İstanbul Topkapı Üniversitesi
Department of Computer Engineering (English)

FEE421 Web Applications Development
Final Project Report

Final Project Name: Restaurant Website Management System

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Restaurant Website Management System

Web Applications Development Project Report

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Abstract

This project presents the design and implementation of a dynamic restaurant website using modern web technologies. The system allows customers to browse the restaurant menu, make online reservations, and send inquiries through a contact form. Additionally, a secure administrative panel is implemented to manage reservations and customer messages. The project demonstrates the integration of frontend design, backend logic, and database management following best practices in web application development.

Contents

1. Introduction

With the rapid growth of online services, restaurants increasingly depend on web-based systems to improve customer interaction and operational efficiency. A well-designed restaurant website enhances user experience and simplifies reservation and communication processes.

The aim of this project is to develop a complete restaurant website with both user and administrator functionalities using PHP and MySQL.

2. System Overview

The Restaurant Website Management System is composed of two main components:

- **Client Side:** Includes pages such as Home, Menu, Reservation, and Contact.

- **Admin Side:** Provides a secure dashboard for managing reservations and customer messages.

The system follows a modular architecture separating presentation, business logic, and data storage.

3. Technologies Used

3.1 Frontend Technologies

- HTML5 for page structure

- CSS3 for styling and layout

- Background video for enhanced visual presentation

3.2 Backend Technologies

- PHP for server-side processing

- Session management for authentication

3.3 Database

- MySQL relational database

- phpMyAdmin for database administration

3.4 Development Environment

- XAMPP (Apache, PHP, MySQL)

- Localhost environment for testing

4.   Database Design

The database is designed to store all system data efficiently and securely.

4.1   Tables Description

4.1.1   menu_items

Stores restaurant menu details including item name, description, price, category, and image.

4.1.2   reservations

Stores customer reservation information such as name, date, time, number of guests, and reservation status.

4.1.3   contacts

Stores customer messages submitted through the contact form.

4.1.4   admins

Stores administrator credentials using encrypted passwords.

5. System Features

5.1 User Features

- Interactive homepage with video background

- Dynamic menu page displaying food items with images

- Online reservation system

- Contact form for customer communication

5.2 Admin Features

- Secure admin login system

- Reservation management dashboard

- Viewing customer contact messages

- Logout and session security

6.   Security Implementation

Security is a key aspect of the system and is ensured through:

- Password hashing using `password_hash()`

- Session-based authentication

- Restricted access to admin pages

- Use of prepared SQL statements

7.   Testing and Validation

7.1   Testing Process

- Form validation testing

- Admin login authentication testing

- Database connectivity testing

- UI and usability testing

7.2   Results

All tests were conducted successfully, and the system functioned as expected without critical errors.

8.   Conclusion

The Restaurant Website Management System fulfills its intended objectives by providing a user-friendly interface for customers and a secure management system for administrators. The project demonstrates practical knowledge of web application development, database integration, and secure authentication techniques.

Future enhancements may include online payment integration, email notifications, and advanced analytics.

References

- PHP Official Documentation — https://www.php.net

- MySQL Documentation — https://dev.mysql.com/doc/

- W3Schools — https://www.w3schools.com