

HOTEL BOOKING APP

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Abstract

SyncStay is a full-stack hotel booking platform developed to modernize and simplify the hotel reservation experience for users and hotel owners alike. Built using Spring Boot (Java) for the backend and React for the frontend, SyncStay offers a seamless interface for searching, booking, and managing hotel stays in real time. Key features include secure user authentication, dynamic room availability, personalized search filters, and a responsive design optimized for all devices. Hotel administrators can manage listings, pricing, and bookings through an intuitive dashboard. With a modular, scalable architecture and real-world functionality, SyncStay showcases practical application of modern web technologies to solve everyday challenges in the hospitality domain..

Keywords:

React , Springboot,Maven,NodeJS, MySQL

INTRODUCTION

SyncStay is a modern, full-stack hotel booking web application developed to streamline the accommodation booking process for users and simplify hotel management for property owners. Built using React for the frontend and Spring Boot (Java) for the backend, the platform offers a responsive and intuitive user experience. Targeted at travelers of all types—business, leisure, or family—SyncStay enables seamless hotel discovery, real-time availability, secure bookings, and user-friendly account management. For hoteliers, it provides a powerful dashboard to manage listings, update pricing, and monitor bookings. SyncStay aims to bridge the gap between guests and hotel providers by offering a unified, efficient, and scalable solution tailored for today's digital travel landscape.

LITERATURE REVIEW

The hospitality and travel industry has undergone a significant digital transformation, driven by the rise of online booking platforms and changing consumer preferences. Studies show that modern travelers prioritize convenience, real-time availability, personalized recommendations, and secure transactions when booking accommodations. Platforms such as Booking.com, Airbnb, and Expedia have set industry benchmarks by offering features like smart filters, verified reviews, instant booking, and loyalty programs.

SYSTEM DESIGN

SyncStay is built on the Model-View-Controller (MVC) architecture to ensure modularity, scalability, and efficient separation of concerns. The Model layer manages all data operations using a MySQL database, handling user information, hotel listings, room availability, booking records, and payments with optimized relational structures. The View layer is developed using React, providing a dynamic and responsive user interface for guests and admins, including search filters, booking forms, and personalized dashboards. The Controller layer, implemented with Spring Boot (Java), contains the core business logic and handles communication between the frontend and the database through secure, RESTful APIs. JWT-based authentication and role-based access control ensure secure login, session handling, and feature access for users, admins, and hotel managers. The system supports full CRUD operations for users, hotels, and bookings. The application emphasizes a clean, user-friendly graphical interface that streamlines the hotel booking experience while offering hotel owners powerful tools to

manage their properties efficiently. This design ensures real-time data consistency, robust security, and scalability for future enhancements.

IMPLEMENTATION

SyncStay is implemented as a full-stack web application using React for the frontend and Spring Boot (Java) for the backend. The frontend is built with modular React components, providing a responsive and intuitive user interface for browsing hotels, filtering search results, viewing room details, and managing bookings. State management is handled using React Hooks and Context API to ensure smooth UI interactions and real-time updates.

On the backend, Spring Boot handles business logic, API routing, and database communication. RESTful APIs are developed to perform CRUD operations for users, hotels, rooms, and bookings. MySQL serves as the relational database, managing structured data with relationships between users, properties, and transactions.

JWT-based authentication is used to secure user access and support role-based permissions for admins, hotel managers, and customers. Booking transactions are validated, stored, and processed securely through these APIs. The application follows a modular structure for maintainability and scalability, with separate service, controller, and repository layers in the backend.



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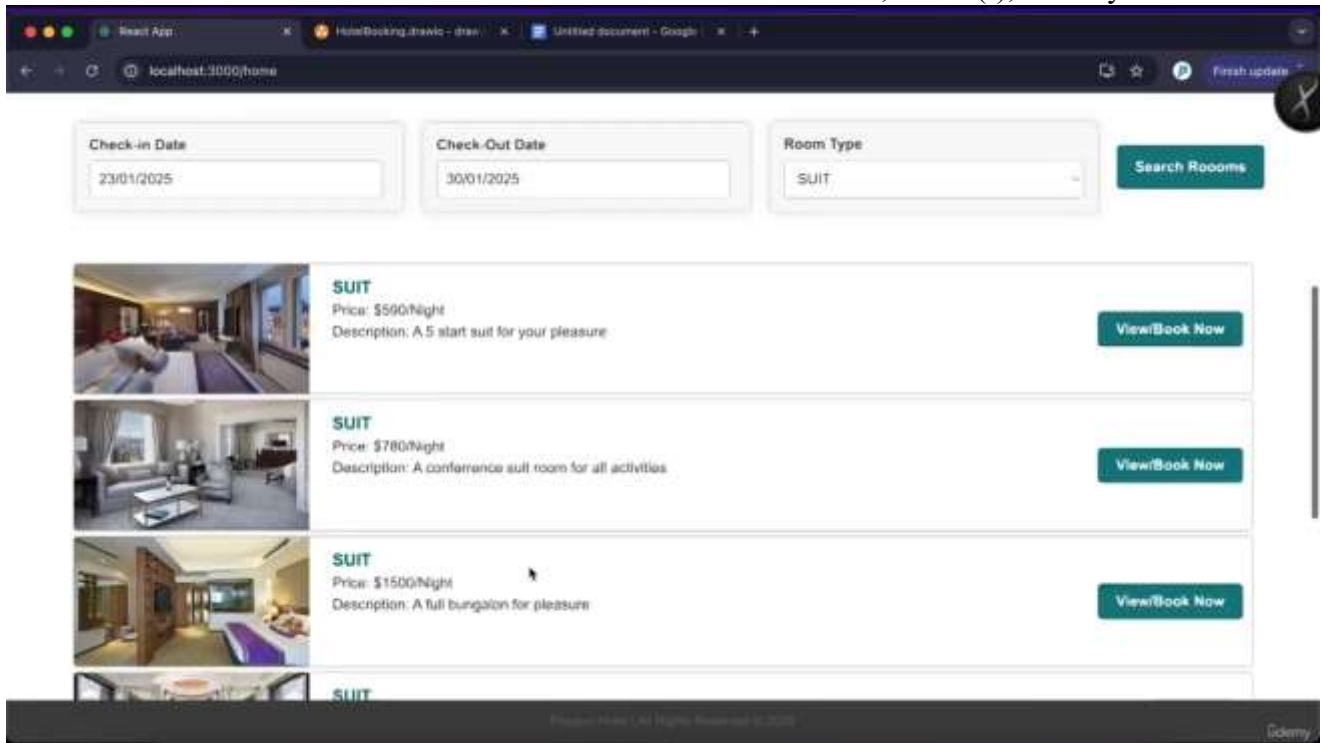
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I. RESULTS

The development of SyncStay successfully fulfilled its objective of building a reliable, user-friendly, and scalable hotel booking platform. The system provides a seamless interface for users to search, filter, and book hotels in real time, while offering hotel administrators a powerful dashboard to manage room listings, availability, and pricing. Using React and Spring Boot, the application ensures fast performance, secure data handling, and responsive design across devices. Key features such as real-time booking updates, JWT-based authentication, and RESTful API integration were implemented effectively to deliver a smooth user experience. The platform's modular structure and robust backend logic make it scalable for future enhancements like payment integration, loyalty rewards, and review systems. Overall, SyncStay demonstrates the successful application of modern web technologies to solve real-world challenges in the hospitality sector and stands as a valuable contribution to the travel-tech domain.

CONCLUSION

SyncStay provides a modern, secure, and user-friendly platform for hotel booking and management, addressing the evolving needs of travelers and hotel owners. Developed using React and Spring Boot, the platform ensures high performance, real-time responsiveness, and scalable architecture. Features like dynamic hotel search, real-time room availability, secure bookings, and role-based access for users and administrators streamline the entire booking experience. The use of JWT authentication, RESTful APIs, and modular MVC architecture ensures secure data handling, efficient communication, and easy system maintenance. SyncStay effectively eliminates common challenges in the hospitality sector such as booking conflicts, inefficient property management, and lack of transparency. As digital travel solutions become essential, SyncStay stands out by combining functionality, security, and usability—empowering users to make smarter travel choices and helping property owners manage operations with ease. It represents a significant step forward in creating seamless digital experiences within the hospitality industry.

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REFERENCES

- <https://reactjs.org/>
- <https://spring.io/projects/spring-boot>
- <https://www.mysql.com/>
- <https://jwt.io/>
- <https://developer.mozilla.org/en-US/docs/Web/HTTP/REST>