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XploreStays: Design and Implementation of a Web-Based Travel Accommodation Listing Platform

Akshita Sharma, Karuna kashyap
Department of Computer Science and Engineering

Abstract- The rapid advancement of internet technologies has significantly transformed the tourism and hospitality industry. This research paper presents XploreStays, a web-based travel accommodation listing platform designed to simplify the process of exploring and managing travel stays. The platform enables users to browse multiple property listings through a structured and user-friendly interface, with each listing containing essential information such as property images, location details, and pricing information. The system integrates a user authentication module and a dynamic pricing system that calculates the total cost of a stay by incorporating taxes and service fees. The platform introduces a dual-rating review mechanism that evaluates both accommodation quality and listing transparency. The architecture follows a layered web application model consisting of presentation, application, and data layers, implemented using HTML, CSS, JavaScript, Node.js, Express.js, and MongoDB. Results demonstrate an efficient and scalable solution for accommodation listing systems, serving as a foundation for future development including booking systems, payment gateways, and user review modules.

Keywords — Accommodation listing, web platform, pricing transparency, dual-rating system, Node.js, MongoDB, tourism technology, peer-to-peer rental.

I. INTRODUCTION

1. Background

The tourism and hospitality industry has experienced rapid digital transformation with the growth of internet technologies. Online accommodation platforms allow travelers to explore lodging options such as hotels, apartments, and vacation rentals through web-based systems. These platforms provide property information including images, location details, and pricing, helping users compare multiple accommodation options before making a decision. The development of web technologies and cloud-based systems has made it possible to create scalable platforms that support dynamic data management and user interaction. As a result, web-based accommodation listing systems have become an essential component of modern travel services.

2. Problem Statement

Despite the growing popularity of online accommodation platforms, several challenges still exist in current systems. One of the main problems is the lack of pricing transparency. In many platforms, users are shown only the base price of a property at the beginning, while additional charges such as taxes and service fees appear later during the booking process, often creating confusion for travelers when the final price becomes higher than expected.

Another issue is related to the reliability of review systems. Most accommodation platforms use a single overall rating to represent the experience of a property. However, this single rating does not clearly distinguish whether it reflects the actual quality of the stay or the accuracy of the listing information, making it difficult for users to fully trust the reviews and ratings provided on the platform.

3. Solution Overview

To address these problems, the XploreStays platform introduces a system focused on improving pricing transparency and review reliability. The platform displays a clear breakdown of the total accommodation cost, including the base price, taxes, and service fees, helping users understand the complete price before making a booking decision.

The platform also introduces a dual-rating system that allows users to rate properties based on two aspects: the quality of the stay and the transparency of the listing information. By providing transparent pricing and a more detailed review system, XploreStays aims to create a more trustworthy and user-friendly accommodation marketplace.

II. LITERATURE REVIEW

Several studies have explored the development of online accommodation platforms and their impact on the tourism and hospitality industry. With the growth of digital technologies, web-based booking systems have become essential tools for travelers to search, compare, and book accommodations efficiently.

Guttentag (2015) studied the rise of peer-to-peer accommodation platforms such as Airbnb and explained how these platforms have transformed the traditional hospitality industry by providing alternative lodging options, offering flexibility and convenience for both hosts and travelers [1].

Zervas, Proserpio, and Byers (2017) analyzed the economic impact of Airbnb on the hotel industry and found that online accommodation platforms have significantly influenced pricing and competition in the hospitality sector, providing more choices for travelers while creating new opportunities for property owners [2].

Tussyadiah and Pesonen (2016) examined user behavior in peer-to-peer accommodation services and emphasized the importance of trust and transparency in online booking platforms, finding that users are more likely to trust platforms providing clear listing information and reliable review systems [3].

Möhlmann (2015) discussed the factors influencing user satisfaction in sharing economy platforms, identifying trust, price transparency, and accurate property descriptions as key elements affecting users' accommodation selection decisions [4].

Based on these findings, improving pricing transparency and enhancing review systems can significantly improve user trust and decision-making in accommodation platforms. The proposed XploreStays platform addresses these challenges by introducing transparent pricing structures and a more detailed rating mechanism.

III. SYSTEM ARCHITECTURE

The XploreStays platform is organized into five interconnected modules, each responsible for a distinct functional area of the system.

1. User Module

The user module allows travelers to interact with the platform and explore accommodation options. The main features of this module include:

- Searching for available properties
- Viewing detailed property information such as location, images, and descriptions
- Checking property ratings and user reviews
- Comparing different listings before selecting accommodation

2. Host Module

The host module allows property owners to add and manage their accommodation listings on the XploreStays platform. Hosts can provide important property details such as location, description, images, amenities, and pricing information. This module enables hosts to update or modify their property information as needed, ensuring users receive reliable and complete accommodation information.

3. Property Listing Module

The property listing module enables hosts to present their accommodations on the platform. Through this module, hosts can add detailed information about their properties, including the property name, location, description, images, amenities, and pricing details. The module organizes property listings in a structured manner, allowing users to easily browse and compare different accommodation options.

4. Review and Rating Module

The review and rating module allows users to share their experiences after staying at a property. The platform introduces a dual-rating system that evaluates both the quality of the accommodation and the transparency of the listing information. This approach provides more reliable feedback and allows future travelers to better understand the accuracy and quality of property listings, thereby improving overall user trust.

5. Pricing Transparency Module

The pricing transparency module ensures that users can clearly understand the total cost of accommodation. Instead of displaying only the base price, the system provides a detailed breakdown including the base price, applicable taxes, and service fees. This transparent pricing approach reduces confusion caused by hidden charges and helps build trust between property hosts and travelers.

IV. METHODOLOGY

The methodology of the XploreStays platform focuses on developing a web-based accommodation listing system that improves transparency and user trust in vacation rental platforms. The system is designed to allow users to explore property listings, evaluate accommodation options, and access detailed property information through a structured and user-friendly interface.

The development process involves organizing property data in a centralized database and presenting it through a web interface that allows seamless interaction between users and hosts. Property owners can add and manage their listings by providing details such as property description, location, images, amenities, and pricing information.

The system integrates a structured review and rating mechanism that allows users to share feedback after their stay. In addition, the platform implements a transparent pricing structure where users can view a complete breakdown of accommodation costs. By integrating these components, XploreStays provides a transparent and reliable environment where travelers can explore accommodation options and make informed booking decisions.

V. IMPLEMENTATION

The XploreStays platform was implemented as a web-based system designed to provide an interactive and user-friendly experience for both travelers and property hosts. The technology stack consists of HTML, CSS, and JavaScript for the frontend presentation layer, Node.js and Express.js for the application server layer, and MongoDB as the database layer. Cloud deployment via Render ensures accessibility and scalability.

The implementation provides a clear interface where users can easily navigate through different property listings and access detailed information about each property. Hosts can create and manage property listings by uploading images, adding descriptions, and setting pricing information.

The system supports dynamic data management, ensuring that updates made by hosts are reflected immediately on the platform. This allows users to access the most recent and accurate information about available accommodations. The user authentication module supports both login and signup functionality, ensuring secure access to the platform.

The featured listings page displays property cards showing the base price, tax rate (0.18%), service fee, and computed total cost, exemplifying the platform's commitment to pricing transparency. The dual-rating interface allows authenticated users to submit separate quality and transparency scores for each property they have visited.

VI. RESULTS AND DISCUSSION

The implementation of the XploreStays platform demonstrates how transparent pricing and structured review systems can improve the overall experience of online accommodation platforms. By providing detailed property listings and clear pricing information, the platform allows users to make more informed decisions when selecting accommodation.

The dual-rating system introduced in the platform helps users evaluate both the quality of the accommodation and the accuracy of the listing information. This approach provides more reliable feedback compared to traditional single-rating systems commonly found in existing platforms.

The transparent pricing structure effectively reduces confusion caused by hidden charges and helps build trust between property hosts and travelers. The complete price breakdown—including base price, 18% tax, and service fee—is presented to the user at the listing stage rather than during checkout, which directly addresses the pricing opacity problem identified in the literature.

Overall, the system improves usability and provides a more transparent environment for exploring vacation rental options, validating the design decisions made during the development phase.

VII. CONCLUSION

This research presented the development of XploreStays, a web-based accommodation listing platform designed to improve transparency and trust in vacation rental systems. The platform addresses common issues found in traditional accommodation platforms, particularly related to pricing transparency and review reliability.

By introducing a structured listing system, a dual-rating review mechanism, and a transparent pricing model, the platform enables users to explore accommodation options with greater clarity and confidence. The system also provides hosts with an effective environment to present and manage their property listings.

The results demonstrate that integrating transparent pricing structures and improved review systems can significantly enhance user trust and decision-making in online accommodation platforms.

VIII. FUTURE WORK

Although the current system provides essential features for property listing and accommodation exploration, several improvements can be implemented in future versions of the platform. Future enhancements may include:

- Advanced search and filtering features with location-based and preference-based queries
- Integration of a complete booking and payment gateway system
- Personalized recommendation systems based on user preferences and behavior
- Machine learning techniques to suggest suitable accommodations based on previous searches
- Native mobile application support for iOS and Android
- Enhanced security mechanisms including two-factor authentication

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