

Project Proposal



PASSENGER TRAFFIC FACILITATION APPLICATION

INTRODUCTION

The Passenger Facilitation Application is a user-friendly application that aims to streamline the ticketing process for bus travel. Instead of traditional paper tickets or cash transactions, this application utilizes a card-based system where passengers can use coins as currency for their bus fares. The application provides various functions to manage passenger accounts, track travel details, and facilitate a seamless travel experience.



The application offers a convenient and hassle-free ticketing experience by replacing paper tickets and cash transactions with a card-based system, simplifying the process for passengers



IMPORTANCE TO THE REAL WORLD

A) ENHANCED CONVENIENCE

By eliminating the need for paper tickets and exact change, passengers can enjoy a hassle-free and convenient travel experience. The card-based system allows for quick and efficient transactions, reducing waiting times and enhancing overall customer satisfaction.

B) EFFICIENT FARE MANAGEMENT

The application automatically deducts the appropriate fare based on the distance traveled, simplifying fare calculations for both passengers and bus operators. This ensures accurate fare collection and helps to prevent revenue leakage.

C) IMPROVED FINANCIAL SECURITY

With a card-based system, passengers no longer need to carry cash, reducing the risk of theft or loss. The application provides a secure and reliable payment method, enhancing financial security for both passengers and bus operators.

D) DATA ANALYSIS AND INSIGHTS

The application collects data on passenger travel patterns, which can be analyzed to gain insights into demand, route efficiency, and overall transportation planning. This data-driven approach can lead to optimized bus routes, improved scheduling, and better resource allocation.

FUNCTIONS OF THE APPLICATION:



a) `newNode()`: This function allows the insertion of a new user into the system by collecting their passenger details such as name and date of birth.

b) `insertFront()`: This function enables the insertion of the departure place for a passenger, capturing the starting point of their journey.

c) `insertNext()`: The `insertNext()` function facilitates the insertion of the arrival place for a passenger, capturing the destination of their journey.

d) `insertRear()`: This function allows the insertion of the distance between the departure and arrival places. It deducts the appropriate number of coins from the passenger's card based on the distance traveled.

e) `search()`: The `search()` function displays the remaining number of coins in a passenger's card, providing them with information about their account balance.

f) `delete()`: The `delete()` function allows for the deletion of a passenger's card and associated details from the system when requested.

APPLICATION OUTPUT

Upon executing the application, users will be presented with a menu displaying the available services. They can choose the desired service by entering the corresponding number. The application will provide the following outputs based on the selected service:

1. Insert new user: The application will create a new account and display the message "New account created."
2. Travel: After entering the departure place, arrival place, and distance, the application will deduct the appropriate fare from the passenger's card. It will display the message "Thank you for using the service. Come again!" if the fare is deducted successfully, or "Insufficient coins. Please recharge your card." if the passenger has an insufficient balance.
3. Delete account: The application will delete the user's account and display the message "Account deletion successful."
4. Check balance: The application will display the remaining number of coins in the passenger's card.

The Passenger Facilitation Application aims to simplify the ticketing process, provide a seamless travel experience, and contribute to the efficient management of bus transportation systems. It offers enhanced convenience, financial security, and valuable insights for improved transportation planning.