



Locale trailing and log maintaining system for transport using android OS

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ABSTRACT:

This is a digital world, where everything is possible to occur in Nano second. Here, man's biggest task is to keep up their time with patience. No one wants to waste their time in peak hours especially in case of transportation. People often miss their buses due to the lack of awareness regarding bus timings. Hence, we proposed a system to solve the above problem which will be useful for the travelers. In this project we have developed an android application which will get the location of the bus by using the location service provided by the Global Positioning System enabled android hand set and send those details to the server. The additional feature is a Short Messaging System option, which helps the admin to send important information to the registered mobile numbers for assistance. Through this project user can view

many details of the bus like timing details, latest location travelled by the bus along with time, stop details.

Keywords: Global Positioning System, Short Messaging System, Android hand set, server, location.

I. INTRODUCTION:

Tracking the bus by hardware is very tedious process because if there is any problem or error after designing the whole kit it is not recoverable. In case of software assistance it is easy to rebuild. So, Android application was used to develop this project. Android application is most familiar in these days because of JAVA. As Java has major scope it is easy to develop this project with many benefits in future.

Better social and economic growth of the society improves the quality of life which can be achieved by effective transportation system. The backbone of our country is transportation. The transportation provided by those institutions schedules are standalone. The other major issue in using this transportation is keeping up the correct time i.e., it is not sure that everyone will catch their bus at correct time and the waiting time may prolong due to any external calamities.

If a system that provides complete information like, the number of buses that go to the required stop, bus numbers, bus timings, time taken for the bus to reach, the routes through which the bus goes it will be very useful for students and faculty to follow up their timing and to save their time. This project will help people in providing all the above details by using android application. The reason to develop this project as an android application is that, everyone will use mobile phone. So it will be easy to use this application. This system uses the Android platform with the built in GPS receiver in the smart phone.

II. EXISTING SYSTEM:

^[1]There are many challenges in public transport system and the major issue among them is the waiting time. By introducing this project we are helping people to find the last location travelled by the bus and the time it passes that location. Using this everyone will get benefited to choose the bus according to their schedule. ^[2]College bus tracking application helps the students as well as faculties to know the location of the bus from the mobile phone with GPS enabled. This acts as both transmitter and receiver to send the location to the application used by the user. User has to login for seeing the location of the scheduled bus. ^[3]Mobile phone communication is the fastest mode which reaches everyone today. Here a GPS based vehicle tracking

application is used to track the location of the vehicle which helps the bus owner. This is flexible cost saving application where there is no problem of using any kit. ^[4] Since android applications are flexible for all the people as mobile have become more common everywhere. Here the GPS device will send the information about the location of the vehicle. After the data is received by the application from the GPS enabled mobile which acts as a transmitter the location of the vehicle is calculated and shown to all the users. ^[5] In the current scenario using radio communication and global positioning system one can determine the movement of vehicles or any objects. Even if the vehicle is theft it is easy to find it by tracking the location. Using single chip microcontroller the system is developed and use to reduce the effects of theft. ^[6] The most common way of vehicle tracking is using either Global Positioning System or General Packet Radio Service. The main theme is to find the location of the bus and tracking the route every time. Using microcontroller the location is tracked and shown in older systems but the current trend is to use it in an android application. ^[7] Vehicle tracking systems are extensively used by all the people to find the location as well as to catch the bus on time. This will helps the users in avoiding missing the buses. This can be used in all the mobile phones and will work if the mobile phone has GPS option. It can be used in both smart phones and personal computers to check the location of the bus anytime. ^[8] Tracking is the major topic in this current world because it helps the people in many ways like finding the location of an object. On olden days they need stored to process any information. Satellite communication technology plays a vital role in tracking. This technology is for ambulance tracking and police vehicle tracking in case of any emergency. ^[9] In public transport system the major problem is waiting for the bus. In the

cities during peak hours it is very much essential for the travelers to know the location or schedule of the bus. Hence this technology has made everything easier in their hands to know the location of the vehicle using GPS-GSM module. ^[10] Cities have very large transportation systems and especially during peak hours a lot of people use public transport vehicles. In this case due to lack of awareness of proper information about the arrival time of the bus many people are missing the buses and to avoid this mobile phone tracking systems are used to find the location of the vehicle.

III. REFERENCE OBSERVATION:

This is a digital system where everything has become mobilized. The people are running faster day to day to make their works done soon. Here the major issue they are facing is time constrain because time is the only thing which cannot be regained at any cost. They are moving to many places a day and to make their travel on time many applications to predict the location of both public and private transport vehicles are found and made in use. It is observed that the above papers referred are having some problems like the students are not aware of the bus timings all the time because the referred applications are delayed to show the location and automatic tracking and updating the status of the bus is not provided always. Information regarding the bus details like the information shared by the admin to the parents are not secured with password protection. Also there are no separate login for system operator (Transport Officer) as well as the users (Students and parents).

There are many tracking devices available to track the location of the bus, but the most popular among them is Global Positioning System because it is easily available with all the

smart phones. The portability is the main reason for people getting attracted towards android application using GPS for tracking the vehicles. Separate GPS device need not be purchased which is money consuming for send the location to the user application. Here the Mobile phone with enabled GPS acts as both transmitter and receiver and sends the latitude and longitude information of the particular place to the android application. After this the application will process the information send by the GPS and will display the corresponding place to the users.

IV. PROPOSED SYSTEM:

It is an android application to search current location of the bus. In our project we have to use two logins. Admin and User login. In Admin login, only the transport officers can do any changes or corrections. We have an additional option to send SMS to the register phone numbers in the database, in case of sending any important information.

In User login, the students can view only the bus details. They can't do any corrections in the user login. Heavy filtration process applied in view bus details form. So, the student can view only the details of the bus which is registered in the database under his/her user id. This is to provide a high end security or just to avoid misusing the details.

In admin login, we can add and view all the following details like Add bus details, Add City details, Add bus stage, Add bus timings, Assign bus to students vice versa they can view this details like View the bus details, city details, bus timings, assign bus etc., and also the bus location (today).

In user login, all the details can only be viewed by the user. The details are View bus, View city, View assign bus to particular students, View bus stages, View bus location (today). The details should be fetched from the

database on request send by the user and displayed to the students.

The following block diagram explains the concept of this project. The dramatic explanation is show in the block diagram. While running the application, user or admin have to undergo login process as shown in the block diagram. The privileges of the admin and user is clearly shown in the block diagram. The separate function of each tab and the block diagram are given in detail as follows:

ADMIN:

A. Add bus:

In add bus module, the bus can be registered by providing the bus number, bus register number, bus name. The bus register number is a primary key, which will be helpful while filtering from the database.

B. Add city:

In add city module, the city can be registered by providing the city name. The admin can registered from city and to city for student’s verification.

C. Add bus timings:

In add bus timings, the bus

timings can be registered by providing the timings of the bus. In this module, we can add actual and delayed bus timings of the respective bus.

D. Assign bus to students:

In Assign bus module, in which bus should be allocated for the students can be registered. In what bus and in which city the students can travel the details should be registered.

E. Add bus stages:

In this add bus stage module, the admin can registered the bus stages of the corresponding bus name and bus number.

F. View bus location(today):

In view bus location module, to track the latitude and longitude of the bus and automatically registered into the database. The admin can viewed the current location of the bus.

G. View add bus:

In this View add bus module, the

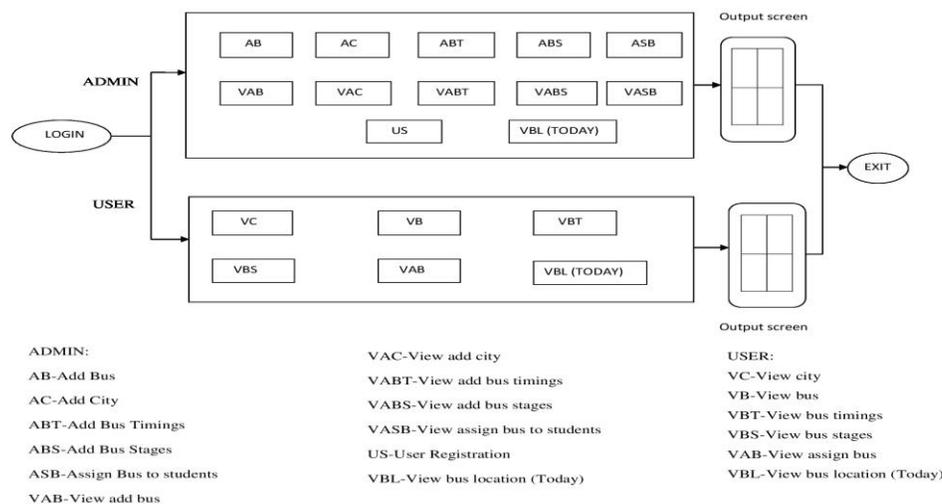


Figure 1. Block Diagram

already registered bus details can be

Viewed by the admin. The user cannot be viewed the details because it is highly security.

H. View add city:

In this View add city module, the already registered city details can be viewed by the admin. The city name should be unique.

I. View assign bus:

In this View assign bus module, the admin can viewed the bus assigned for the students. It fetch the details from the database and viewed to the admin.

J. View bus timings:

In this view bus timings module, the admin can viewed the approximate bus timings regarding the bus details and city details.

K. View bus stages:

In this View bus stages module, the admin can viewed the stages regarding to the bus timings to track the latitude and longitude of the bus fetched by the GPS from the database and viewed by the admin.

L. User registration:

In this User registration module, the admin can registered the student details and assign the bus to the respective students. It can only use by the respective admin.

USER:

A. View bus:

In this View bus module, the students can registered in the following bus name, bus register number, bus number. The students can viewed only the allocated bus number. In our stop which bus is available, that also viewed.

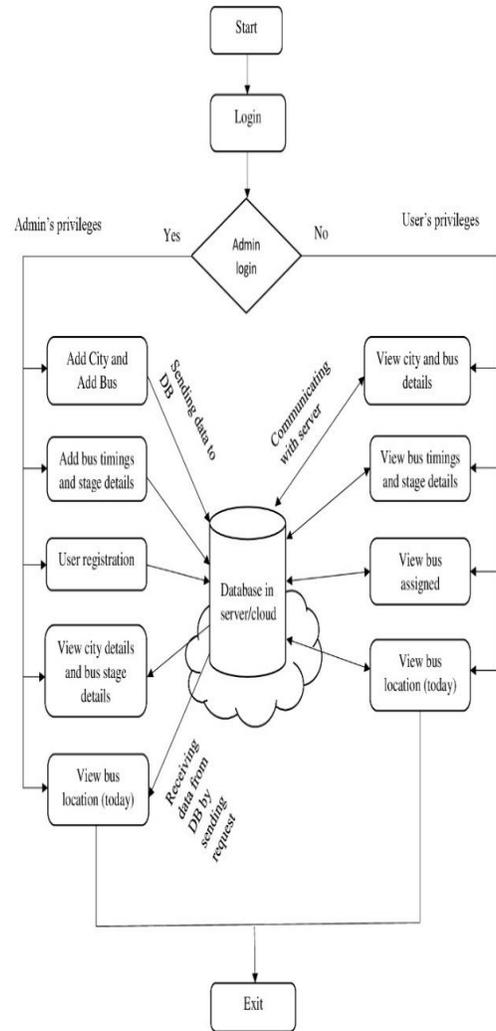


Figure 2. Work Flow Diagram

B. View City:

In this View city module, the students can registered the corresponding city name. The students can viewed in which bus is arrived in the given city.

C. View bus timings:

In this View bus timings module, the students can viewed the corresponding bus timings available in the city and the bus number. It is time consumption.

D. View assign bus:

In this view assign bus module, the students can viewed the respective bus and city details assigned by the admin. Only that bus should be used by the students.

E. View bus location(Today)

In this View bus location module, the students can viewed only the bus travel log. In which bus in which time crossed

Keys	Using Hardware	Using software
Real time implementation	Little difficult	Easy
Cost	High	No cost
Debug	It is tough to modify the kit settings	It is easy to modify code
Portability	Difficult	Easy
Life time	Short	Long
Environmental Changes	Will be affected	Will not be affected
Nature	Physical in nature	Logical in nature

the location also viewed by the students.

V. PERFORMANCE ANALYSIS:

VI. CONCLUSION AND FUTURE SCOPE:

In this paper, the location of the college bus is tracked by the Global Positioning System enabled in the smart phones at any time by both transport officer and student. Using the latitude and longitude information provided by the GPS, the location is identified and also saved into the database automatically. An additional feature of sharing the information to the parents is also provided in this system. In future, this system can be used for many applications like

- Theft vehicles can be found.
- User can alert the driver in case of any time delay.
- Parents can send any feedbacks and complaints to the transport officer.

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