



## An Intelligent Vehicle Tracking Systems Using Wireless Technology

---

Ahmad El Husban, Mahmoud Saleh, Moataz El Bialy,  
Tarek Madbouly and Eman Serag

EasyChair preprints are intended for rapid dissemination of research results and are integrated with the rest of EasyChair.

February 21, 2021

# An Intelligent Vehicle Tracking Systems Using Wireless Technology

, Ahmad Al-Husban, M.H. Saleh, Moataz Omar el-bialy, Tarek Anwar Madbouly, Eman Serag  
Al-Balqa Applied University Jordan, Canadian International College "CIC",  
[drahusban2008@yahoo.com](mailto:drahusban2008@yahoo.com), [mahmoud\\_hanafy@cic-cairo.com](mailto:mahmoud_hanafy@cic-cairo.com), [Moataz.omar@msa.edu.eg](mailto:Moataz.omar@msa.edu.eg),  
[Tarek\\_Anwar@cic-cairo.com](mailto:Tarek_Anwar@cic-cairo.com), [eman\\_serag@cic-cairo.com](mailto:eman_serag@cic-cairo.com)

## Abstract

A Vehicle control system uses wireless technology to track and provide complete. A vehicle tracking system combines the installation of an electronic device in a vehicle. The embedded wireless system named intelligent vehicle control, security and monitoring for critical remote location application using microcontroller from the hardware and software. The system can achieve the purpose of long distance real time monitoring and control of vehicle. The system is not limited to find the location of the target but also calculates the distance travelled b/w two stations. This system is user friendly, easily installable, easily accessible and can be used for various other purposes. The system allows to track the target anytime and anywhere in any weather conditions  
GPS Modem: GPS modules are popularly used for navigation, positioning, time and other purposes. GPS antenna receives the location values from the satellites.

### *Keywords:*

Global Positioning System (GPS), Global System for Mobile communication (GSM), Alcohol, Gas, smoke, flame(fire) sensors.

## 1-Introduction

The system uses geographic position and time information from the Global Positioning Satellites. The system has an "On- Board Module" which resides in the vehicle to be tracked and a "Base Station" that monitors data from b the various vehicles. The On-Board module consists of GPs receiver, a GSM modem[1].

In GPS tracking system the location of vehicle is sent to remote place and it is done by GSM modem. Global Positioning System (GPS) modem requires minimum 3 satellites to calculate the exact location. This modem communicates only in single way with microcontroller. This means that it can only transmit data to microcontroller[2].

GPS Modem does not receive any data from microcontroller. At the same time GPS modem does not send data to Satellite, it only receives signal from satellites. Tracking system is very important in modern world.

This can be useful in soldier monitoring, tracking of the theft vehicle and various other applications. The system is microcontroller based that consists of a global positioning

system(GPS) and global system for mobile communication (GSM) [3].

## 2- Vehicle Location

Implementing GPS based navigation/tracking system as shown in Fig.1.

□ Implementing vehicle location system by using the information from GPS and GSM/GPRS by transforming information with following features:

□ Obtaining the information of the vehicle after every specified time interval.

□ Transmission of location information to monitoring or tracking server.

□ Implementing a display unit by using Google

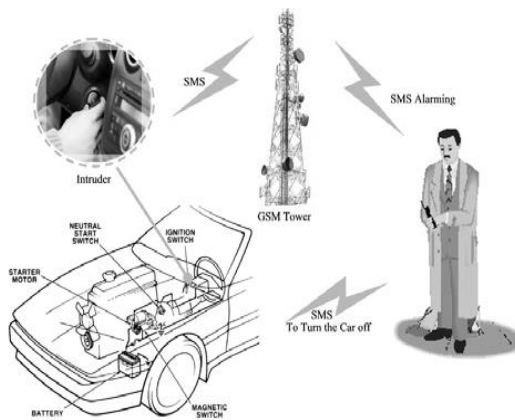


Fig. 1. System assurance of remote access

## 3-System Description

This paper is featured with detecting sensors to be assured that the driver's status and behavior is acceptable for driving in means of focus and alertness during the trip. This system goal is to achieve the purpose of long distance real time monitoring and taking control of the vehicle as shown in Fig. 2.

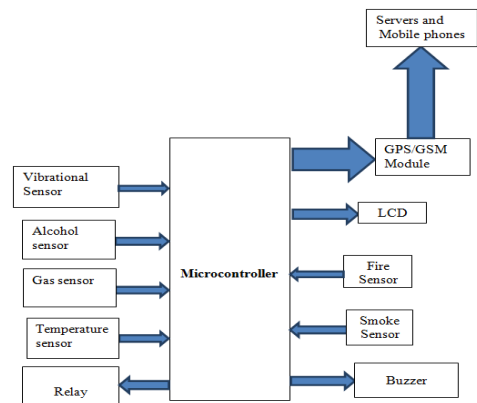


Fig. 2. Block diagram of the proposed system

The flow chart of the system is expected to fulfill real time control and functional parameter monitoring of a vehicle as shown in Fig. 3

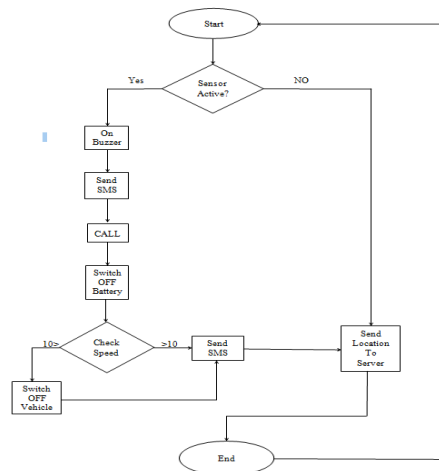


Fig. 3. Flow Chart

As shown in Fig. 4 we received the GPS data after parsing it and saving the needed data to variables and sending it using GSM with HTTP request to the server domain with detailed (location, speed, date, time, course)

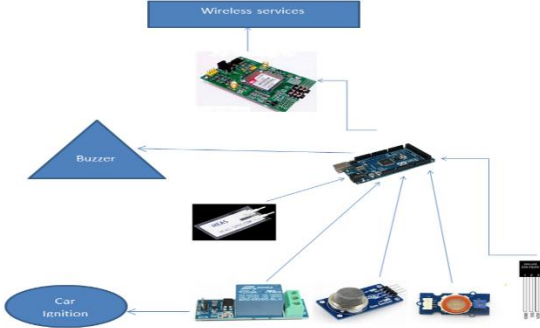


Fig. 4 GPS Data Received

The emergency SMS received by our system will contain the link of the WEB Page and a notification with the situation of the sensor that contains the problem occurred as shown in Fig. 5.

#### 4- CONCLUSION

Now days there are a huge need on the security and tracking system. So this project can presents an automotive location tracking and is reliable with a sensor that plays a big role in securing for both driver and passengers as a personal vehicle tracking or used in huge organizations in order to handle the situation of related vehicle remotely all the time. The system can permits location and statues os sensors and transmitting the data through an HTTP request so it can be opened using a PHP web page as also as the mobile phone with a short (SMS) in case of request or emergency need so that it is a two way alerting method so that it can be accessed easily in case of no internet for monitoring there will be (SMS) in argents. The presented system also is in a low cost with many helpfully features in order to make a secured and tracked system.

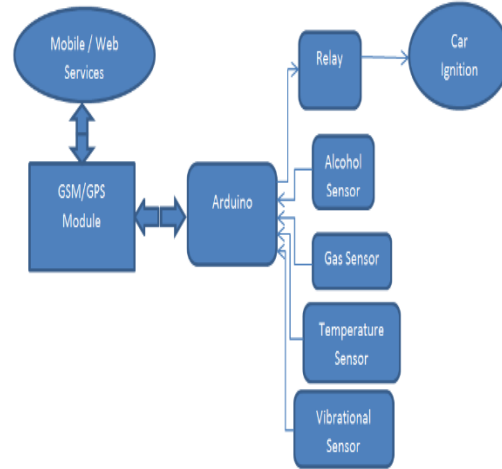


Fig. 5 A real time control system

#### References

- [1] Sawant Supriya C, Dr. Bombale U. L., Patil T. " An Intelligent Vehicle Control and Monitoring Using Arm" International Journal of Engineering and Innovative Technology (IJEIT) Volume 2, Issue 4, October 2012, ISSN: 2277-3754, ISO 9001,2008
- [2] Baburao Kodavati, V.K.Raju, S.Srinivasa Rao, A.V.Prabu, T.Appa Rao, Dr.Y.V.Narayana " GSM AND GPS BASED VEHICLE LOCATION AND TRACKING SYSTEM" International Journal of Engineering Research and Applications (IJERA) ISSN: 2248-9622.Vol. 1, Issue 3, pp.616-625
- [3] Abid khan, Ravi Mishra " GPS – GSM Based Tracking System " International Journal of Engineering Trends and Technology- Volume3Issue2- 2012
- [4] Sowjanya Kotte, Hima Bindhu Yanamadala" Advanced Vehicle Tracking System on Google Earth Using GPS and GSM" International Journal of Computer Trends and Technology (IJCTT) – volume 6 number 3– Dec 2013

[5] Nithin Kurup U.G (M.Tech), G.Vara Lakshmi " Car Theft Identification, Tracking and Control System" IOSR Journal of Computer Engineering (IOSRJCE),ISSN: 2278-0661 Volume 4, Issue 2 (Sep-Oct. 2012), PP 31-34

[6] Montaser N. Ramadan, Mohammad A. Al-Khedher, Senior Member, IACSIT, and Sharaf A. Al-Kheder " Intelligent Anti-Theft and Tracking System for Automobile " International Journal of Machine Learning and Computing, Vol. 2, No. 1, February 2012

[7] Pravada P. Wankhade1 and Prof. S.O. Dahad "Real Time Vehicle Locking and Tracking System using GSM and GPS Technology-An Anti-theft System"

International Journal of Technology And Engineering System(IJTES), Jan –March 2011- Vol.2.No.3.

[8] Pankaj Verma , J.S Bhatia " DESIGN AND DEVELOPMENT OF GPS-GSMBASED TRACKING SYSTEM WITH GOOGLEMAP BASED MONITORING" International Journal of Computer Science, Engineering and Applications (IJCSEA) Vol.3, No.3, June 2013

[9] Ajay Hemant Jethwa " RESEARCH ARTICLE VEHICLE TRACKING SYSTEM USING GPS AND GSM MODEM- A REVIEW " International Journal of Recent Scientific Research Research , Vol. 6, Issue, 6, pp.4805-4808, June, 2015.