

Name: Route Cost Calculation

Description:

The Route Cost Calculation feature is designed to calculate and compare the cost of different route options. It provides users with an efficient way to determine the most cost-effective route for their transportation needs.

Benefits:

1. **Cost Optimization:** Users can easily compare the costs associated with different route options, enabling them to make informed decisions and optimize their expenses.
2. **Time Savings:** By quickly calculating and comparing route costs, users can save time that would otherwise be spent manually researching and analyzing various transportation options.
3. **Improved Decision Making:** The feature empowers users to make better decisions by considering both cost and other factors, such as distance, time, and convenience.

Key Features:

1. **Route Cost Calculation:** The feature calculates the cost of each route option based on predefined parameters, such as fuel consumption, toll fees, and vehicle maintenance costs.
2. **Cost Comparison:** Users can compare the costs of multiple route options side by side, allowing them to identify the most economical choice.
3. **Customizable Parameters:** The feature allows users to customize the parameters used for cost calculation, such as fuel prices, toll rates, and vehicle-specific costs.
4. **Real-Time Updates:** The system provides real-time updates on fuel prices and toll rates, ensuring accurate and up-to-date cost calculations.
5. **Multi-Modal Support:** The feature supports various modes of transportation, including driving, public transportation, and walking, enabling users to compare costs across different transportation options.

User Interactions:

1. **Input Route Options:** Users can input multiple route options, either manually or by importing data from external sources.
2. **Customize Parameters:** Users can customize the parameters used for cost calculation, such as fuel prices, toll rates, and vehicle-specific costs.
3. **Compare Costs:** Users can view and compare the costs of different route options in a clear and intuitive interface.
4. **Select Preferred Route:** Users can select their preferred route based on the cost comparison results.

Technical Requirements:

1. **Compatibility:** The feature should be compatible with popular web browsers and mobile devices.
2. **Data Integration:** The system should be able to integrate with external data sources, such as fuel price databases and toll rate APIs.
3. **Calculation Accuracy:** The feature should provide accurate cost calculations, considering various factors such as distance, fuel consumption, toll fees, and

vehicle-specific costs.

Constraints:

1. Data Availability: The accuracy of cost calculations depends on the availability and reliability of external data sources, such as fuel prices and toll rates.
2. User Input: The accuracy of cost calculations also relies on the accuracy of user-provided data, such as vehicle-specific costs and route information.

Future Enhancements:

1. Real-Time Traffic Updates: Integration with real-time traffic data to provide users with more accurate cost calculations based on current traffic conditions.
2. Multi-Criteria Optimization: Addition of additional criteria, such as travel time, to enable users to optimize their route selection based on multiple factors.
3. Cost Comparison History: Saving and displaying the cost comparison history to allow users to track and analyze their past route cost calculations.