

Vehicle Security System using Relay

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Abstract--This Project presents an automotive localization system using GPS and GSM services. The system permits localization of the automobile and transmitting the position to the owner on his mobile phone as a short message (SMS) at his request. This system is also provided with emergency switch which can be turned off through an SMS. This switch takes the responsibility to turns OFF the engine and can be turned ON only after receiving a predefined password from the owner of the vehicle. At once if the vehicle seems to be theft, the owner has to just send SMS to that vehicle means vehicle will be stop all the door will be locked then theft will be locked in the car.

Keywords: GSM, GPS, Microcontroller, Relay Driver

I. INTRODUCTION

The presented application is a low cost solution for automobile position and status, very useful in case of car theft situations, for monitoring adolescent drivers by their parents as well as in car tracking system applications.

The proposed solution can be used in other types of application, where the information needed is requested rarely and at irregular period of time (when requested). This system is also can be interfaced with Vehicle airbag system. This enable it to monitor the accident situations and it can immediately alerts the police/ambulance service with the location of accident.

In case of vehicle theft situations the owner can know the vehicles current location and based on that he can stop the vehicle by sending a predefined SMS message to this system. After receiving SMS message from owner this system automatically stops the ignition system hence the vehicle will not function any more.

II. DESCRIPTION

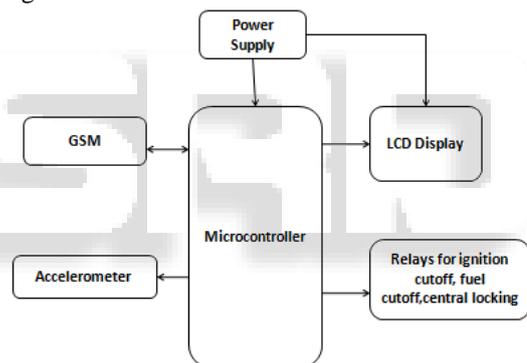
A good number of tracking systems had so far been developed with a wide range of tracking facilities. But the operation cost of most of these systems is higher which prevents from widespread use. On the other hand, the rate of car theft, asset theft, child kidnapping in many countries are increasing at a higher rate. The objective of this research is to reduce the cost of the tracking system using the latest technologies and making it available to the common people. GPS is used in the vehicles for both tracking and navigation. Tracking systems enable a base station to keep track of the vehicles without the intervention of the driver whereas navigation system helps the driver to reach the destination. Whether navigation system or tracking system, the architecture is more or less similar. The navigation system will have convenient, usually a graphic display for the driver which is not needed for the tracking system. To design the Vehicle Tracking System, we combined the GPS's ability to pin-point location along with the ability of the Global System for Mobile Communications (GSM) to communicate

with a control center in a wireless fashion. The system includes GPS-GSM modules and a base station called the control center.

In addition we can also develop a system that makes use of accelerometer to implement a fall monitor. Accident in public is a major problem in many countries and quick assistance is not reached to the people who got the accident. Intelligence schemes such as fall or accident detection with tracking system has been devised to notify the accident to the related people. In this work wireless black box using accelerometer and GPS system along with GSM module is developed for accident monitoring.

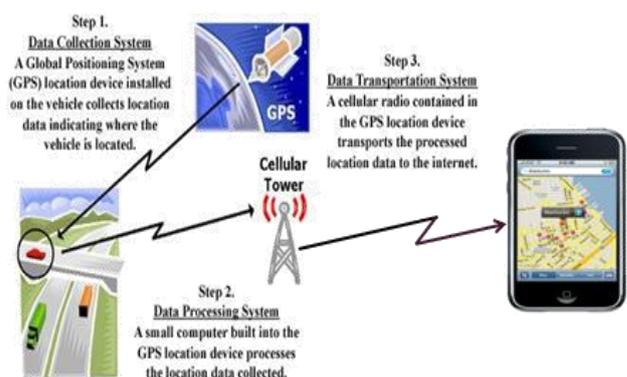
III. BLOCK DIAGRAM

This tracking system is composed of a GPS receiver, Microcontroller and a GSM Modem. GPS Receiver gets the location information from satellites in the form of latitude and longitude.



The Microcontroller processes this information and this processed information is sent to the user/owner using GSM modem. Microcontroller also gets the speed of the vehicle and sends it to user/owner. We are using relay driver circuit for security purpose. Three relays are interfaced with microcontroller and operated by GSM. Three lock systems are in corporate through this relays such as Fuel cutoff, Ignition lock & central locking.

IV. OVERVIEW



V. CONCLUSION

We have been able to track the position of the Vehicle successfully. In case of any accident or theft situation, the system sends automated messages to the pre-programmed numbers. We can send messages to any number of mobiles. The objective of this research is to reduce the cost of the tracking system using the latest technologies and making it available to the common people.

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