



# IJRASET

International Journal For Research in  
Applied Science and Engineering Technology



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# INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

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**Volume: 5      Issue: III      Month of publication: March 2017**

**DOI: <http://doi.org/10.22214/ijraset.2017.3175>**

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# **Arm Based Vehicle Tracking System using Android Application**

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**Abstract:** Currently almost of all people having an own vehicle. Theft is happening on road and sometimes driving insecurity places. The safe of vehicle is very essential for all people vehicles. Vehicle tracking and locking system available in vehicle, to track the place and locking position. The place of the vehicle find using Global Positioning system(GPS) and Global system mobile communication(GSM).These systems continuously see a moving vehicle and report the status on demand. When the theft find, the responsible man send SMS to the microcontroller. We are developing secured vehicle tracking and control his vehicle through an android based phone and vehicle is established via GSM network. Using his/her phone, the owner will be able to locate the track the vehicle in case of theft. The owner having expensive car. So to prevent theft, most of vehicle owners have started using the theft control systems. Using this technique we can track the location very easily.

**Keywords:** Vehicle tracking, GPS, GSM, Android application ,16x2LCD display.

## **I. INTRODUCTION**

A vehicle tracking system is the which is installed in a car to enable the owner or a man to track the vehicle's location. Most modern car tracking systems use Global Positioning System (GPS) modules for correct location of the vehicle. Many systems also combine a communications component such as cellular or satellite transmitters to communicate the cars location to a remote user. Car information can be show on electronic maps via the Internet or specialized software. Current vehicle tracking systems have their roots for industry. Corporations with big fleets of vehicles required some sort of system to determine where each car was at any given time. Vehicle tracking systems can now also be found in consumers vehicles as a theft prevention and retrieval device storage. Police also can follow the signal emitted by the tracking system to locate a stolen cars. Many vehicle tracking systems are now using or a form of automatic vehicle location (AVL) to allow for very easy location of the vehicle. The GPS satellite system was built and is maintained by government This makes this technology very low cost. Other AVL systems do not require to be in direct line of sight with the sky.Many police cruisers around the world have a form of AVL tracking as standard equipment in their cars. Some car tracking systems charge the user a monthly subscription that includes various software, hardware, installation, and tracking service.

## **II. LITERATURE REVIEW**

### **A. Time Tracking System Protocol GPS-GSM Based Tracking System (2012)**

To determine précised location of object they have proposed tracking unit which it is attached and using GSM modem this information can be transmit to setup in the vehicle.

### **B. A Cost Effective Real using Integrated GSM/GPRS Module**

They describe a real time tracking system that provides accurate localization of the tracked vehicle with low cost.

### **C. GPS-Based Mobile Service Location System (2010)**

They have proposed and develop a GPS-based Mobile Service location system. To determine the approximate distance between user and location of desired place this system was develop. This system is flexible and extendible to easily get the location of user interest place.

### **D. Front Vehicle Tracking using Scene Analysis (2005)**

In this paper they have designed and built on a real-time visual tracking system for vehicle safety application. And also built novel feature based vehicle tracking algorithm.

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### E. Automobile Anti-theft System based on GSM and GPS (2012)

In this paper the system developed using high speed mixed type single-chip and stolen automobile is detected by use of vibration sensor. The system remains in contact with car owner through the GSM

### F. GPS Vehicle Tracking and Management System(2009)

In this paper they produced recently the anti-theft modules like steering wheel locked equipment, network tracking system and traditional electronic device are developed with people identification.

### III. BLOCK DIAGRAM

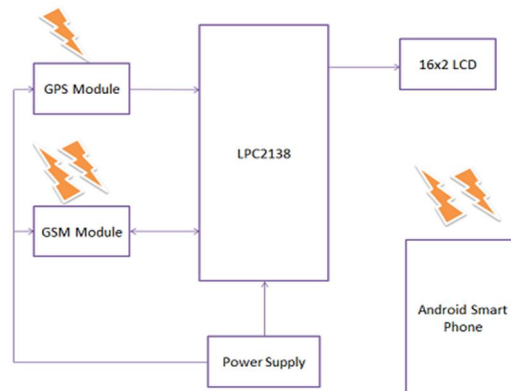
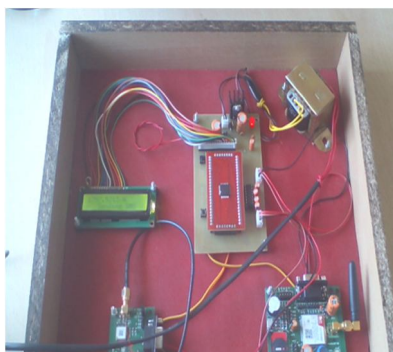


Fig no.1Block diagram of arm based vehicle tracking system using android application.

#### A. Block Diagram Description

It consist of Power supply, GSM/GPRS Modem,LCD,ARM7TDMI(16or32 bit) GPS Device for NMEA Data, Android App .It having power supply 7v to 20v..GPS has provided positioning, navigation, and timing transmitting and receiving the data. SIM 300 is a tri-bans GSM/GPRS engine. It works on various frequencies LPC stands services to military and civilian users on a continuous worldwide basis. GPS can determine accurate time, and location, in any weather, day or night, anywhere in world .This system makes use of a medium earth orbit satellite constellation transmitting microwave signals allowing a GPS receiver to determine its position, velocity and GSM Module Time .different types of positioning can be carried out using GPS receivers depending on the algorithm ,type of measurements and corrections used in the navigation solution. GPS is a main module in cars system. As vehicle is tracked using GPS technology. Author has used it to get the exact location of respective vehicles. But to get exact location of any vehicle it need to be in a focus of four satellite. GSM Module GSM modem is used for Linear Pridictive coding. LPC in nothing but ARM7TDMI Micro controller. It can operate 16bit or 32bit microcontroller. A 16x2 LCD is used for displaying location val Smart Phone With Android Application It is advanced version of phones developed in several mobiles. It provides several applications depending upon specific task. It plays a prominent role in several mobiles. for example if we want to track the location and identify the exact person and also intimate to specific person, several ways to develop using advanced android Embedded Technology. In our project the smart phone is used for getting alertness to a specific person without using GSM .It is a cross platform mobile web application frame work .



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## IV. FLOWCHART

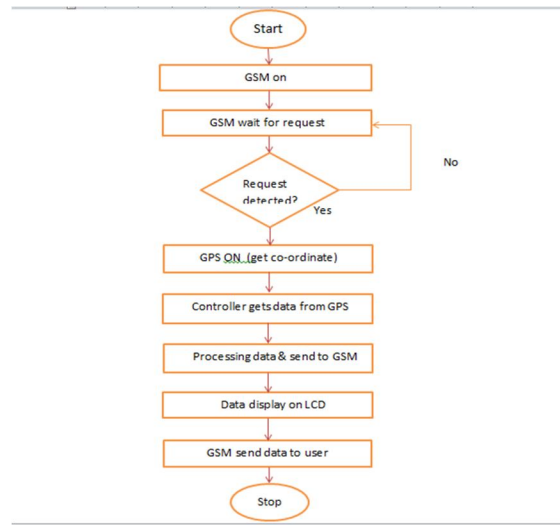


Fig2. Working flowchart

We can use GPS as a receiver and GSM as both. The GPS system currently has 31 active satellites in orbits with an inclination of 55 degrees to the equator. The satellite orbits about 20,000 km from the earth's surface. The GPS satellite transmits a signal continuously to the GPS receiver. And the GPS receiver collects data in the form of coordinates (longitude, latitude, and altitude) and stores it. This data is fed to the controller and processed. This data is sent to GSM and displayed on the LCD. And finally, GSM sends data to the user (i.e. current location of the vehicle).

## V. OBJECTIVE & FUTURE SCOPE

### A. Objective

In the proposed system, we can find the exact location of the vehicle. This will help the user to have an anti-theft feature to track the vehicle. Also, we can observe the speed of the vehicle as well as time and where it has been, how long it has been. The system uses geographical position and time information from the GPS.

### B. Future Scope

The project is all about controlling various cars. The system is about making the vehicle more secure by the use of GPS, GSM module, and an Android application. It can also be beneficial for parents to look after their children, to track animals in jungles, delivery, etc.

## VI. CONCLUSION

This system allows organization to track cars and to get proper location of the vehicle. This paper discusses about an Android application and also gets coordinates and car ID by using GPS. This system is fixed into the vehicle handle by a person. This is used to send the coordinates in the form of a message.

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