

# Bus Guide: An Android Application

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## ABSTRACT

*Bus Guide is an android application that tracks a bus at real-time and gathers the distance to each station along its route and can predict the actual arrival time of the bus at user's location. Tracking System involves the installation of an electronic device such as mobile in a vehicle, with an installed Android App on any SMART phone to enable the Administrator/User to track the vehicle's location. Bus Guide allows the user to book and confirm their seat at real time. There are two applications modes one for admin and the other for the user. Buses carry GPS devices to track their positions. By this positions to server are periodically updated. User application displays map showing the position of bus. It shows where buses are on a map and provide users the updated information at different time interval. The server will monitor location and will store its data in the database. It is a real-time system as this method automatically sends the information on the GPS system to a central computer or system/Smart phone.*

**Keyword:** GPS, GPRS, Google Map, Smart Phone, Location, Source, Destination, Distance, Bus Stop,

## 1. INTRODUCTION

This system can also be known as Smart Bus tracking application/system. The transportation in India fails to follow the scheduled timetable and puts the common man in to trouble. A person sitting inside a bus stop is unable to get the information where the bus has reached. These passengers often faces difficulties in taking the decision of whether it would be quicker to wait for the next bus or to walk or to hire a taxi/rickshaw to reach his/her destination. Every day we see people going late to work, students late to their classes, just because they decide to wait for the bus instead of just using an alternate transportation. Bus Guide is the perfect solutions for the above problems. Bus Guide will help the user to manage his/her travel schedules at real time without facing any difficulties.

## 2. SYSTEM DESCRIPTION

The following figure shows the system architecture of Bus Guide: An Android Application

- 2.1. User: User is the person who is willing to travel he will have the preinstalled Bus Guide application on his Smart Phone.
- 2.3. Smart Phone: It has the inbuilt GPS device using that user will communicate with the server and search for the Bus locations.
- 2.4. Database: Database will be updated with certain time period interval automatically
- 2.5. Server: Server will respond to the request by the user for the particular bus, source / destination.
- 2.6. Tracking Device: It is nothing but the GPS device installed in bus for real time bus tracking purpose. This GPS device will automatically send data to the server side.

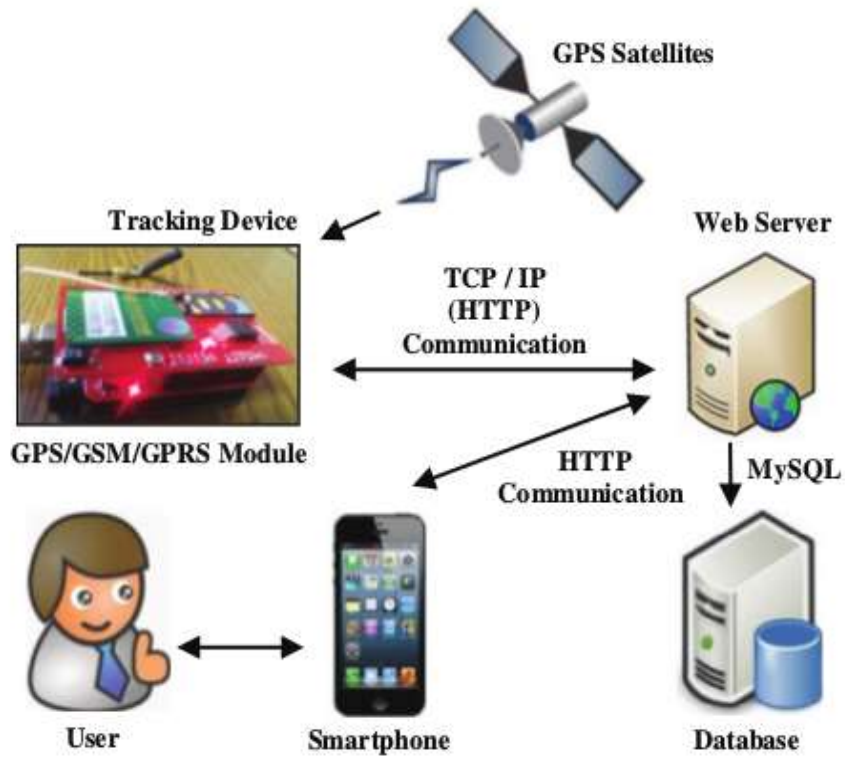
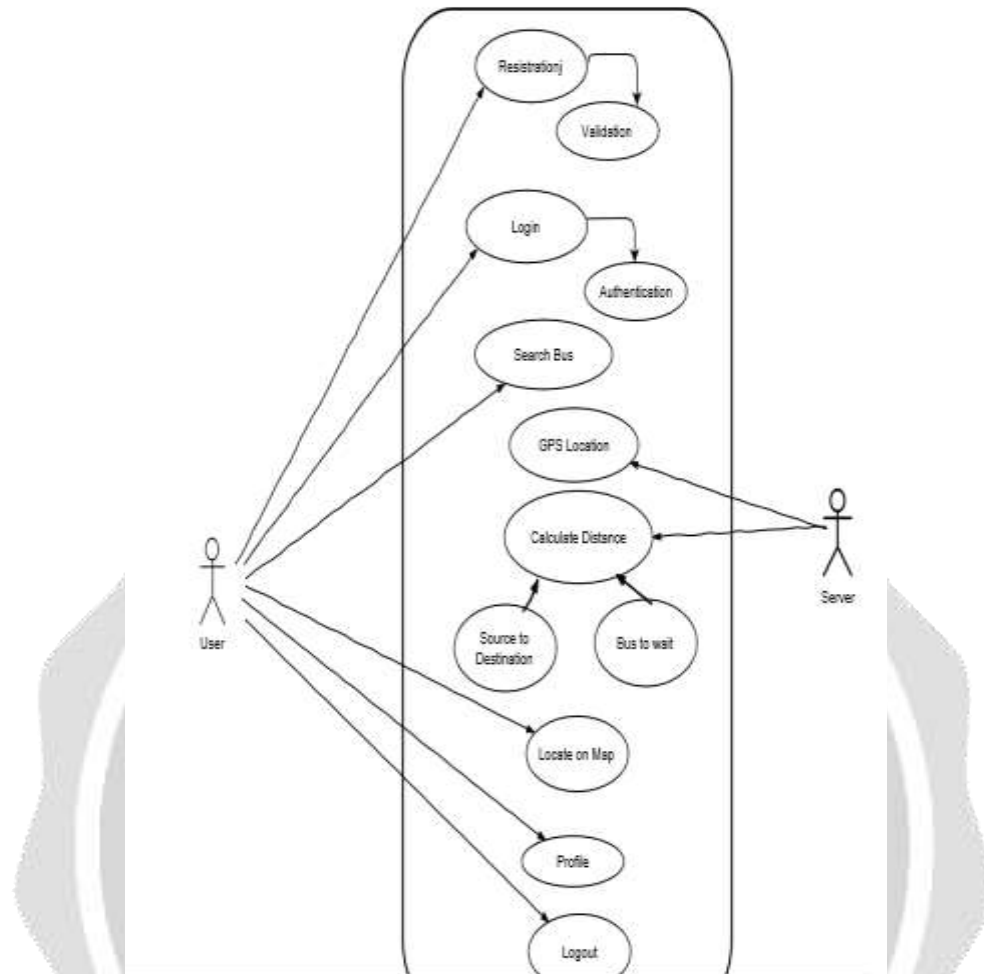


Fig-1 System Architecture

### 3. OVERVIEW OF SYSTEM

Following use-case diagram shows the overview of the Bus Guide Application. The user actor can have the registration, login credentials, Search bus and locate on Map, etc. The server actor have validation of the user, authentication, Bus location details, distance, time required to reach, etc



**Fig-2 Use case Diagram**

#### 4. CONCLUSIONS

Bus Guide is an android application that tracks a bus and gathers the distance to each station along its route. The users can get flexibility of planning travel using Bus Guide application, to decide on which bus to take or when to catch the bus. The waiting time of the user can be reduced drastically. This application can be easily extended for central tracking system to keep track of all the public vehicles. The different queries and efficient route management can be easily done through central server system. Bus guide can accurately predict the time of bus arrival at users location/bus stop.

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