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GSM & GPS BASED VEHICLE TRACKING SYSTEM

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ABSTRACT

This project work is to design a tracking&location the vehicle. This is use the global positioning system to detect the location vehicle or other asset to which it is attached and using GSM modem this information can be transmit to remote user.The use of GSM and GPS technologies allows the system to track object and provides the most up-to-date information about daily life.If a password like SMS is sent by other people, itautomatically stops the vehicle or we can use it for different other work, it can provide real time control. This system finds its application in real time traffic control.current system can be able to provide process from anywhere. This system is integrated with GPS-GSM to provide following feature: a) Location information, b) Real time tracking using SMS, c) trackingcars driver activity.

Keywords – Microcontroller,GsmModem,Gps Module,Max-232.

INTRODUCTION

In Vehicle tracking project , can track the longitude and latitude of vehicle. This project give back toback update about vehicle location send the sms through GSM modem.Microcontroller is the processing unit CPU of our project.Microcontroller gets the coordinates from GPS modem and then it send information to user in the text SMS.GSM modem is used to send this information with the help of SMS.SMS will be sent toowner of the vehicle.

HARDWARE DISCRIPTION

Hardware framework for tracking system is shown in bellow. Atracking system will provide effective real time information of vehiclelocation .Tracking system will inform where are yourvehicle is and how longer it has been there.The basic function of in vehicle unit is to acquire, Monitorand transmit the position latitude& longitude time tomanagement center either at fixed interval or on demand.Microcontroller unit form the heart of tracking unit, whichacquires and process the position data from the GPS module.The GPS receiver of vehicle terminal receives and resolves thenavigation message broadcasted by GPS position satellites,computes the longitude and latitude of vehicle coordinates,transforms it into the GSM message form by GSMcommunication controller, and sends the message tomonitoring center via the GSM network.

GSM HARDWARE

The core of data communication about this system lies inwireless communication control terminals that uses GSMModules to transfer long-distance data extensively andreliably. It Support instructions of AT commands. SIM300can be integrated with a wide range of applications. SIM300 isa Tri-band GSM/GPRS engine that works on frequenciesEGSM 900 MHz, DCS 1800 MHz and PCS1900 MHz

SIM300 provides GPRS multi-slot class 10 capabilities andsupport the GPRS coding schemes CS-1, CS-2, CS-3 and CS-4. With a tiny configuration of 40mm x 33mm x 2.85 mm,SIM300 can fit almost all the space requirement in ourapplication.

GPS RECEIVER

The hardware interfaces for GPS units are designed to meetNMEA requirements. The GPS receiver provides data inNMEA 0183format with a 1Hz update rate. Generallymessage received by GPS is in NMEA [National MarineElectronics Association] message format and NMEA protocol which is most commonly used is NMEA0183 protocol. GPSsentences beginning with the following specifications:$GPGGA, $GPGSA, $GPGSV, $GPRMC, and $GPVTG.

MICROCONTROLLER

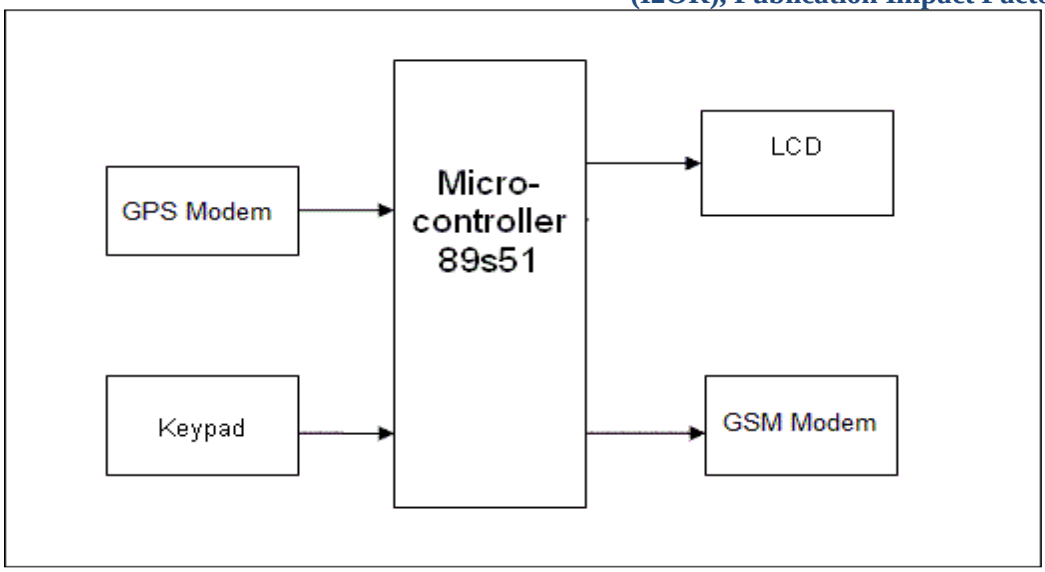
- A smaller computer.
- On-chip RAM, ROM, I/O ports.

Example ARM perfectly fits many uses, from automotiveindustries and controlling home appliances to industrial,instruments, remote sensors, electrical door locks and safetydevices. It is also ideal for smart cards as well as for batterysupplied devices of its low consumption EEPROM memorymakes it easier to apply microcontrollers to devices wherepermanent storage of various parameters needed. Low cost,
Low consumption, easy handling and flexibility make ARMapplicable.TheLPC2131/2132/2134/2136/2138microcontrollers are based on a 32/16 bit ARM7TDMI-S CPU withreal-time emulation and embedded trace support, thatcombines the microcontroller with 32 kB, 64 kB, 128 kB, 256kB and 51

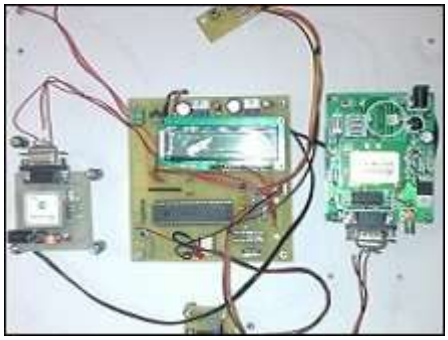
METHOD

Microcontroller is the central processing unit CPU of our project. Microcontroller gets thecoordinates from GPS modem and then it sends this information to the user in Text sms. GSM modem isused to send this information via SMS. SMS will be sent to the owner of the vehicle.This project consists of following blocks:

1) GPS Modem.
2) GSM Modem.
3) Microcontroller.
4) LCD Display.



RESULTS AND DISCUSSION



Complete system as shown in above contains complete connection of 32-bit ARM processor along with GSM and GPS system. The positions are displayed in requesting cell phone display. With this system it becomes easy for the users to keep track of their objects. If the object resides in any location positional data in terms of latitude and longitude can easily be traced out also we can control our vehicle by password like #0 and #1tracking system. The message sending and receiving by cell-phone.

CONCLUSION

Tracking system is becoming increasingly important in large cities and it is more secured than other systems. It is completely integrated so that once it is implemented in all vehicles, then it is possible to track anytime from anywhere. It has real-time capability, emerges in order to strengthen the relations among people, vehicle and road by putting modern information technologies. together This system has many advantages such as large capability, wide areas range, low operation costs, effective, Strongexpandability and Easy to use in vehicle traffic administration. Upgrading this setup is very easy which makes it open to future a requirement which also makes it more efficient.

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REFERENCE– www.ijeria.com ,www.rfsolutions.co.uk,Mobile Communication.