

# ANDROID APPLICATION FOR VEHICLE TRACKING SYSTEM AND COMPUTERIZATION FOR COLLEGE DIRECTORY

R.NALINI<sup>1</sup>, M.SANTHIYA<sup>2</sup>, A.VENGATALAKSHMI<sup>3</sup>, B.VIMALA<sup>4</sup>, P.THIRUSELVAN<sup>5</sup>

[santhiya.pms20@gmail.com](mailto:santhiya.pms20@gmail.com), [mailtoaishuanand@gmail.com](mailto:mailtoaishuanand@gmail.com), [vimalabv05@gmail.com](mailto:vimalabv05@gmail.com)

1,2,3,4 UG Scholar 5 Asst.Professor, CSE

1, 2,3,4,5 P.S.R.RENGASAMY COLLEGE OF ENGINEERING FOR WOMEN, Sivakasi.

## ABSTRACT

Android application presents an automotive localization system using GPS services. GPS receiver gets the location information from the satellite in the form of latitude and longitude. The system permits location of the vehicle and transmitting the position to the owner on his/her mobile phone as an alert message. Today in colleges, student details are entered manually. The student separate records are tedious task. Referring to all these records updating is needed. There is a chance for manual errors. As mobile devices have some popular today, we describe an application for distributing campus information among lecturers and student.

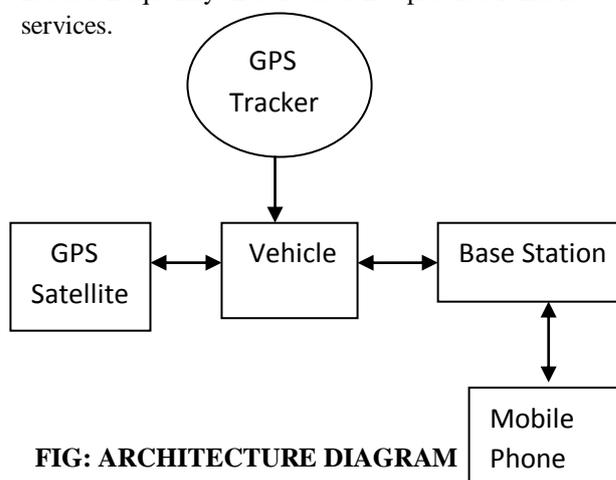
**KEYWORDS:**-GPS, GSM, Asp net PHP.

## 1. INTRODUCTION:

India has progressed on enormous rate that many companies have established themselves here and therefore needed many transport facilities. Arranging the transportation is not a simple work. But this has causes many mishaps like rape, burglary etc. Therefore the proposed tracking system will help users in finding the location of vehicle through satellite communication. This is also used to track the college vehicles as well as Computerization for college directory which helps to view student mark details by them and their parents.

GPS and GSM based vehicle location and tracking system will provide reliable results for vehicle location, mapping and reporting this information back o monitoring device. The information which we get from our mobile helps the college campus and students to know about the vehicle status. Through this service implemented in android application one can access the complete information about the college campus such as

student mark status, vehicle status, and official details. Nowadays every colleges and schools have number of vehicles. We have seen that in these watchmen or any other security who keeps a watching on the vehicles entering inside the college campus. One of the existing systems also includes where satellite imaging is used to detect the vehicles maintaining a student record updating in needed frequently. But it does not provide reliable services.



**FIG: ARCHITECTURE DIAGRAM**

This system consists of an android mobile which contains GSM and GPS modem along with the processor that is fitted in the tracking device permanently. This device is called as tracking device. Computerization which is continuously accessing its current location and updating the student status and is sending updates to server. India has the fastest growing telecom network in the world with many users moving towards Smart Phones and majority by students. Android is a reliable software development kit issued by Google in order to provide developer with a comprehensive set of tools for building Android application. If used properly, the SDK (Software Development Kit) and JDK (Java Development Kit) is able to deliver state-of-the-art software for Android devices. In other words, the SDK includes only the basic utilities for Android app development. So, it is time saving through this application one can access the complete information about the college campus such as courses available, admission procedure, placements, college events, achievements, vehicle status and faculty details. The information's are updated in very quick and easy manner.

## II. PROBLEM STATEMENT:

The problem is to provide updating the information's about the college campus. There is a record or manual entry of databases used in existing environment. For maintaining a student record updating is needed frequently, so there may be chances for errors in manual entry. There are some difficulties while accessing a data from the database by manually. It takes longer time for single entry. There are also some mismatches occurs in the database.

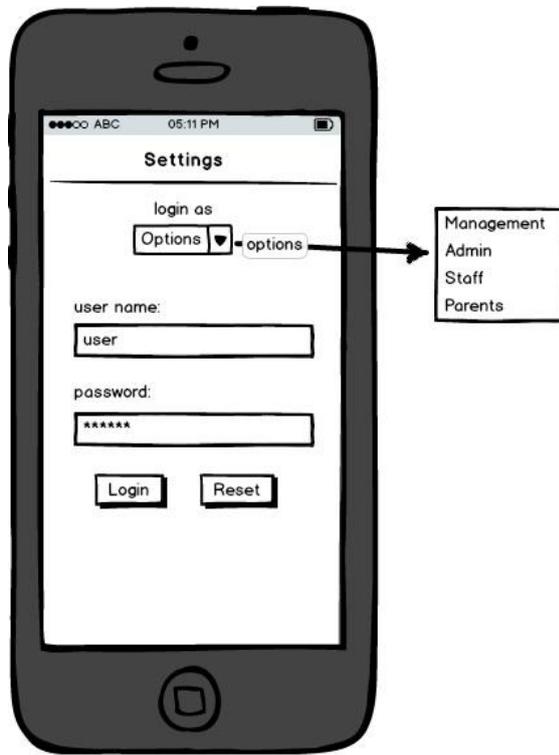
The vehicle tracking is performed by using satellite imaging techniques, but there are some reliable problems while using this technique. This approach also misses out on detecting the vehicles available outside the particular area. In olden days there is a man called park keeper who is continuously watching our vehicles if there are any problems occurs. In our college campus the transport incharge will always note down the entry and exit time of the vehicle.

The application developed in Android smart phones provides information about vehicle status and students information within our hands very easily and quickly. We can access the student details any time by using this application. The AGPS based vehicle tracking system gives the

exact location of the vehicles and also gives high accuracy. If there is any accidents or some robbery happened in vehicles this application will give the alerts to particular user who login to the system. The students and staffs will also know about the vehicle status even in home or any other places. If any company or other organization that wants to know the details about our college campus this application will helps them to identify easily about our campus information. The application is very user friendly to all students and faculty members of our college.

## III. RELATED WORKS:

For developing this application we need some works related to college campus. First collect the requirements of the college students, technical and non-technical faculties. The requirements is collected by use-cases which provides the object and functionalities should be given to Administrator , such as login, add and update, post event, query posting and add resources. So based on that a requirement Android is the best platform to implement all requirements. The databases mainly focused on web applications used in the server side programming. After collecting the requirements user interface for the application is developed. This includes login page, home screens for users. The authentication is provided by giving the user name and password. Since Android is the mobile application we use Android SDK on Eclipse IDE. Most data applications has been stored on the server side. The database contains the data's about faculty and student details, college events details and vehicle status. The database maintained at the server is updated in a timely manner to keeps the user uploads. Android application makes the better communication to the clients so the server makes use of PHP web service. The interfaces provide reliability to client and server to store and retrieve data. This also provides the details of assignments posted by the faculty and to receive by the students.



Created with Balsamiq - [www.balsamiq.com](http://www.balsamiq.com)

**FIG: SNAPSHOT 1**

The proposed system of our application is based of two parts, first is mobile unit and another is controlling unit. The tracking device consists of the SIM which is placed inbuilt within the device. We can place the device according to our usage then it tracks the location by using GPS and GSM technology. Android is an operating system for mobile devices, such as smart phones and tablet computers. It is the open source led by the Google. An android development tool is a plug-in for the Eclipse IDE to give the user friendly environment. For developing this application the hardware and software requirements are needed. The minimum hardware requirements for this application is to operate functionally are Android phone which uses the hardware requirements to develop the system. The minimum software requirements for the proje210ct is to functions performed using Eclipse. Eclipse is a multi-language software development environment comprising a base workspace and an extensible plug-in system adapted to the environment. It is commonly written in java coding.

#### **IV. PROPOSED WORK:**

Nowadays most android smart phones have AGPS chips installed within it. AGPS means Assisted GPS which takes help of network towers and WI-FI hot spots to quickly determine the

latitude and longitude locations. AGPS chips enabled with equipped android smart phone have the accurate location position .If the students wants to post a query to the professor then they can send the MSG to professor and can reply to that MSG by posting a comment to that particular student. Students can check and view their academic results.

By using this application admin can share the file that will be uploaded on respective format. Students can view the schedules of various events and updates. Student can also check and view their academic results anytime. To have a accurate position in Android we implements the AGPS in it.

The Google map provides the exact latitude and longitude positions in order to track the location of the vehicle. The tracking device should have the aware of location tracking. The tracking device send the location information back to the server via GPRS and continuously updates the database. The application in your android mobile allows you to send and receive SMS messages.

GPS based vehicle tracking system uses the GPS technology, GSM service and Android mobile. This application is mainly based on three modules. They are transmitting unit, monitoring unit and server. The work of transmitting unit is to provide tracking functionality. It tracks the vehicle through GPS and transmits its accurate location to the server. The main function of the monitoring device is to provide the interface to user and to show the Google map with vehicle locations. The main function of server side is to works as a central connector for transmitting unit and monitoring unit. As both transmitting and monitoring side communicates with each other through Server only. The application in your mobile always makes contact with server and access the remote database. Trackers in the transmitting side obtained its current location through GPS technology and update it to server.

##### **1. Transmitting unit:**

One of the major modules in the system is transmitting unit. This unit plays a vital role.

Transmitting side contains Android mobile which has inbuilt GPS, GSM modem and GPRS functionality. Therefore the mobile is considered as the transmitting unit

### 1.1 GPS:

GPS stands for Global positioning system. The GPS is satellite based navigation system. Different types of positioning can be done using GPS system which is based on different types of algorithms.

### 1.2 GSM:

GSM is a Global system for mobile communication. In this vehicle tracking system GSM provides a service for communication between all three modules.



Created with Balsamiq - [www.balsamiq.com](http://www.balsamiq.com)

FIG: SNAPSHOT 2

#### Monitoring unit:

The Android application for monitoring unit is to help user to get the actual location of proposed vehicles. It provides login to the system. After enter

into the login page the user will get Google map with exact location of the vehicles.

#### Server:

When we get login to the page. The information stored is placed at the server. The exact locations of the vehicle are plotted by using latitude and longitude points.

### V. PERFORMANCE:

The performance is very fast when compared to existing system. Here the AGPS based tracking device gives the exact location of the vehicle. And also the application in the Android phone helps to update, delete, and modify the college directory very quickly and easily when compared to the manual entry. Due to this good performance the college management, student and parents will get satisfied with their work. The faculties are updated their study materials by using this application so they have less stress and students also view their work via this application. This will improve their performance level when compared to traditional way of learning.

### VI. CONCLUSION:

Our project is mainly implemented to develop the smart phone application that contains the information about our college campus. The system is widely used in future and it is suggested to follow in all colleges. The e-learning method will help to improve the student's activities and help them to develop their intellectual capacity. The cost of vehicle tracking system is very low when compared to other tracking techniques. The system is also used to find the exact location of the vehicle. This system is mainly applicable for not only tracking the college vehicles but is also used to track any kind of vehicles, mainly fitted in call taxes to check their locations to avoid any accidents and any problems occurs unexpectedly.

### VII. REFERENCES:

[1] ABID KHAN & RAVI MISHRA, "GPS-GSM Based Tracking System", International Journal of Trends and Technology, ISSN: 2231-5381, Volume 3, Issue2, 2012.

[2] HASSAN I MATHKOUR, "A GPS Based Mobile Dynamic Service Locator System". Applied Computing and informatics (2011)9, 95-106.

[3] KATINA MICHAEL & ROGER CLARKE, “Location and Tracking of mobile devices”, ELSEVIER- computer law and security review 29(2013) 216-228.

[4] RODRIGO R. OLIVEIRA, FELIPE C. NOGUEZ, CRISTIANO A. COSTA, JORGE L. BARBOSA & MARIO P. PARDO, “ SWTRACK: An Intelligent Model for Cargo Tracking based on off-the-shelf Mobile devices”, ELSEVIER-Expert System with Applications 40(2013)2023-2031

[5] ROHITAKSHA K, MATHU C G, NALINI B G, NIRUBAMA C V, Android Application for Vehicle Theft Prevention and Tracking System, Rohitakasha K et al, / (IJCSIT) International Journal of Computer Science and Information Technologies, Vol.5(3), 2014, 3754-3758.