

DEVELOPMENT OF VEHICLE TRACKING AND LOCKING SYSTEM USING GSM

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ABSTRACT

Now-a-days every people have their own vehicle .Moreover, theft happens in the parking area. So, the safety of vehicle is extremely essential for public vehicles. An advanced car security system is to be designed and constructed using PIC controller. In the vehicle, tracking and locking system is placed to track the location and automatically lock the engine motor .The place of the vehicle identified using global system mobile communication (gsm). The gsm constantly watch a moving vehicle and report status on demand. When the theft is identified the owner is intimated through an sms from the microcontroller and then the microcontroller issue the control signals to stop the engine motor and thus the vehicle is automatically. Authorized person can use the car when needed by sending the password to controller to restart the vehicle and can open the door.

KEYWORDS

GSM Modem, Microcontroller, Relay, Vibration sensor

INTRODUCTION

This new technology popularly called vehicle tracking system which created many wonders in the security of the vehicle. When the thief illegally to open the of the vehicle(car) at the time to produce the alarm alert signal to the user by means of vibration generates in the car. At the same time combine with this

alarm signal there is a message signal alert given to the owner of the vehicle in his mobile phone using gsm. If we have to track the vehicle we need a send a message to gsm device by which it gets activated. If the owner does not permit to access the vehicle send NO information hence the thief cannot able to open and the engine motor automatically to be in locked condition

EXISTING SYSTEM

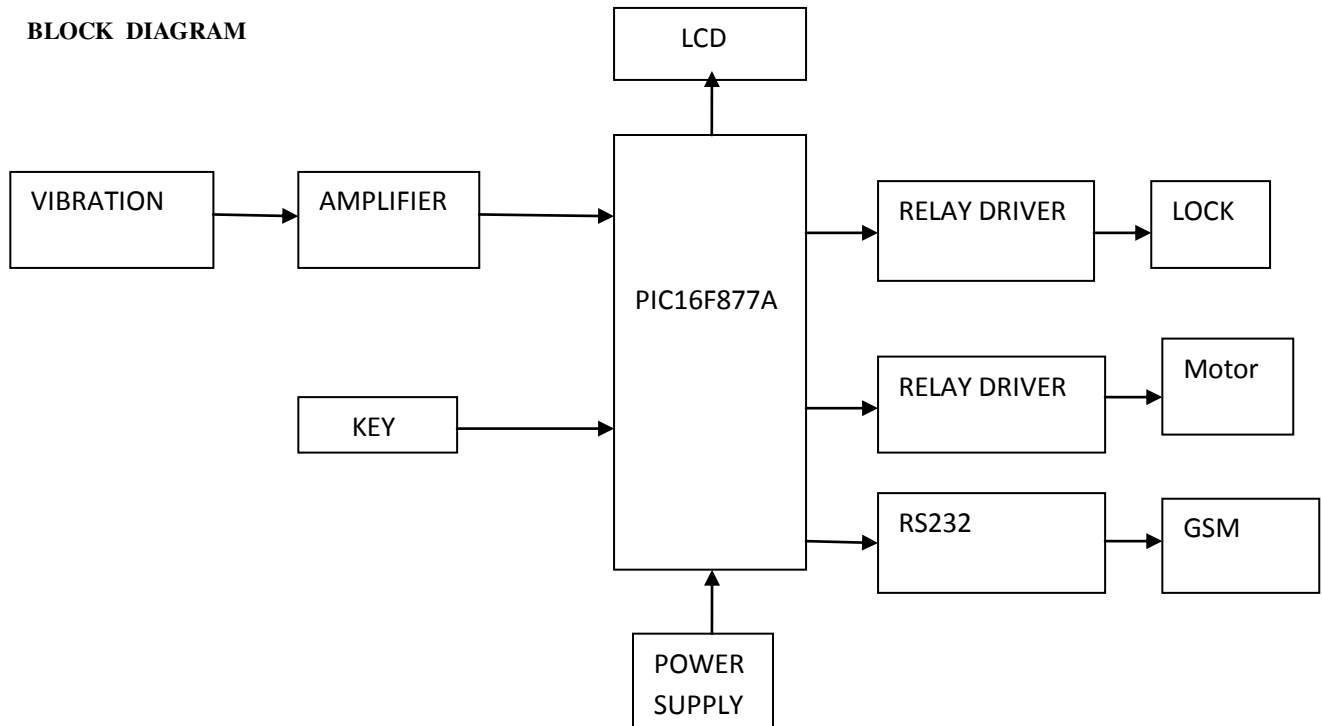
The existing system is the steering locked and handwheel locked condition of the system. The place of the vehicle is identified using GPS and GSM. In this system constantly moving watch the vehicle and report the status to the owner and modified to my paper automatically engine motor locked condition and vehicle security is safety

PROPOSED SYSTEM

The proposed system is used for positioning and navigating the vehicle with an accuracy of 10m. In this system alarm an is implemented in the vehicle to produce the alarm signal when the thief illegally opens the door. In addition to this ,

the(sms) message signal is given to the user to his mobile phone using gsm. By means of this message signal the motor will be automatically locked such a way that their cannot open the vehicle. The arrived data in the form of latitude and longitude is used to locate the vehicle on the google maps and also we can see the output on the LCD

BLOCK DIAGRAM



present car location. The sms received by the GSM modem is directed connected at the microcontroller

HARDWARE DESIGN

MICROCONTROLLER

Microcontroller is the some combination of computer is hardware and software. It is specially designed for a particular function within larger mechanical or electrical system often with real time computing function. Microcontroller is used for wide range applications because it's the low cost and easily available. The microcontroller is used in pic microcontroller in this system and operating voltage is the 2v to 5.5v and It is used as the 40 pin microcontroller. The microcontroller is used to lock/unlock condition and switching ON/OFF the car engine and sending the

RELAY

Relays are simple switches which are operated both electrically and mechanically and operating voltage is 5v. Relay is the two types first one is the electromagnet relay and another one is the electrostatic relay. This project only used for the electromagnet relay. These relays are interfaced with the microcontroller and switched between normally closed (NC), normally opened (NO) and common position for locking/unlocking the car and turning ON/OFF the car engine its automatically locked in the motor

VIBRATION SENSOR

Vibration sensor is used as the piezoelectric plate in the security system. It is generated by pressure on certain crystal which on developed to the potential voltage or power supply voltage is amplified from the crystal face. When crystal is vibration or alarm signal produced to the AC voltage

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GSM MODEM

GSM is the one type of digital cellular technology. GSM Modem is SIM 900 used in this system and frequency band is 850MHZ,900MHZ,1800MHZ and 1900MHZ. GSM Modem is specialized type of modem which accepts the sim card and operates over a subscription to a mobile operator like to a mobile phone



POWER SUPPLY

Power supply is used as the step down transformer. Its operating voltage is the plus or minus 5v, 9v, 12v or 1.5v when the load is less than about 7 amperes

AMPLIFIER

The amplifier is the increasing the power, voltage and current

MOTOR DRIVER

Motor device is convert to the electrical signal into mechanical signal and motor driver is used as the L293D integrated circuit this IC is connected at the four switches and two motors. The L293D is designed to provide

bidirectional drive currents upto 600MA at voltages from 4.5v to 36v

LCD

Liquid crystal display have material combined both liquids and crystals. The output is displayed based on the LCD. 2x16 LCD is used for displaying the message when the car is vibrated



Fig : Advanced car security system

CONCLUSION

An automated car security system is constructed using PIC controller. The owner controls the car by putting it in the sleep mode while parking. When the theft is identified the authorized person receives a intimation signal using GSM technology. After that all the doors will be locked. When the authorized person need to open the door by giving password to restart the engine. When the thief attempts to break the lock the chloroform is sprayed automatically. It is very efficient to track the vehicle in parking area.

OUTPUT

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The output is display from the LCD and GSM modem



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