

Design and Development of a Travel Management System using Java Full Stack Technologies

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Abstract

This research paper presents the design and development of a Travel Management System using Java Full Stack Technologies. The system aims to simplify travel booking, itinerary management, and user interaction through a web-based platform. The application integrates frontend, backend, and database technologies to provide a seamless user experience. The proposed system enhances efficiency, reduces manual work, and ensures secure transactions.

Keywords

Travel Management System, Java, Full Stack Development, Web Application, Database

1. Introduction

With the rapid growth of the tourism industry, the need for efficient travel management systems has increased significantly. Traditional booking systems are often time-consuming and lack integration. This project focuses on developing a modern travel management system using Java Full Stack technologies to provide a unified platform for users.

2. Literature Review

Several studies have explored online booking systems and travel platforms. Existing systems highlight the importance of usability, scalability, and security. However, many lack real-time integration and efficient user interfaces. This research aims to address these gaps.

3. Methodology

The system is developed using Java for backend, HTML/CSS/JavaScript for frontend, and MySQL for database management. The architecture follows MVC design pattern. Development includes requirement analysis, system design, implementation, testing, and deployment.

4. System Design

The system consists of three main modules: User Module, Admin Module, and Booking Module. Users can register, search travel options, and book trips. Admin manages listings and users. The database stores user data, bookings, and travel details.

5. Implementation

The application is implemented using Java Spring Boot for backend services. Frontend uses HTML, CSS, and JavaScript for responsive design. REST APIs are used for communication between frontend and backend.

6. Results and Discussion

The developed system provides a user-friendly interface and efficient booking process. Performance testing shows improved speed and reliability compared to traditional systems.

7. Conclusion

The Travel Management System successfully demonstrates the use of Java Full Stack technologies to build a scalable and efficient application. Future work can include AI-based recommendations and mobile application integration.

References

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