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One Drive – Bus Management System

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ABSTRACT:

The paper represents Issues in Bus Management services is very critical in day-to-day life which can also affect the city living. For efficient functioning and more reliable bus management services, it is important to focus on tiny and real-time problems which people face daily during traveling. To improve the services of bus and make traveling easier for people this project is best fit. User gets integration of live location, viewing schedule, viewing seat arrangements as well as giving the feedback about bus (Driver, Conductor, and Hygiene). Keeping in mind, to address newly arising challenges in routine life of voyager.

Keywords: Bus Management System, Live Location, Schedule, Feedback, User, Admin

Introduction:

The seamless operation of public transport networks and urban development depend heavily on the effective management of bus management services. There is an increasing need for dependable and efficient bus services as cities and populations expand. A comprehensive Bus Management System/services (BMS) must be implemented in order to handle these issues and improve the overall effectiveness of bus operations. Conventional bus routes might not be tailored to the demographics and traffic patterns of today, which would lead to inefficient operations, longer journey times, and higher fuel consumption. Bus schedule irregularities and delays can have a detrimental effect on commuter satisfaction, ridership, and the general public's opinion of the dependability of public transportation.

It is an android based application which make the manual work in form of digitalization. With features including internal bus seat arrangements, real-time schedule changes, live bus location tracking, and the ability to get notifications about bus routes, this Bus Management system provides a flexible solution that can be used in a variety of contexts. It is applicable to the travel industry as well, as visitors can easily track buses for effective exploration and obtain real-time bus schedules. Additionally, the method simplifies student travel in educational institutions, guaranteeing punctual arrivals and departures. Any who travels can also take advantage of the user feedback option to improve customer service and quickly resolve issues raised by customers.

Objectives

1. Our project's objective is to offer everyone convenient, safe, and time-saving services. It can benefit people more effectively.

2. Developing an easy-to-use feedback mechanism to gather, evaluate, and act upon passenger input, improving the overall quality of the bus.

3. Real-time location tracking that helps travelers schedule their trips more effectively and spend less time waiting.

4. A user-friendly interface with a graphical representation of the bus layout to view the seat arrangements.

5. Putting together a dynamic and user-friendly bus schedule with precise departure and arrival times and dates, as well as enhancing passenger planning

Existing System

Transit agencies and businesses all over the world use a variety of Bus Management Systems (BMS), Bus Pass Systems, and Bus Reservation Systems. Finding information about the bus schedule, including departure and arrival times for passengers, is a time-consuming process using the current systems. Communicating with the relevant sectors is challenging. The majority of the current systems are ticket reservation systems, with little emphasis placed on bus services, customer feedback, etc. These minor issues are a gap in the current system and the new application that we are working on.

The current system's user interfaces are a little unclear. Current systems don't display the bus's live location or route information, making it difficult for passengers to plan when to board and depart. Few bus management systems lack this feature, and traditional systems do not properly incorporate user feedback. Thus, this points out every aspect of the suggested system. A number of issues with the current systems arise from the lack of appropriate admin control or administration for users or buses, including: No appropriate application for this, Inadequate bus tracking, inadequate reaction to passengers or users, overcrowding.

Proposed Work

Finding out the bus schedule, including departure and arrival times, takes a lot of time using the current systems, which affects the passengers. Communication with relevant sectors is challenging, as evidenced by the analysis of current system issues. The development of an enhanced facility system is the goal of the suggested system. The shortcomings of the current system can be overcome by the suggested system. The system minimizes manual labor and gives accurate information about a specific bus. To some degree, these challenges are attempted to be eliminated or lessened by the suggested system. The suggested system will assist the user in minimizing mental strain and workload when phoning the bus station to obtain information about the arrival and departure of passenger buses. The suggested system makes working easier for the user and makes it simple for him to arrive on time and catch the bus.

The goal of the proposed work is to enhance the bus system by incorporating the required extra features into the application, such as precise bus timings, and a GPS tracker. The passenger will save time by using this system, which will display the bus's current location. Through this application, passengers can provide feedback on a variety of topics, including whether or not the bus services are good, whether any mischievous things happen in the bus, whether the bus driver is operating the bus safely, and whether or not the conductor services are appropriate, polite, or as arrogant. The bus can provide passengers with information regarding seat arrangements. People can use this Android application to find out when each bus leaves and arrives at the designated location. Furthermore, this system keeps a database.

System Architecture

The One Drive-Bus Management System (application) is designed to facilitate travel for passengers by providing bus services. An Android application called "One Drive - Bus management and services" lessens the manual labor that travelers must perform. Since the bus information unit at the bus terminal these days doesn't always reply promptly when travelers call to inquire about the bus schedule, we have been working on this project to lessen the effort that passengers must put in.

The user will see the bus's location on a map. in order for the passengers to board the bus without having to wait and arrive at their stop precisely on time. Buses are an affordable, quick, easy and environmentally friendly form of transportation. Due to their lack of regularisation and management, buses have put more strain on the public transportation system. Unusual and unforeseen road conditions have an impact on how well the bus system functions and how easily vehicles move. The movement of vehicles is impacted by a variety of uncertain conditions that affect a bus management system's daily operation, including traffic congestion, unforeseen delays, fluctuations in passenger demand, irregular vehicle dispatching times, and accidents. Because of these circumstances, we are offering live location services so that people can find out where the bus is and how long it will take to get to the passengers' location. The installation of a bus monitoring system within the bus station is the main goal of this project. After registering and authenticating properly, the user will be able to use the application. However, at that point, the user will only be able to see the content that is necessary for him to see; he will not be able to access the admin's page or the tools that the admin has access to.

The administrator can view the users who have registered through the application or their daily feedback. The administrator's window or module allows him to monitor bus routes. Customers can provide feedback on the bus, conductor, and driver, including whether or not the bus stops at their stop, whether the conductor was courteous or haughty, and whether or not the driver drove the bus safely and within the posted speed limit. Users can choose when to leave to board the bus at their specific location by having notifications appear in their window. With its accessible features and easy navigation, the interface will be user-friendly.
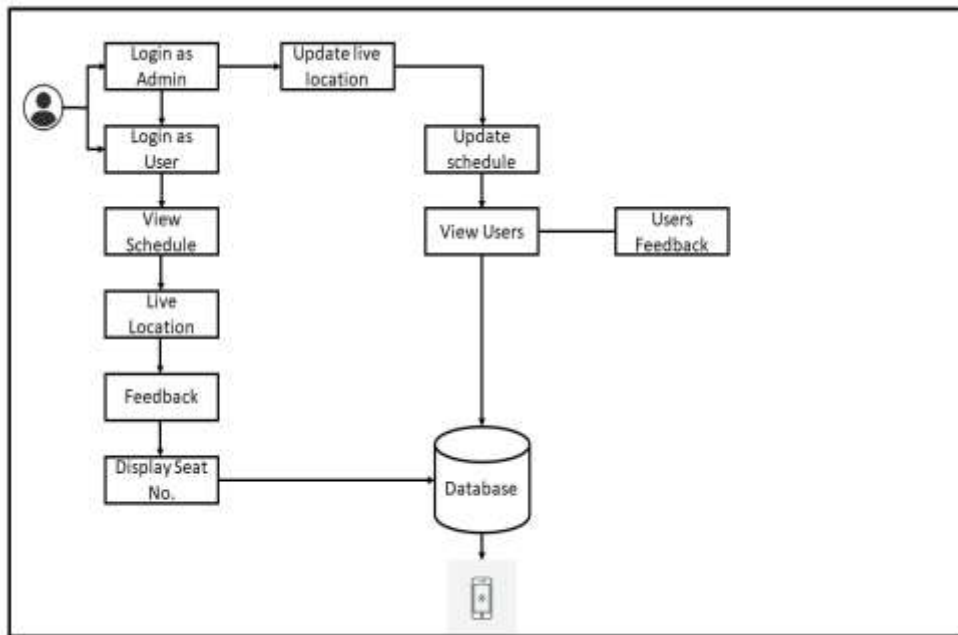
Fig 1 System Architecture Diagram

Conclusion

An important step towards effective and user-friendly public transport is represented by the design of BMS. The system creates a strong basis for improved passenger experiences by integrating features like feedback services, seat arrangements, schedule management, and live bus tracking seamlessly. Looking ahead, we see a lot of room for development and progress. The integration of novel technologies, coupled with a dedication to user-centered design and an emphasis on sustainability, positions the BMS for future development into an advanced, data-driven solution.

This system has the potential to not only meet but also surpass the changing requirements of contemporary public transportation through ongoing innovation and cooperation, helping to create a more interconnected, safe, and environmentally conscious urban mobility landscape.

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