

# Metropolitan Bus Tracker

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**Abstract-** Smartphone is now considered as a necessity and is being adopted by people every day. Because these devices come with cooler and smarter features that has been embraced by all sections of the society. Therefore, almost every one, everywhere irrespective of economic status seems to have one. So, we have decided to implement our idea through mobile application. Which is to save time for the passengers in metropolitan cities who are all waiting for the buses still they don't know when exactly the bus would come. Everyone in metropolitan cities would have been in a situation to wait for the bus they have to be boarded though there is no schedule like in what time the bus would come. Our idea is to eliminate their waiting time by tracking the buses for them on real time with android application.

**Keywords-** Smartphone, Android Application, Tracking, Metropolitan Buses.

## I. INTRODUCTION

People in metropolitan cities who are using public road transit are experiencing a problem nowadays, the lack of sufficient information about the buses. Because there are no schedules for metropolitan buses. They come in random. So, if user wants to board into bus that goes through particular route, they have to wait until that bus arrives though they don't know in what time the bus would come.

So as to overcome from this situation we propose the application over the android phones to provide sufficient information about the buses and to track them on real time. If user can track the bus they have to board, there is no need to wait at all. If the bus just arrived is crowded it is easy for the user to take decision like do they have to board into this bus or they can wait for the next one when they can track the next bus.

## II. EXISTING SYSTEM

In existing system, if user wants to board into bus that goes through particular route, they have to wait until that bus arrives. Because there are no schedules for metropolitan buses. They come in random. If the bus, the user wants to board arrives with the huge crowd, they have to brainstorm whether they have to be boarded despite the crowd or they

have to wait for the next bus. Because they don't know when exactly the next bus would come.

## III. PROPOSED SYSTEM

Our proposed system is capable of getting the current location of the buses at the end of the thread which is programmed to run every three seconds. This location in terms of latitude and longitude values are updated to MySQL database by using PHP on every thread. Likewise, user location is also retrieved from the location manager of their devices (mobile phones) to show their current location.

When the locations of buses and users are retrieved they are now ready to be viewed on google maps using google maps API. Speed of location retrieval from database is quite enough to track the buses and locate the user on real time

### A. Setbacks with the existing system

It wastes user's valuable time. If users are running in hurry, the existing system won't help them to take quick decisions like do they have to take the crowded bus or they can wait for the next bus which can probably arrive quickly.

### B. Architecture Diagram

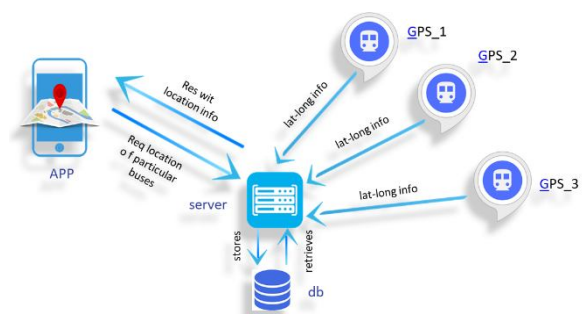


Figure 1. Architecture diagram for metropolitan bus tracking using android application.

## IV. MODULES

1. Registration and login
2. Search Bus Routes
3. Viewing Route Numbers list

4. Live Tracking

1. Registration and login

If the user is a new user he needs to get registered with the application by giving all his details. The data which is entered by the user is stored on the server. These details consist user name, email and password. This registration is done only for the first time. After successful registration they can login by providing email and password. Once they logged in they can use the facilities of the application.

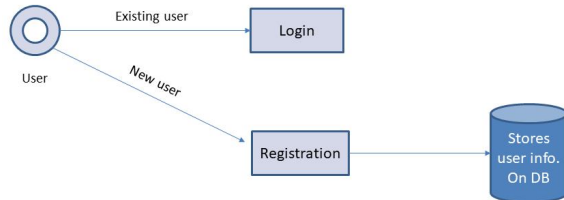


Figure 1.

2. Search Bus Routes

Once the user logged in they will directly land on search page. The user has to give starting point and destination point for their convenience. Then they have to click search button to search the routes.



Figure 2.

3. Viewing Route Numbers List

The server responds to request made by search module with route numbers and location of the buses that goes through that routes. The location is in the form of latitude and longitude. By getting these information this module lists the route numbers to show it to the users. And it provides the user to track the buses going through the desired routes.



Figure 3.

4. Live Tracking

Receives location info of desired buses from server in the form of latitude and longitudes for every three seconds and

track them on the maps using google maps API. The refresh rate is good enough to track the buses on real time.

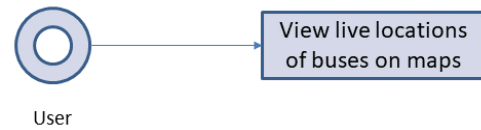


Figure 4.

V. ADVANTAGES

It helps people to manage their valuable time efficiently instead of waiting in the bus stops by tracking the buses they want to board on real time with interactive maps. Provides sufficient information about the metropolitan buses like routes, route numbers which eliminates the need to get help from others.

VI. LIMITATION OF EXISTING SYSTEM

In the existing system there is no proper schedule available for metropolitan buses. Which will come and go in random. Which puts the users into difficulty. They couldn't plan their travel without sufficient information about the buses. That makes them toil by waiting in the bus stops.

VII. APPLICATIONS

The user if needs to know route numbers that goes through his/her desired locations, then they can search it by providing starting point and destination point. Once they click the search icon they will be displayed with the route numbers list they asked for. If they want to track them, that made possible by clicking track icon provided in the search result page. Then they will be directed to the live tracking page in which the buses are tracked on real time in interactive maps.

VIII. CONCLUSION

Thus, the user can search and track the buses which are goes through their desired routes on real time. By tracking these bus, they can calculate on which time they have to reach the bus stops. This saves users valuable time by preventing the user from waiting for the buses. This application will automatically display the maps and the routes to the different location and also track the bus location. Specific location details are provided to the user along with bus number, so that person can identify the bus correctly. Thus these details reduce the burden of the passengers by preventing them from waiting for long time in the bus stops.

IX. FUTURE ENHANCEMENTS

The distance and time estimation between the user and buses can be shown in future versions.

### REFERENCES

- [1] N Garg, PV Gawande, PPKDB Kharat, 2017", Bus Tracking using GPS and Real Time Prediction", International Research Journal of Engineering and Technology, Vol.04, Issue 04..
- [2] Kulshrestha,T., Saxena, D., Niyogi, R., Raychoudhury, V., Misra, M. 2017. SmartITS: Smartphone-based identification and tracking using seamless indoor-outdoor localization. Journal of Network and Computer Applications, Vol.98, Pages 97-113.
- [3] M Venkatesh1 , Dr Shaikmeeravali2," Design And Implementation Of Vehicle Tracking System Using GPS, GSM And GPRS Mobile Communication Networks", International Journal Of Professional Engineering Studies, Volume Vii /Issue 1 / Sep 2016.
- [4] Jessica Saini, Mayank Agarwal, Akriti Gupta, Dr. Manjula R, "Android App Based Vehicle Tracking using GPS and GSM", International Journal of Scientific & Technology Research, vol.06, issue 09, 2017.