REPORT ON BASIAPP - A DIGITAL SOLUTION FOR PUBLIC TRANSPORT IN TANZANIA

Introduction

BasiApp is a simple Java application designed to address the challenge of accessing reliable and timely public transport information in Tanzania. The application provides features such as route search, schedule viewing, and feedback submission through an intuitive graphical user interface (GUI) built using Java Swing

Features Implemented

The following features were implemented in the BasiApp

1. Search Routes

- Allows users to input a starting point and destination.
- Displays available routes and fare information.

2. View Schedule

- Enables users to view the schedule of a specific route by entering the route specifications.
- Displays information such as the first and last bus timings.

3. Submit Feedback

- Provides a text area where users can submit feedback about the app or transport services.
- Displays a confirmation message after successful submission.

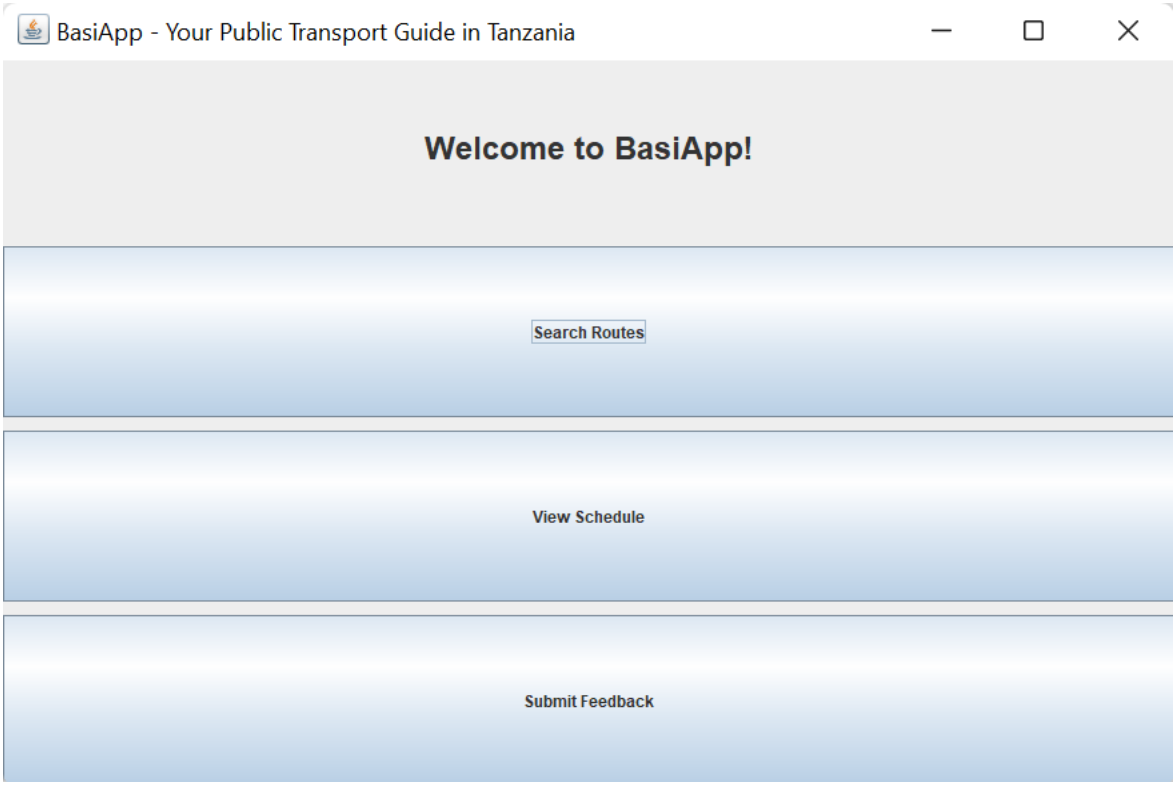
4. User-Friendly Interface

- Simplistic design using Java Swing with buttons and alert dialogs for ease of navigation.
- Organized layout with clear instructions for each feature.

Screenshots of the Project Interface

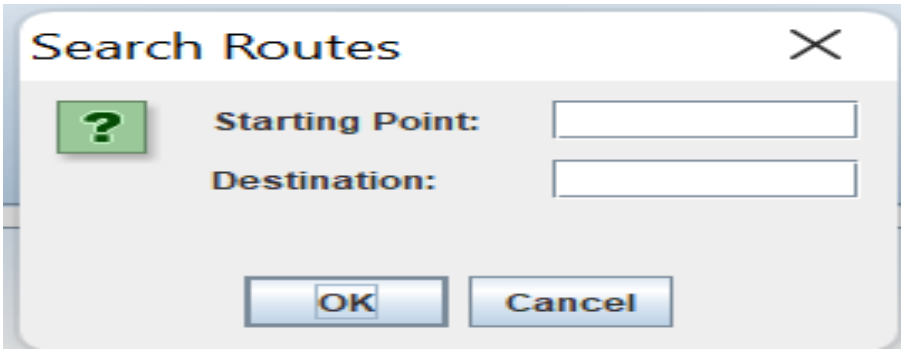
1. Main Screen

The main screen presents three options to the user: Search Routes, View Schedule, and Submit Feedback.



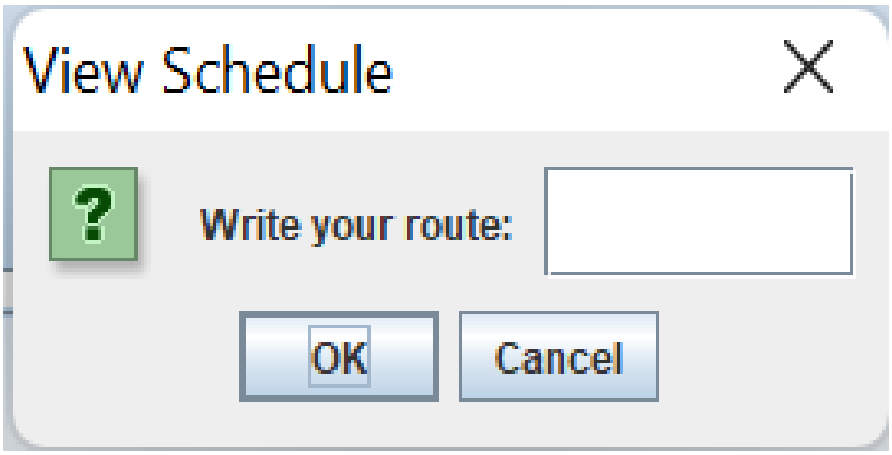
2. Search Routes Screen

Users can enter their starting point and destination to search for available routes.



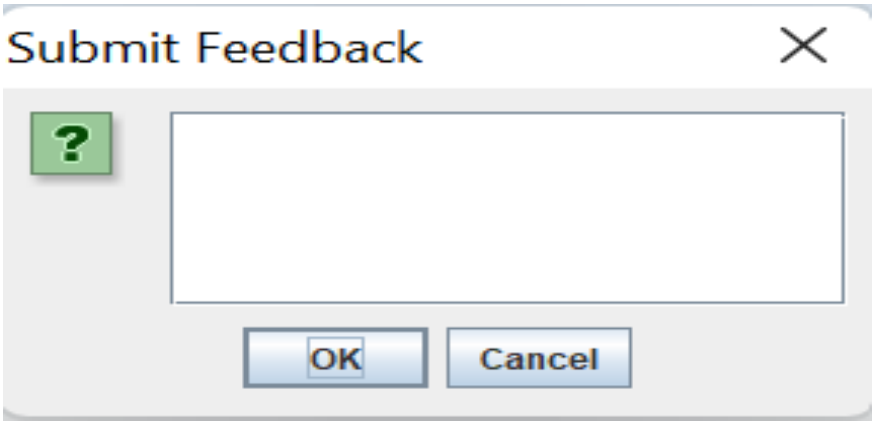
3. View Schedule Screen

This screen allows users to enter a route number and view its schedule.



4. Submit Feedback Screen

A text area is provided for users to write feedback, and a confirmation message is displayed upon submission.



Challenges Faced

1. Java Swing Configuration

- Setting up Java Swing was a challenge due to compatibility issues with different IDEs and JDK versions.
- Solution: Followed official documentation and online resources to configure Java Swing properly.

2. Simplifying GUI Design

- Designing a user-friendly interface while maintaining simplicity required multiple iterations.
- Solution: Adopted a minimalistic approach with buttons and alert dialogs for ease of use.

3. Mock Data Implementation

- Incorporating realistic route and schedule data without a backend database was challenging.
- Solution: Used hardcoded data for demonstration purposes, with plans for future integration of a database.

4. Time Constraints

- Developing within a limited time frame required prioritizing essential features.
- Solution: Focused on core functionalities while leaving room for future expansion.

Conclusion

BasiApp is a step toward providing a digital solution to the everyday challenge of navigating public transport in Tanzania. While this version focuses on simplicity, it lays the foundation for future enhancements, such as integrating live GPS data and connecting to a backend database.

Future Recommendations

1. **Database Integration**: Store route and schedule information in a database for scalability.
2. **Live Tracking**: Use GPS APIs to provide real-time updates on bus locations.
3. **Mobile Platform**: Develop an Android version for wider accessibility.
4. **Multilingual Support**: Include more language options to cater to diverse users.

References

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- https://docs.oracle.com/javase/8/docs/api/javax/swing/JFrame.html
- https://docs.oracle.com/javase/8/docs/api/javax/swing/JPanel.html
- https://docs.oracle.com/javase/8/docs/api/javax/swing/JOptionPane.html