

Bus Tracking System

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ABSTRACT

Millions of Student need to commute between homes to school/College every day. Safer transportation of school children has been a critical issue as it is often observed that, kids find themselves, and the location of the bus location will be identified by using GPS. That is send to Android mobile phones. It will show the exact location of the bus. If the bus comes near some particular distance or time period android application will intimate via sound. Initially the GPS continuously takes input data from the satellite and stores the latitude and longitude values in microcontroller's buffer. If we have to track the vehicle, we need to send a information to device, by which it gets activated. It also gets activated by detecting set location. This system allows you to track your vehicle anytime and anywhere. Whether you own a company with a fleet of hundreds of vehicles or you have expensive piece of equipment and you want to keep an eye on them, this tracking system can inform you of the status without you having to be actually present on the site.

Keywords : GPS, GSM, Arduino Board

I. INTRODUCTION

To alert students from not missing the bus and could reach on time to catch the vehicle this system uses GPS module to receive the vehicle's latitude and longitude values. Those values are collected from different bus stoppings and saved in a program. On the otherhand GSM modem is connected with Arduino board. GSM modem is used to send and receive SMS. Students mobile numbers are collected and saved to give an alert message using AT commands in the program. When the GPS module sends the location the values are compared with collected latitude and longitude values. If they are same an alert message is sent to the respective students in upcoming stopping through GSM.

2.	Global positioning system for object tracking	2015	GPS
3.	SMS based information system	2011	GSM

II. METHODS AND MATERIAL

A. Literature Survey

Sr No.	Paper name	Year	Technique
1.	Vehicle tracking system	2013	GPS,GSM

B. Existing system

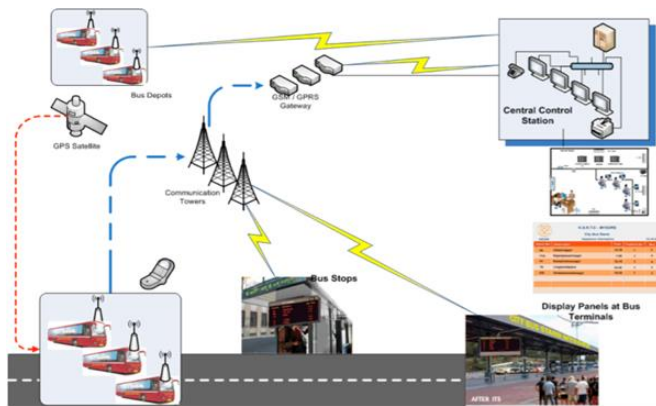
In the current scenario Bangalore Metropolitan Transport Corporation buses have a bus tracking system. The small device on top of the buses are tried to get locations. It will calculate the distance travelled and time taken. Then the arrival and departure timing will be announced in the electronic display at the bus stops.

3. Proposed system

Vehicle tracking systems are used in railway, air transportations. But in day to day life millions of students uses school, college buses.

There are some time at which no one can predict the exact timings of arrival of buses at their stops. This leads to missing buses and cause various problems. In

order to overcome this problem this bus tracking systems will provide solutions in an efficient way. By sending an alert message to students cellphones about the current location of buses they could able to reach on time.



Steps for Proposed System

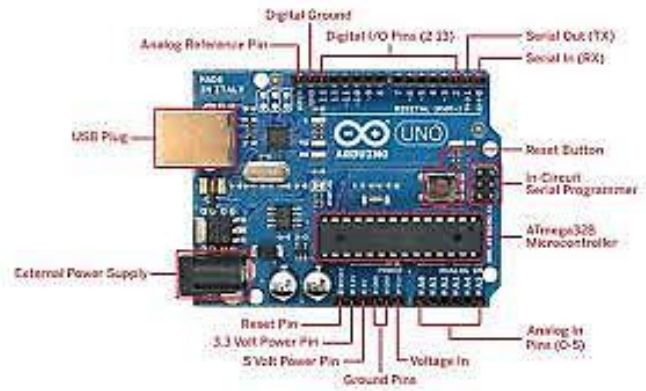
- Step 1 : GSM,GPS interfacing with Arduino board.
- Step 2 : Evaluating the signal transmitted by the GPS and to get the latitude & longitude values.
- Step 3 : Collecting locations datas of desired busstops and saved.
- Step 4 : Comparing the current values from GPS receiver with saved values and generating messages using AT commands
- Step 5 : Delivering an alert message to the students mobile.

III. RESULTS AND DISCUSSION

Proposed Technique

1. Arduino uno Board

For sending an alert message to students mobile , we have use this prototype of bus tracking system. We can send message to phone by simply coding in Arduino software using AT commands. Arduino board can be operated on low voltage (Upto to 5V).



2. LCD 16*2:

LCD stands for Liquid Crystal Display which is used to display the location of bus. We are using 14 pins LCD which are given below:

- Pin 7 to Pin 14 All 8 pins are responsible for the transfer of data.
- Pin 4 This is RS i.e, register select pin. 5 This is R/W
- Pin 6 This is Enable pin
- Pin 2 This is VDD
- Pin 1 This is VSS
- Pin 3 This is short pin



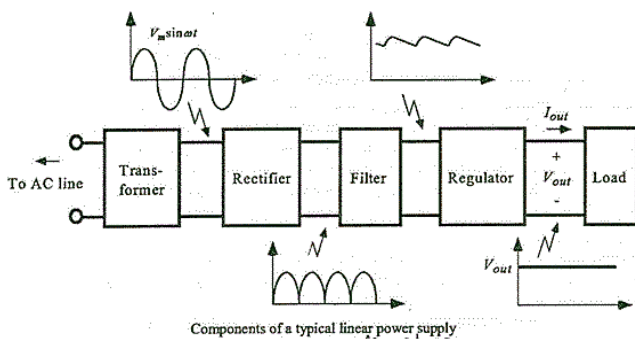
3. SIM908 GPS/GSM

The SIM908 module which counts with both GPRS and GSM technologies what allows to easily perform realtime tracking applications. This module is connected with Arduino board and accessed using AT commands.



4. POWERSUPPLY

Power supply is the source of electrical power. Normally we use +12V DC power for regular working of almost any electronic circuit.



IV.CONCLUSION

This proposed system accepts the location, stores it and compare with current data and delivers an alert message to students. It is applicable in Educational institutions and organizations and managing traffic in smart cities. Even basic mobile is enough to get the message. This system can be updated for public transport vehicles too. This paper provides an efficient way of alerting students. It also helps students to easily manage their transport problems.

V. REFERENCES

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