

# Internet Based Tracking System For Bus Application

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**Abstract:** - This analysis is based on the bus tracking system. The main intention of this work is to create an Internet-Based Tracking web application that would be able to track Nagpur buses more precisely and efficiently than present bus-tracking systems. We got the motivation for our research paper by observing how much precious time the public living in Nagpur wastes by just waiting for the bus on their particular route. There is also a lack of information for the buses that are traveling on their particular route for the public who have already missed their particular bus. The current generation is very technology-oriented and requires time-to-time updates via the internet. So, they can know the exact location of buses. This system will help to know the location of a bus without using GPS, bus schedules (i.e., according to timing), and also give information on routes and bus status. This technology will be very helpful for outsiders, college students, the local people of the city, and employees.

## Introduction

Among all the public transportation services, the bus service is the most commonly used by the public. Especially in a busy town or city, the bus is the easiest, most convenient, and cheapest form of transportation. Bus users do not know the exact arrival time of a bus, but only the scheduled arrival time. Compared to train or flight transportation systems, bus transportation services do not have a proper system to track all buses' positions and their actual arrival times at every bus stop. The current generation is very technology-oriented and requires time-to-time updates via the internet, so they can know the exact location of buses. This system will help to know the location of a bus without using GPS, bus schedules (i.e. according to timing), and also give information on routes and bus status. This technology will be very helpful for outsiders, college students, and the local people of the city and employees.

**Proposed System:** - The proposed bus tracking system will be able to provide bus users with a real-time platform to check on updated bus information, for example, bus arrival or departure time. This system can update the current location of the bus with the help of a bus conductor or bus driver by just clicking on their current bus stop without using GPS. Besides

this, our system is also able to decrease the workload for the bus management team and supply an instant platform to update the latest and perfect bus traffic information to bus users. This system also includes the number of police officers for women's safety and gives feedback about the bus management system.

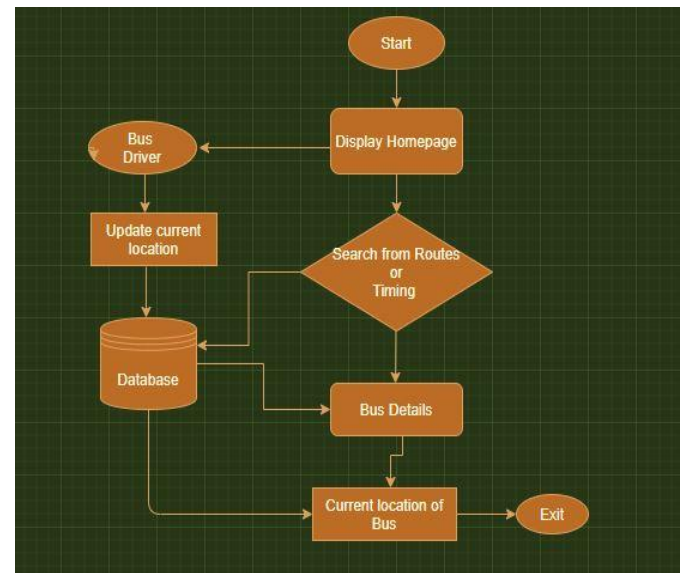


Fig 1.1: System Flowchart

**Objectives:** - Implementing this system primarily provides information about bus transportation in the cities. It keeps information like bus routes and stops. This system uses the BEST bus route finder, so the user can find the exact bus number from one point to another as well as stops for that particular bus. It also provides a timetable of the bus services as per their timings. This system provides a platform that allows the bus management team to update the bus schedule through the Internet instead of posting paper copies of the bus timetable on the notice board. It reduces the workload of bus management team, and they can utilize the time on other matters in order to enhance the quality of bus service. The main goal of the proposed work is to improve the bus system by adding the necessary additional features to the application,

like accurate bus timings, correct bus numbers. Emergency situations can also be informed to the Bus Management.

**System Architecture:** - This chapter describes features, fragments, classes, architecture, and the application itself by providing necessary information about major components. First, overall information is given along with the project's components and classes. Subsequently, the architectural facts of the application are discussed. The bus-guided application is mostly used by local people to avoid problems such as traffic in major cities.

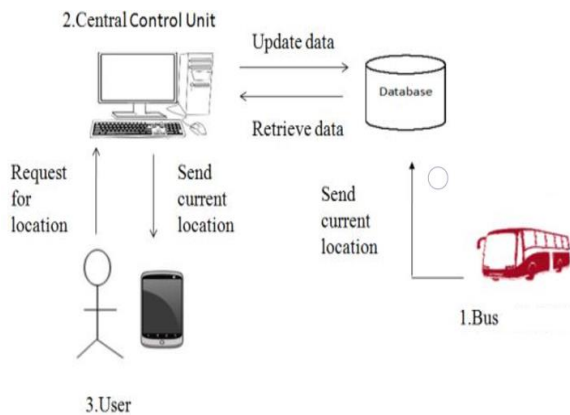


Fig 1.2: - System Architecture

**Modules:-1.User:** - This system is a fully mobile responsive webpage which can help users get details of the bus as per their needs. In this system, users can get the bus details in two ways: they can view them according to the routes of the bus and the bus timing, which perfectly guides users to choosing the right bus, and also helps interchange the bus to go to a particular destination.

**2.Driver:**-In this module, the driver can update the current location of the bus with the help of a bus conductor or bus driver by just clicking on their current bus stop in the interface.

**3. Admin:**-It is a static login ID and password. The admin can be able to add buses and their details like timing, driver name, contact number of the driver, bus number, etc. Admin can edit the bus driver's name, change the bus driver, view the bus driver's details, and change the routes of the bus. Admin can add bus driver information and allow bus drivers to update their location. This system is also able to reduce the workload for the bus management team and provide an immediate platform to update the latest and most accurate bus traffic information to bus users.

**Methodology:-** The system allows a user to track their bus from the Web app. With the help of tracking, users can see how far the bus is from their location. This allows users to plan their routes and travel accordingly. This system will also give the approximate time and show the fare. This will reduce the wait time, increase willingness to pay, and improve customer satisfaction. The driver/conductor will send its coordinates continuously to our server, where the data will be stored. When the user selects that exact bus ID, its location will be retrieved from the server and revealed on the map. The location information is fetched from the online database, which receives the data concerning the location from a separate application used by drivers and conductors on the bus. This helps in maintaining the uniqueness of the bus while displaying it on the user interface.

**Implemented Result: -**

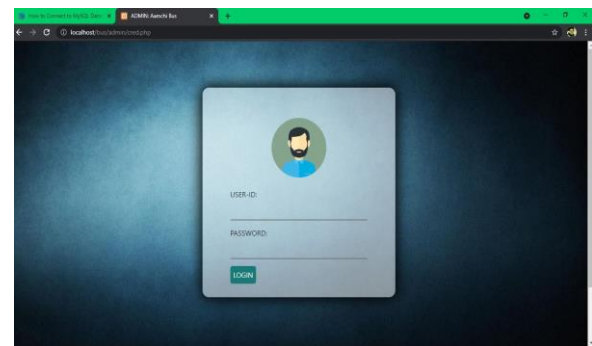


Fig.: - 1.1 Admin Login Panel

show the Admin Login which is operate by the Bus Management Team. This Login is Static only for Admin. It operates various functionalities like bus creation and so on.

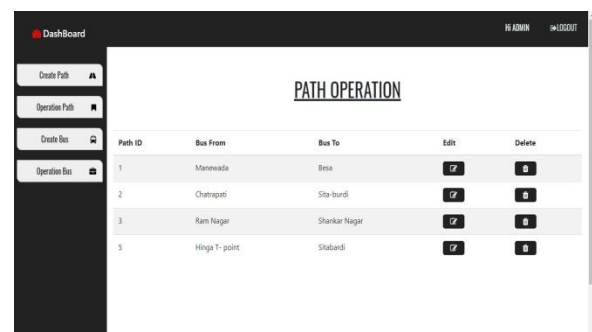


Fig.: -1.2 Dash Board

shows the user –friendly interface of Dashboard of Bus Management team can operate various function like create

path for new buses, create bus for new routes with driver name and all.



Fig.: -1.3 Homepage for Users

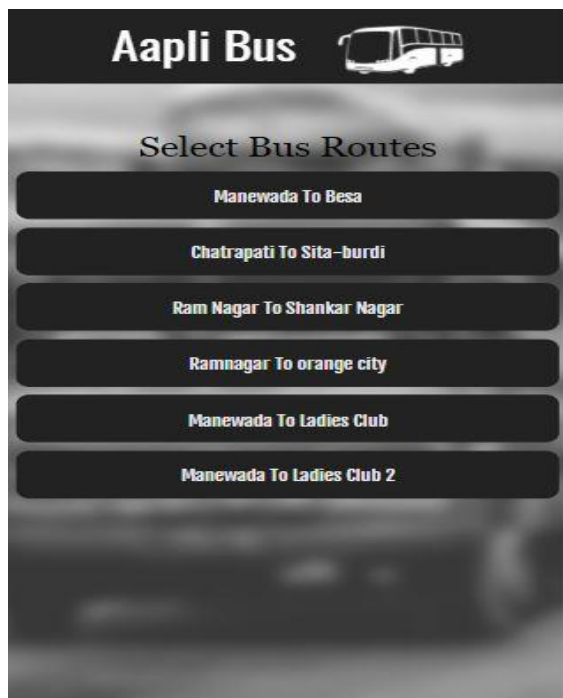


Fig.: -1.4 Routes Page



Fig.: -1.5 Bus Details Page

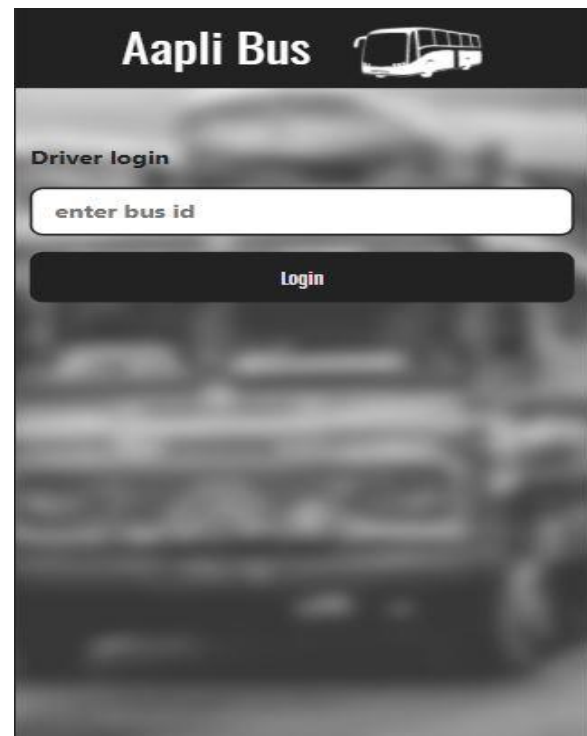
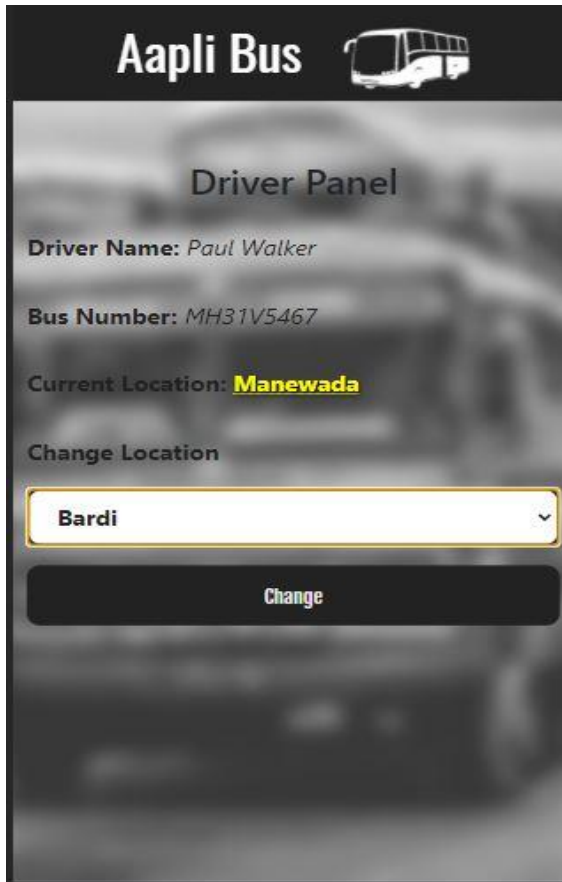


Fig.: -1.6 Driver Login Page



**Fig.: -1.7 Driver Panel**

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**Conclusion and Future Scope:** - While waiting for the bus, many people, like regular travelers or tourists, get impatient and anxious if they don't know when the bus will arrive. For the bus management side, it becomes very difficult to provide an accurate schedule for bus users due to some uncertainties that may happen on the road, such as traffic jams or bus breakdowns. When a bus is delayed, the bus management side could not inform the public as they don't have a platform to inform bus users in real-time. In order to overcome this drawback, our bus application will come in hand providing a platform for bus users to check on the bus status, arrival time, bus routes, and information of different bus timing with their bus stop in anytime and anywhere. Sustainable urban mobility is a key factor for a citizen's quality of life, as an increasingly large percentage of the population lives in urban areas. It also provides a platform for a bus service provider to update the latest information to you sir and monitor bus status.