International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 09 Issue: 03 | March - 2025 SJIF Rating: 8.586 ISSN: 2582-3930

Culinary Vista: A Digital Hotel Reservation System

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Abstract

The hospitality industry is rapidly evolving with the integration of technology into everyday operations. This paper introduces Culinary Vista, a web-based hotel reservation system designed to streamline restaurant management and improve the customer booking experience. The system enables users to reserve tables, browse menus, and access hotel services seamlessly. It provides a structured and efficient digital solution for restaurant owners, reducing dependency on manual booking processes and enhancing customer satisfaction. The system incorporates user authentication, hotel management, and real-time updates to ensure an optimal dining experience.

1. Introduction

With the increasing demand for digital transformation in the restaurant industry, managing reservations efficiently has become a crucial requirement. Traditional booking methods often involve manual record-keeping, which is prone to errors and inefficiencies. Culinary Vista aims to digitize the restaurant reservation system, making it accessible and convenient for both customers and restaurant owners. This system leverages web technologies to facilitate seamless communication between stakeholders while ensuring security and ease of use.

2. Literature Review

Several studies highlight the importance of digitization in the hospitality industry. Online reservation systems have been proven to enhance efficiency, reduce no-show rates, and improve customer engagement. Existing platforms focus on table booking, customer feedback, and menu management. However, Culinary Vista differentiates itself by integrating multiple functionalities such as hotel registration, menu updates, and dynamic availability management into a single, user-friendly platform.

3. System Requirements and Analysis

3.1 Existing System Challenges

- Manual reservation processes lead to inefficiencies and errors.
- Customers face difficulty in checking real-time availability.
- Managing restaurant data and menu updates manually is cumbersome.

3.2 Proposed System Features

- User Module: Allows customers to register, browse menus, and book tables online.
- Hotel Owner Module: Enables hotel managers to manage reservations, update menu listings, and track customer interactions.
- Secure Authentication: Ensures data privacy and secure access for both customers and hotel administrators.

4. System Design

4.1 Database Schema

The system employs a relational database structure, storing user credentials, booking details, menu items, and hotel information. Tables are interlinked to allow seamless data retrieval and management.

4.2 User Interface Design

A responsive and intuitive interface is designed to enhance the user experience. Customers can filter search results based on location, cuisine, and availability.

4.3 Data Flow Diagram (DFD)

Level-0 and Level-1 DFDs outline the interaction between customers, hotel administrators, and the database system, ensuring smooth workflow management.

5. Implementation and Testing

5.1 Implementation Approach

The system follows an iterative development approach, integrating user feedback at each stage to refine functionalities. Frontend technologies include HTML, CSS, and JavaScript, while the backend is powered by Django and MySQL.

5.2 Testing Methodology

Unit testing and system integration testing were conducted to validate system accuracy and performance. Test cases included:

- User registration and login validation
- Real-time table booking verification
- Menu update synchronization with the database

6. Conclusion and Future Scope

Culinary Vista successfully digitalizes the restaurant reservation process, offering a seamless booking experience for customers and efficient management for hotel owners. Future enhancements may include AI-driven recommendation systems, mobile app integration, and multilingual support to cater to a diverse customer base.

References

[Include relevant references and citations from journals, books, and online sources]