NOTIFICATION BASED BUS TRACKING SYSTEM

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ASTRACT: This project is on Notification displayed bus tracking system. The main motive of this project is to display the time, speed & location of bus more accurately & efficiently to the user. With the help GPS system & Google Map we can show the exact route of bus as Well as their respective location. We made this project because we show that the students can wait for their Respective bus on the stop & because of that they will waste their precious Time, also the bus routes and also the exact distance of bus from Student. This consists of three part the one is the driver JVM API which can set bus no& also bus speed show on it. The second part is the driver API which can get the information of multiple Bus at screen with nearer bus at the top. It will click on it then Google map will be open. The database web server can store the data of all buses & also provide Connectivity between driver and user.

Index Terms - **Google Map, JVM API, GPS , Database web server**

I.   INTRODUCTION

Today smart phones are becoming more technologically advanced and offer more features. One of them is the remarkable features and capabilities that new smart phones offers to the Android based smart phones and also provide GPS. Android is becoming very popular in embedded market because of two reasons: First, source code is completely open source. Second, Android is highly suitable for expansion as the developer see it.

Global positioning system means GPS has become an essential part in our day to day life, whether it is used for location tracking and is also used for tracking suspects in crimes or to find out the nearby taxi. But there is a lack of an application that is more accurate and gives the real-time location of various other transportation media like buses. Thus here we introduce a Notification showing bus tracking application that can become a high level of penetration in the market. This application can be used as a personal digital synchronize application. This technique helps people to get the location of the bus via google maps and also show the speed of Bus. Basically, this application gives a brief idea about bus location and their provided routes and estimated time to reach the location with online attendance feature and Priority based multiple Bus Environment and this prototype is totally based on google maps and it's API. For this, we are developing an Android app with Java framework and a website which have the same feature based on php and Sql framework. This application can be helpful for the college and school students and also for the employ of Private Enterprises. The Application consist of Two application the first is for Driver and the another is for User. The Driver application consist of setting the Vehicle Number of a Vehicle and also the location of Bus.   The User Application have the display of vehicle number, vehicle speed, and how much distance the bus will be away from the user and also shown about the vehicle is stationary or not and also the last update of the Bus. The Bus which will be closer to user displayed directly to user on application the user can click on it and the location of the Bus displayed on the Google map.

II.   RELATED WORK

The android application along with GPS and google map are mostly used by people now a days .This concept is come from location tracking with GPS and display with help of google map. The GPS can provide the exact location along with time the GPS can uses radio signal to transmit the dada. Hence it used in application for updating at regular interval of time GPS can be used by U.S for military purposes to track the location but we can uses it in daily application system. User can enjoy the service of GPS as well as google map because they understood how to use it. The google map can used for imaginary photography, street maps, and 3600interactive views of street, real time traffic conditions. The google map can display the vehicle along with route as well as traffic on that route the google map and GPS can be used to solve traffic related problem and delay of bus at college. The GPS technology can help in development and adoption of this changing technology both for academic as well as public transport system. In practice there are many database systems with their own characteristics. The database will act like a server to collect data and transmit between two users. It acts like third party which gives information transfer. This provides scalability andavailability.the scalability means large number of data store on database. The availability means it will be available to user any time anywhere.

III.   PROBLEM DEFINITION

Every student wants to reach their college campus on the time with no delay so the time with no delay so the possible problem statements are

- Delay due to traffic jam on college road especially in rainy reason.
- Some other incidents like how to reach on stop at proper timing.
- Difficulty to get bus route & their location.
- Last update of bus from few seconds.
- Total number of buses on particular route

IV.PROJECT OBJECTIVES

The main objectives of the project are
- To design & develop on efficient information displaying application •   To design a bus tracking system with the help of android application only.

- To reduce the installation and maintenance cost.
- To develop the application which show bus number speed , last update & total no. of bus on single application
- To touch the bus information display we directly get the google map display
- To design a city bus tracking system which can work areas where poor wireless connectivity
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V.PREPOSED APPROACH

1. Overview

The project can consist of two application the first is the driver side application the another will be user side application the driver side application can be used by driver . the driver can set the vehicle number the location of driver can be set which will be displayed on the screen and also the speed of vehicle number can be displayed on the user application the first vehicle can be appear at the Top side of screen the user application can show the name of vehicle coming with speed in m/s It also show that how much distance it will away from user. It also show the time required to reach the vehicle to the user in the second unit .the last update of vehicle can be also seen by the user. The driver can add the multiple vehicle number the user can see all the vehicle number on the screen at the same time the user have its own choice to click on that vehicle number which is nearer to it. After clicking on thr vehicle id the google mapwill be open the google map can show the exact location of vehicle along with their route. The database will be automatically updated after every new entry of vehicle number. The only developer and database authorities have rights to delete andresarict the entry of buses. The webhosting server is used to manage the databases in this way they transmit all infmation from driver to user.

The formula that can we use in this application is the speed =distance/time
The bus is running with certain speed in km/hr and the user can enter its location. The application can have turn on the GPS hence it knows the exact location of bus & user hence it knows the distance between user and vehicle by getting the information of speed and vehicle we can calculated the time to reach the vehicle to the user. After certain interval of time the application will be automatically updated hence the location of vehicle automatically updated because the vehicle is moving. Hence there will be random display of constraints show on the application. If the vehicle is standing study at a particular point hence it is easy to calculate the exact timing the constraints will be displayed on the screen. If the network will be loss then the application can calculate the content by considering the last content of location &speed which is stored in the database if the user will moving then at that time also the problem will not occure because of GPS and random updation the exact speed distance and location will be shown on the application. The user can use this application on any android device because there is no condition to enter the user id and password the identification and verification can not occure in it. Hence the less time is needed by user to know the location of vehicle hence verification process is absent hence it can use by any user the more knowledge of use of application is not require there is no need to user to share its identity and information to anyone no one can trace their location. Hence it is also useful in security purpose because the information is not sharing to anyone only the service will be provide. And the service can be used by multiple user in a easy and secured manner.
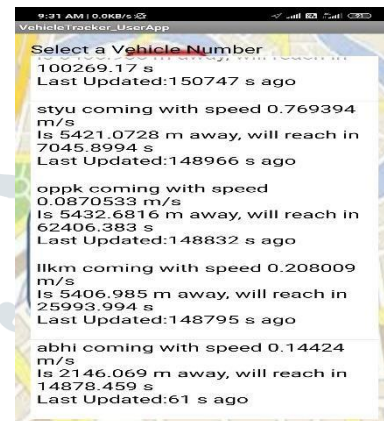
2. Architecure

The fig.1 represents the Driver application where driver can set the vehicle number and it also represent the location of vehicle.

The fig.2 represent that the driver can set the vehicle number MH31AB4646 along with location as well as speed.

The fig.3 represents the User application where various vehicle number along with information such as speed of vehicle, distance away from user, the vehicle reaching time, and the last update of vehicle.

The fig4 represents the map when user touch on the vehicle number this map is open which represents the location of vehicle along with route as well as timing.

The flowchart for this application consist of first starting of android application. The application of driver can connected to the database. The user application is also connected to the database. If the driver and user application both are active the it will exchange the data.Then the user can click on the application to view the google map ,then the google map will be displayed to the user. At the end both application will be closed.
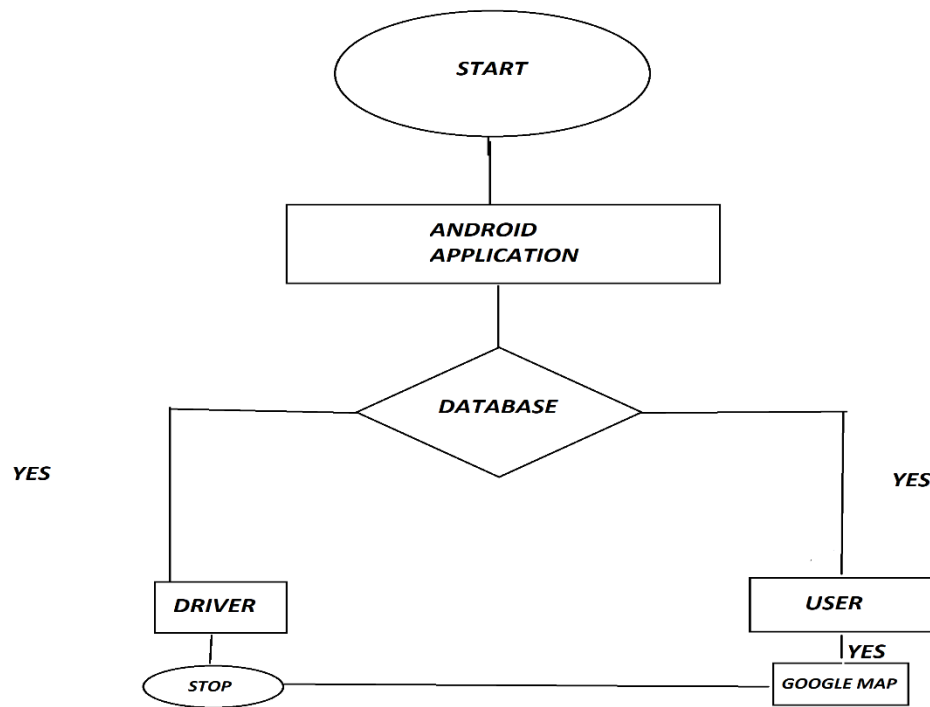
Fig. ANDROID APPLICATION SYSTEM FLOWCHART

VI. CONCLUSION

This paper shows that with the help of GPS, Google map, Android application can be used concurrently .This will perform work in a combine way to show the location of vehicle such as bus .the application can show the accurate time of bus at particular stop . it also show the bus route map and the traffic analysis of that route .It saves the precious time of passenger and also useful for school kids

It enhances the safety of the kids and also reduces the stress of the parents for the bus information as well as location.

VII.REFERENCES

[1] Chadil, Noppadol, Apirak Russameesawang, and Keeratiwintakorn."Real-Time Tracking Management System Using GPS, GPRS and Google Earth", In IEEE 5th International Conference on Electrical

Engineering/Electronics, Computer, Telecommunications and Information Technology, vol. 1,2008, pp. 393-396.

[2] El Gouhary, Amany, Richard Wells–richard, and Anthony Thatcher."GPS Tracking System." ,2006.

[3] Zamir, Amir Roshan, and Mubarak Shah. "Accurate image localization based on google maps street view." In EuropeanVConference on Computer Vision,2010, pp. 255-268.

[4] Zahaby, Mohammad, Pravesh Gaonjur, and Sahar Farajian, "Location tracking in GPS using Kalman Filter through SMS", In IEEE EUROCON ,2009, pp. 1707-1711.

[5] Walter, V., M. Kada, and H. Chen. "Shortest path analyses in raster maps for pedestrian navigation in location based systems." ,International Symposium on "Geospatial Databases for Sustainable Development", Goa, India, ISPRS Technical Commission IV (on CDROM). 2006