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# Bus Tracking System

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***Abstract:*** *The inconvenience caused because of the lack of management of public transport services is one of the main reason that general public is not using bus services in order to reduce this inconvenienceand in order to make the commuters more informed about the ongoing services we have implemented this project. In this project commuters will be able to locate the exact location of the desired bus using GPS and geolocation technology. By locating their respective bus, the commuters will not have to wait unnecessarily at the bus stop. Commuters would be informed about the various details of the arriving buses using an android application so that the bus system could function in an orderly manner. In this paper we propose a system wherein we provide an application that would enhance the system and will provide an extra layer of transparency to it*
***Keywords-*** *Geo-location, GPS, Android application.*

## I. Introduction:

Buses are one of the major public transport systems used. It is one of the largest transport networks in India. There always exists an uncertainty with respect to the time of arrival of bus at the bus stop. The traffic prevailing on the streets in the metropolitan cities like Mumbai is the major factor governing the scheduling of buses. Although various new systems like electronic ticketing machines, season cards and smart cards have been implemented to the convenience of both staff and commuters, there is much more scope for new technology to be implemented. Also sometimes buses are cancelled due to their breakdown, strikes, water logging on the roads or any other reason. The commuters are never informed about such cancellation of buses. Till now no bus application has come up with a powerful communication system to intimate the general public regarding such delay or even cancellation of buses. The 'Bus Tracking System' that is proposed, aims to provide a robust and efficient system to allow facilities to track buses, know estimated time of any bus, The challenge would be the method to provide all the required tracking and arrival information to the user on the move. Although one can display this data and provide such facilities at a bus stop, it defeats the aim of providing flexibility which is a pivotal part of the project. Hence the Android application is developed as a user interface. Its purpose is to provide an easy interface to access all the various features of the system and to make full use of its functionality. Most of the facilities provided by this system will eliminate the problems faced due to uncertainty of scheduling of buses.

## II. Limitations Of Existing System:

The limitation of this project is that it is on a small level. For the project to be implemented on a large scale there is a need for larger hardware components, more advanced versions of software so that the project can be implemented all over instead of a small region.

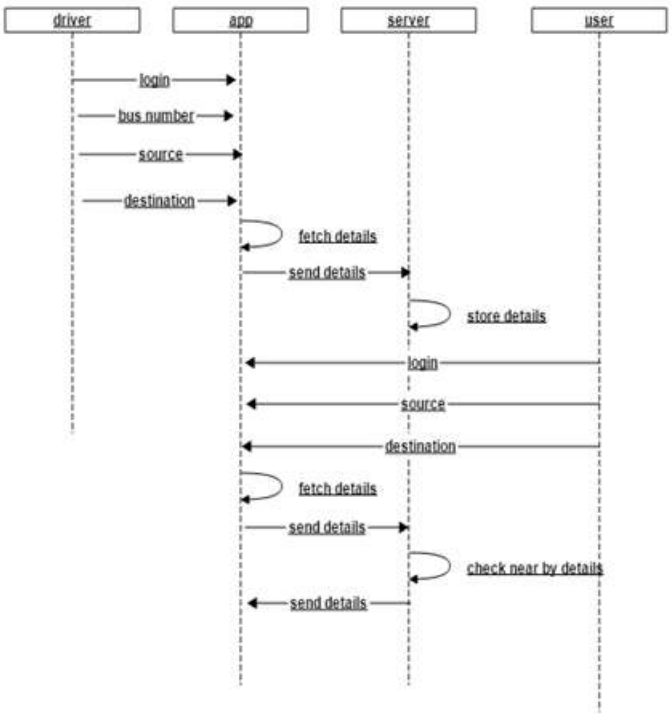
## III. Feasiblity Study:

The last twentyyears have seen growing interest in the development of Android based mobile platform.
1. An application has been implemented in Pune district, named "Pune Bus Guide". This application gives the way to the destination correctly, but the number of drawbacks that it has is greater than the number of advantages. It does not show the passengers current location even if he/she is connected to the GPS. Also, this application has been proven useless as it does not display the bus numbers, so the passengers find it very hard to know the number and time of arrival of the respective buses. It does not have a real time bus tracking service or does not even generate maps for the users ease. This application has never been updated ever since its development. Moreover, this application has bugs which makes it all the more difficult for the user to use it

2. The application developed in Bengaluru named "Bangalore BMTC Info" has drawbacks like: The application is never in an updated condition. The application has fed in wrong routes on several buses and given no updates to fix them. After the minimization and restoration of the application, it cannot search anything. This application crashes almost always.

These examples clearly state that all the bus applications implemented so far have faced serious problems, which have still not been fixed. Currently, there is no framework application built to track the location of the bus. Most of the earlier tools were developed considering only a few constraints. This led to exclusion of many important constraints which further caused problems while operating the application.

## IV. Design:




1. Driver will enter all the necessary information such as login id, bus number, source and destination to the application page.Right now data is only entered by bus driver and not fetched by application.
2. Now the data will be fetched by application for processing and sending forward. Fetched data will be send to sever.
3. Server act as storage manage which will maintain the data and makes it available across various user devices which are having our application.
4. Now on the other hand, when user will ask for assistance by our application. He first needs to enter the information such as login data, source and destination.
5. Application fetches that entered data and sends it to server.
6. Server compares data which is entered by user with data made available by bus driver.
7. By using this, the nearest desired bus location is made available to the user.

## V. Figures And Tables

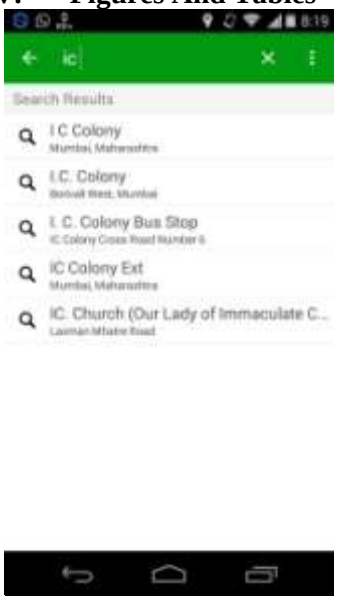



Fig: Here user is entering the source and destination of desired location.


Fig; After entering the desired location which are shown above application has shown us nearest bus in purple dot.

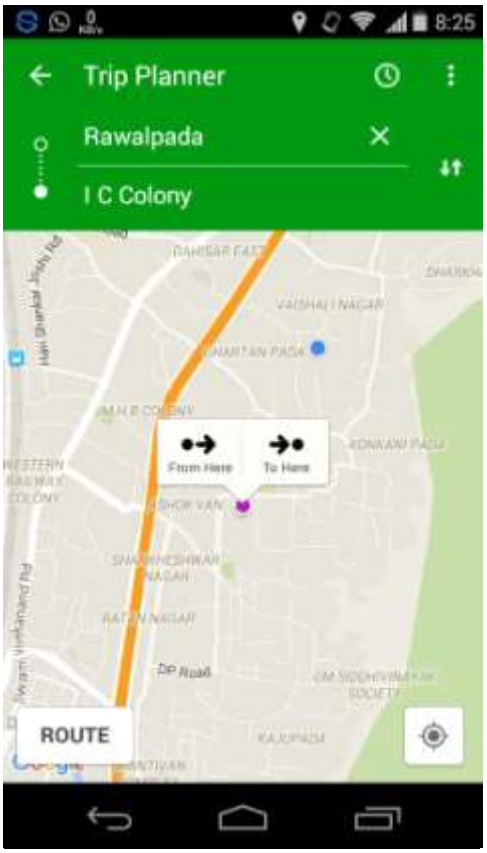



Fig: after zooming out we can see the user location in blue dot and purple dot as nearest bus location.

## VI. Applications

In this topic the applications and the fields where it can be implemented are discussed.
Due to the advantage of tracking the buses this application or the technology can be used further in many ways. This technology would not help only tracking of buses but may also help in other fields like:

- Education
- Travelling
- Tourists guide

## VII. Conclusion

This app however can be used by wide range of people from students,employees, daily travellers etc. This app can be implemented in public buses,helping the passengers waiting at the bus stop for long hours .this applicationgives location of the buses, hence making your journey a sweet experience anda smooth travel without any further waiting for long hours.

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