Abstract

Title: Miles Acquisition System

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Abstract:

The Miles Acquisition System (MAS) is an innovative platform developed to streamline the management and allocation of airline miles for frequent flyers. Designed to enhance user engagement and operational efficiency, MAS allows users to submit flight details and accumulate miles, while providing administrative staff with tools to verify and approve miles requests in a structured and secure environment.
This project leverages modern web technologies, including Angular for the frontend and Spring Boot with MySQL for the backend, ensuring a responsive user experience and robust data handling. MAS includes features such as user authentication, dynamic dashboards for users and admins, and real-time updates of miles balances. By digitizing the manual processes involved in tracking and verifying travel activity, MAS improves accuracy, reduces administrative overhead, and delivers a seamless experience to both airline staff and customers.

Methodology:

1. Requirement Analysis and System Design: Identify the core functionalities such as flight logging, user authentication, miles tracking, and admin approval workflows. Design system architecture using a modular, REST-based approach.
2. Frontend Development: Develop a responsive and user-friendly interface using Angular. Components include user login, miles request submission, dashboards for users and staff, and flight request status display**.**
3. Backend Development: Implement the backend using Spring Boot with MySQL to manage user data, flight details, and miles information. Create RESTful APIs for data communication between frontend and backend.
4. Integration and Communication: Connect Angular frontend to the Spring Boot backend through secured API calls. Ensure seamless communication for real-time miles updates and request approvals.

Expected Outcomes:

- Efficient Miles Tracking: Ensure accurate calculation and real-time updates of user miles based on approved flight logs.
- Streamlined User and Admin Workflow: Provide seamless interactions between users submitting flight details and admins/staff verifying and approving requests.
- Secure and Scalable System: Implement secure authentication and robust backend services to

- support multiple users and future scalability.
- Improved User Experience: Deliver a user-friendly interface that simplifies flight submission, status tracking, and miles redemption.
- Centralized Management Dashboard: Equip admins with a comprehensive dashboard to monitor requests, update statuses, and manage user data efficiently.

Conclusion:

This project aims to streamline and digitize the process of tracking and awarding miles for airline customers through an integrated, user-friendly platform. By bridging the gap between passengers, staff, and administrators, the system enhances transparency, improves data management, and fosters efficient communication. The implementation of cloud services, secure authentication, and scalable architecture ensures reliability and future readiness. Overall, the Miles Acquisition System stands as a comprehensive solution to modernize customer rewards and engagement in the airline industry.