Trident Academy of Creative Technology

SYNOPSIS REPORT ON

Restaurant Booking and Management System

UNDER THE GUIDANCE OF: -

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SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIRMENT FOR THE DEGREE OF

BACHELOR IN COMPUTER APPLICATION

Project Title: - Restaurant Booking and Management System

(Using JAVA)

Introduction:

The restaurant industry faces numerous challenges in managing reservations, online orders, inventory, and staff efficiently. The growing demand for digital transformation in the hospitality sector has highlighted the need for smart solutions to streamline restaurant management and customer services. This project focuses on developing a restaurant booking and management system, utilizing web technologies and Java-based backend development to provide a robust platform for handling online orders, table reservations, inventory control, billing, and customer service management.

Abstract:

This project presents the development of a web-based restaurant booking and management system, designed to assist restaurant owners and customers alike. The platform will allow users to reserve tables, place online orders, and view

the menu in real-time, while restaurant owners can manage reservations, monitor inventory, and track billing. The system uses Java (JSP/Servlets) for the backend, MySQL for the database, and HTML, CSS, and minimal JavaScript for the frontend. The project aims to enhance the overall dining experience for customers and improve operational efficiency for restaurant owners.

1. Objective:

The primary objectives of the restaurant booking system are:

- To streamline restaurant operations such as table reservations, online orders, menu updates, and inventory management.

- To provide customers with a user-friendly platform for browsing menus, reserving tables, and placing online food orders.

- To enhance restaurant owner capabilities in managing staff, stock levels, and financial transactions effectively.

2. Methodology:

The development of the system will follow a structured methodology, consisting of several phases:

a. Requirement Analysis:

- Identify functional requirements such as customer registration, table booking, food ordering, and admin management.

- Define non-functional requirements such as security, performance, and scalability.

b. System Design:

- Frontend: Design the user interface with HTML, CSS, and minimal JavaScript for interaction.

- Backend: Develop the backend logic using Java (Servlets and JSP) to handle requests and responses.

- Database: Set up a MySQL database to manage reservations, orders, and inventory data.

c. Development:

- Implement features like user authentication, menu management, and inventory control using JDBC for MySQL integration.

- Use Apache Tomcat to host the Java-based web application.

d. Testing:

- Perform unit and integration testing to ensure all modules work together.

- Conduct load testing to assess system performance under various conditions.

e. Deployment:

- Deploy the application on a local or cloud-based server for real-time usage.

Proposed System:

The proposed restaurant booking system will have the following modules:

- Admin Login & Dashboard: Manage reservations, menus, inventory, and staff.

- User Registration & Login: Allow customers to create accounts and manage their reservations or orders.

- Order Management: Enable customers to place and manage online food orders.

- Inventory Management: Track inventory usage and manage stock levels.

- Menu Management: Allow dynamic updates to menu items.

- Billing System: Automatically generate bills based on orders placed.

- Table Reservation: Customers can reserve tables based on availability.

Software Requirements:

- Frontend: HTML5, CSS3, JavaScript (optional).

- Backend: Java (JSP/Servlets), JDBC for database interaction.
- Database: MySQL for storing user, reservation, and order data.
- Server: Apache Tomcat for hosting the web application.
- IDE: Eclipse/IntelliJ IDEA for Java development.
- Version Control: Git for managing source code.

Hardware Requirements:

- Processor: Intel i3 or higher.
- RAM: Minimum 4 GB (8 GB recommended).
- Storage: 100 GB hard disk space.
- Internet Connectivity: Required for deployment and online interactions.

Features:

- Admin Dashboard: For managing reservations, orders, inventory, and staff.
- User Registration: For creating and managing customer accounts.
- Table Reservation System: Real-time table booking functionality.
- Online Ordering: Place and manage food orders from the web.
- Menu Management: Admin can add, remove, or update menu items dynamically.
- Inventory Control: Monitor and manage restaurant stock levels.
- Billing and Invoicing: Generate automatic bills based on orders placed.

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