto Ignition function could be disable. That activation of the sensor may be suggests by means of buzzer and led.

ADVANTAGES:

- Good sensitivity to Combustible gas in wide range
- High sensitivity to Propane, Butane and LPG
- Long lifestyles and occasional fee
- Simple power circuit
- It has extensive application in numerous security gadget
- It is utilized in Domestic gasoline leakage detector
- Industrial Combustible gas detector
- Portable gasoline detector

APPLICATIONS:

- it has wide application in various security system
- it is used in Domestic gas leakage detector
- Industrial Combustible gas detector
- Portable gas detector

4. Conclusion

Integrating features of all the hardware additives used were evolved in it. Presence of every module has been reasoned out and placed carefully, as a result contributing to the nice operating of the unit. Secondly, the usage of exceedingly advanced IC's with the help of developing generation, the undertaking has been successfully carried out. Thus the challenge has been efficiently designed and examined.

5. Future Scope

High Sensitive Gas, Fire & Alcohol Sensor with Auto Car Ignition Disable Function"

Using of the High Sensitive Gas, Fire& Alcohol sensor because of having of those sensors can detect easily using threshold voltage of that unique voltage in that sensor.

In the remaining two decades, identity verification has moved from the numerical to the bodily. By Due to humans now not worrying about lives if they had been in touring inside the car type of assignment has been delivered within the car industries. With the aid of that they may met the accidents to keep away from the issues those t besides, they may be abused, forgotten or lost. Not so with biometrics. They provide fail-safe solutions and save organizations hundreds of thousands of bucks every year

6. References

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Student:



Guide:

