



Anti-Theft Tracking System for Mobile-Vehicles

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ABSTRACT: This paper is basically giving an idea for tracking the vehicles using a mobile application having GPS (Global Positioning System) and GSM (Global System for Mobile Communication) both. The chip must be a combination of GPS and GSM through which the owner gets updates of location in his/her mobile application. By the help of application the owner can switch his vehicle off when some unwanted movement occurs.

Keywords: GPS , GSM

I. INTRODUCTION

Vehicle theft, which is the major concern for the conduct of this paper, is among one of the biggest crimes now a days. Currently there is no such mobile application that is used for tracking and tracing of any movable objects, there are other ways but none of them can switch vehicle off by capturing unwanted movement. Although there are many ways to prevent the vehicle theft, some of which are car alarm system which is very common in Cars these days, and also Global Positioning System (GPS) for car tracing [1]. The paper is for additional feature of mobile application that can turn off the vehicle or we can say that lock the vehicle by mobile application in car alarm system.

Cars are easily stolen from work place, parking, even from homes. If owner get the power to lock the vehicle from mobile application, things will turn out easier. By the help of GPS and GSM owner will get updates related to location of vehicle on his mobile application and when some unwanted movement take place owner can easily lock is car and can reach to traced location. This will help the police in catching the theft and gets the vehicle back to the owner. Security measures will get improved and causes related to this will reduce.

The mobile application must support both GPS and GSM for tracking the vehicle in which a chip that is a combination of GPS and GSM both is situated. The chip must be situated in such a manner that when we click the off button in mobile application, vehicle gets lock automatically. A hardware device that is mounted

on the vehicle engine keeps on sending location to the mobile application. Once, the vehicle gets stolen, the information about locations is being used by the owner of vehicle for tracing. Owner at remote area, gets information about vehicle by help of hardware installed in the vehicle. By getting the Signals on mobile from hardware device of vehicle, owner can control the ignition of the engine that means to lock it or immediately to stop the engine by his/her mobile phone. This will help the owner to control their vehicle from a remote area which sounds to be very beneficial.

For example: If a person is able to switch off the engine of his/her vehicle from remote area by the help of his mobile phone then probability of crimes can decrease. This will be very beneficial for upcoming generation.

II. GPS (GLOBAL POSITINING SYSTEM)

GPS is a navigation system which is satellite based and provides a range of features. It consists of 24 to 32 satellite which can track anything, anywhere in earth. The main advantage of GPS is that it works in any weather state, 24/7 with no charges at all[2].

When a GPS device is outside then transmission of signal is strong but when it is placed inside the room, signals gets weaker and needs extrapower for transmission purpose. Although the strength of GPS signal is weak when it travels to the earth as it has been passed through various layers of the earth but when it transverse somewhere indoor then it becomes more weaker [3].

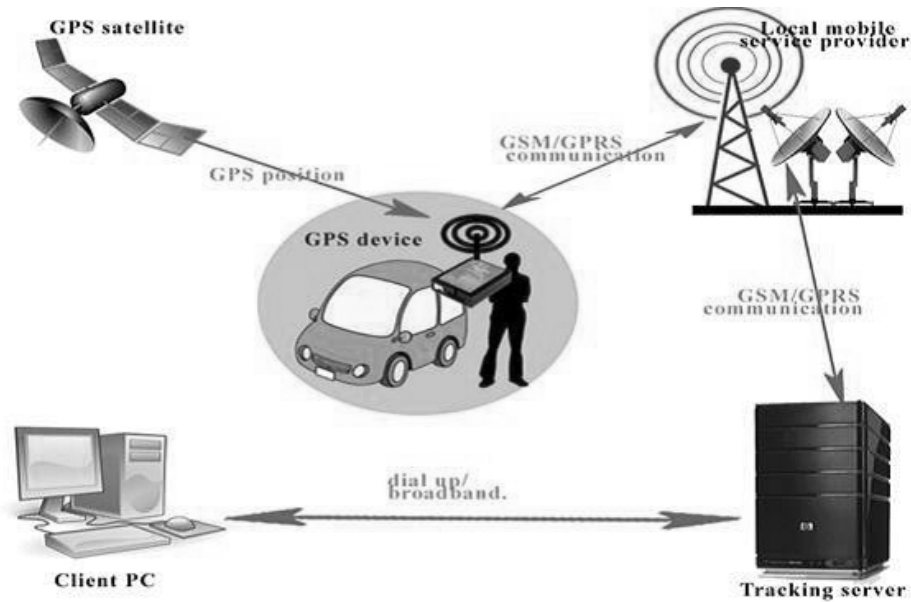


Fig. 1. Architecture of GPS System.

For tracking moment and estimation of 2D position of a vehicle a GPS receiver should be locked on to the signal of minimum three satellites. 3D position can be tracked through four or more satellites in sight. GPS device determine information like speed, distance to destination, etc. In this research work GPS device is used to detect/track the location of a vehicle whenever it is needed.

III. GSM (GLOBAL SYSTEM FOR MOBILE COMMUNICATION)

Now a day, GSM is used worldwide for mobile communication purposes. GSM has become the wireless technology which is used in almost every part of world. Mobile voice and data services are transmitted with the help of GSM. It provides us low-cost mobile sets and base stations. With the help of GSM individuals are enabled to be reached in up to 219 countries via the same mobile number [4]. Telephony service of GSM includes emergency calls, teletex transmission, videotext access, etc. Through GSM's Short Service Messaging Service (SMS) service owner can send or receive text messages on his/her mobile phone.

The very essential building block which is leading to the wide use of mobile data transfer falls under data services of GSM.

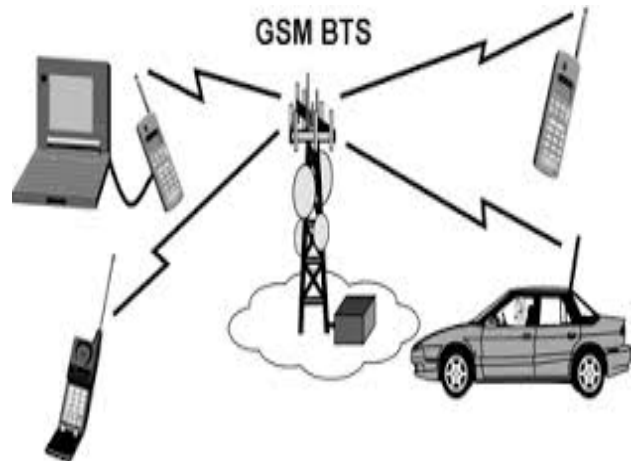


Fig. 2. Architecture of GSM System(GSM provides two basic features- Data and Telephony).

IV. FUTURE PERSPECTIVE OF PAPER

This paper is for giving an idea of mobile application through which we can lock or switch the vehicle off when needed. By help of a chip which will be a combination of GPS and GSM we will track the location of the device and get update on mobile application. The mobile system should support GPS as well as GSM to track the proper location at the point of emergency. This will improve the security measures and is going to help cops in taking right decision [5].

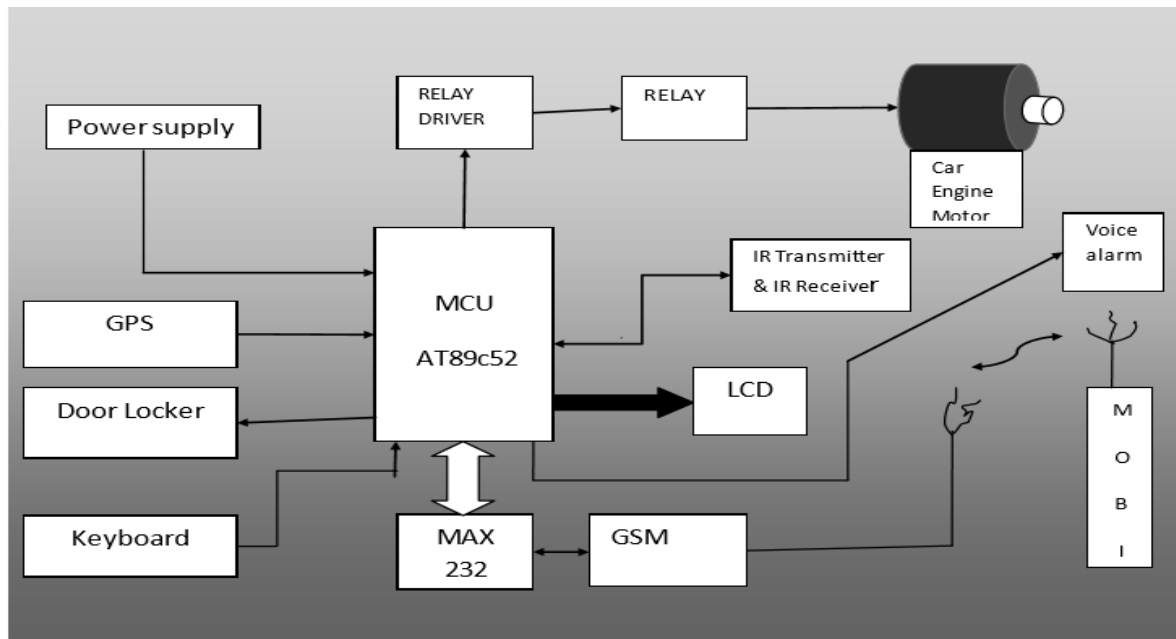


Fig. 3. Block diagram of Vehicle tracking and locking system based on GSM and GPS.

This research paper is proposing an idea of designing a mobile app which can stop the engine of a vehicle and helps to track and reach to the vehicle. Practical implementation of this application is very beneficial and efficient for the owner's security purpose. This application proves to be very useful for our coming generation as life now a day becomes very hectic and people wants everything in their mobile phones. So this mobile application will provide them ease of getting info about their vehicle.

V. CONCLUSION

Automobile thefts are becoming the major crime these days which have caused significant loss to a person. To improve the safety measures, security we enable new idea of mobile application that can lock or stop the engine after tracing the location of vehicle. This will

help police forces to catch the thief by taking information from mobile application technologies which is tracing location by help of GPS and GSM. . The practical model of this paper will prove itself to be very helpful, efficient, and reliable device for security.

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