# Android App for Tracking Bus Location

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*Abstract:-* **People in crowded cities such as Mumbai, Delhi, and Bangalore do not have time to invest in transportation. Waiting for transportation time in such densely populated places reduces productivity across the board. When people are unaware of the present situation of transportation, they face this challenge in their daily life. So the recommended solution is an android-based application that will allow the user to check the bus's current location and estimate how long it will take the bus to arrive at the user's current location. A bus tracking system is a low-cost and effective technology. Four programmes will be created to utilise this application. The first application is to connect the controller to the bus system so that real-time data on the current bus location can be provided. The second system sends out group messages, such as warnings to passengers waiting at the next stop, changes to the existing route, bus number, and so on, saving time for people.**

## I.INTRODUCTION:

Everyone is in a hurry to get to their destination in today's fast-paced world. It is not possible to wait for the buses in this situation. People who use public transportation should be aware of the bus stop they are looking for. Android cellphones have gotten more universal and inexpensive as technology has progressed. Smartphones are capable of delivering a rich user experience through interactive apps. College students squander valuable time waiting for their own bus route, and there is a dearth of information on buses running on their specific route for students who have missed their bus. Passengers can use this real-time Android app to locate the exact bus location so they don't arrive late or miss the stop. For eligible travellers, direct buses are provided.

## II.LITERATURE SURVEY

1. S.Gurupriya "GPS-based bus tracking system for smartphones" Companies that need to keep track of major insurance assets should use asset tracking. A navigation system that meets these design objectives improves the PTN user experience while being cost-effective. Visitors and regular users are the user categories that have been targeted, as the system is particularly useful for people who are new with PTN. Regular users, on the other hand, can benefit by being routed to their exit locations using their present and well-known transportation network components, such as when visiting a site for the first time in a new area. The navigation system increases urban transportation knowledge and makes PTN more appealing to strangers in this way.

2. Rashmi K "Estimate Bus Arrival Time Using GPS And GSM Technology" suggests using GPS and GSM technology to forecast bus arrival time. It suggests following the bus and predicting its arrival time. The suggested mechanism will bring the bus to you. User Activity Vision, Collaborative Sensor, and Urban Sensor all provide a plethora of data on the state of mobile applications including location-based services and social networking platforms. By continuously acquiring this contextual information, mobile devices consume a significant amount of energy. This study proposes a new design paradigm for the Energy Efficient Mobile Sensing System (EEMSS). To recognise user situations and to become aware of status changes A hierarchical sensor control method is used by EEMSS. By providing a reduced range of sensors and using suitable sensor cycles, EEMSS greatly increases device battery life. EEMSS can automatically detect a collection of daily actions for real-time users utilising sensors on a high-end smart phone. Department of CS & E, JIT, Davanagere, Android Bus Route Tracking

3. The Triveni D "Smart College bus tracking system" uses GPS and GSM technology to track a moving vehicle. Alarm-intensive alarm operation with tiny size, low cost, and full and powerful GPS based alarm. Alarm for cell phone based on phone location and position detection from the mobile device's current location. A location-based alarm will let you know when you've arrived at your destination. A GPS-based alarm is a location-based alarm. When you set the alarm, it will play a sound and notify you when you are within the user-defined distance from your destination. The user must save their current location using longitude and latitude, and an alarm will sound when they are close to it. A travelling salesman must perform a variety of tasks in various locations. It's difficult to recall him everywhere. As a result, he can use this software to set the alarm in the locations where it is required.

4. Akshay's "Real-Time Bus Tracking System" makes use of GPS and an Android app that communicates with the updated website. The user is shown the exact location of the selected bus in relation to their current location. Google's real-time map

and GPS-based car tracking system are employed in this activity. These are just a few of the many technical and technological advancements that others have made in attempting to apply the same kind of systems outlined below, as well as their flaws in relation to our Application.

## III. METHODOLOGY:

This program helps the user to get information about the bus location. The name of the request is "Where is my bus?". The user must create an account in the app, then log in to the account. The user can see the interface when the first option is to track the bus location. Where the user has to search the bus lanes. After that the user will get bus information including bus number, bus name, routes between source and destination, city, city, city, total kilometers, bus departure time, bus arrival time, next stop, current stop, distance between current and next stop. Then on the home page the second option is to call the bus controller or controller which is a free number. Helps the user to create any queries to control about the buses. The next option on the homepage is the answer. Where the user can provide feedback to the app. The last option on the home page is 'about application'. Where app developer names are mentioned. This was about the user application. Administrator plays a major role in this program. Administrator has an account on the website. He must sign in to the account, then he will update the bus status. The status may include bus number, bus name, departure from city, to city, route details, Depot name, departure time, arrival time, current stop name, next stop name, approximate time to get to the next stop, about a mile to the next stop, total route distance . Admin will update the website regularly so that the user can get the latest bus information.
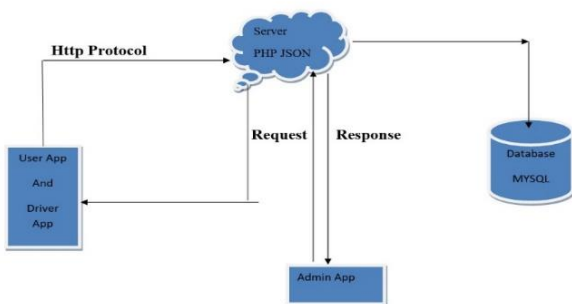
## IV. SYSTEM ARCHITECTURE :



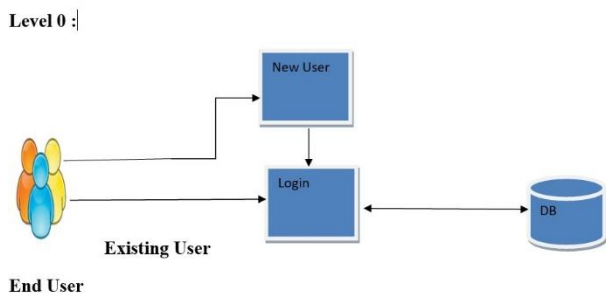Figure 1: System architecture for request and response



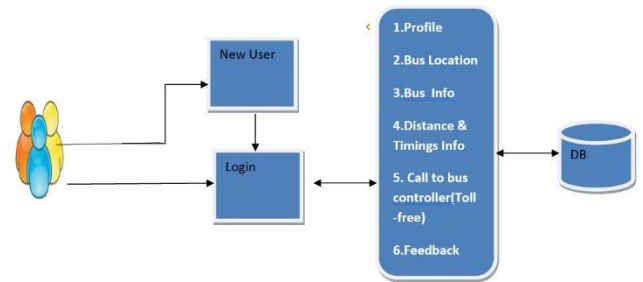Figure 2: System architecture for existing user



Figure 3: System architecture for login
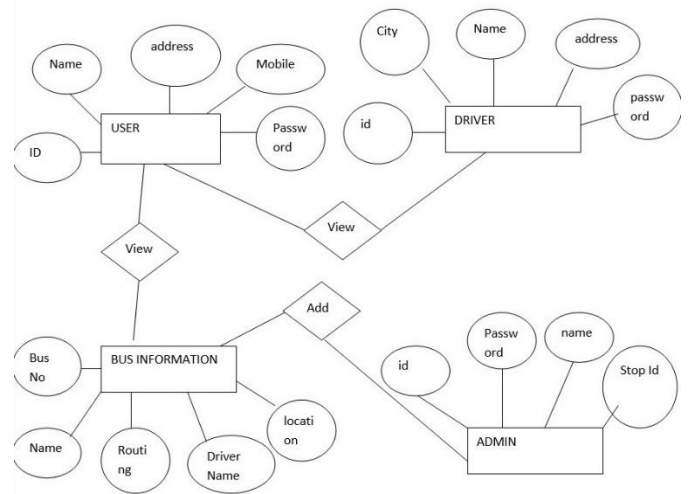
## ER DIAGRAM :



Figure 4: ER-diagram connecting user, driver, bus information, admin

## V. RESULTS

The user will receive bus information such as the bus number, bus name, routes between the source and destination cities, total kilometres, bus departure time, bus arrival time, next stop, current stop, and distance between current and next stop. The second option on the home page is to dial the bus controller or controller, which is a toll-free number. It enables the user to create any queries for bus control. The answer is the next choice on the homepage. Where the user can provide the app feedback.

## VI. FUTURE WORK

This application can benefit from the use of GPS. Users can utilise computerised maps to track the location of buses. Ticket booking, rescheduling ticket times, and paying the ticket charge through QR code will be possible in the future.

## VII. CONCLUSION

This paper proposes the bus tracking and predicts the bus arrival time with a proposed system in it. The system allows a user to track their bus from the android app. With the help of tracking user can see how far the bus is this allows user to plan their route and travel plan accordingly. App will also give the approximate time and distance of the bus. This will reduce the wait time increased willingness to pay and customer

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satisfaction. This android application will make bus transportation more productive.

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