Portfolio Builder

A PROJECT REPORT

Submitted by

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in partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE & ENGINEERING

Chandigarh University

November, 2025

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CHAPTER 1: INTRODUCTION

1.1 Introduction to Project

Dining experiences in modern restaurants are evolving from traditional manual systems to smart, automated, and customer-friendly environments. Imperial Feast Management System is a web-based restaurant management solution designed to deliver a premium, royal-themed dining experience.

The system provides:

- Smart Menu Browsing
- Live Table Grill Ordering
- Unlimited Buffet Booking
- Dine-In and Delivery Modes
- Automatic Table Number Allocation
- Secure User Login & Order Storage in MySQL

The goal is to reduce waiting time, enhance convenience, and provide a luxurious dining feel through technology.

1.2 Identification of Problem

Some restaurants use:

- QR-based ordering
- Digital menus
- Basic POS systems

But these existing systems lack:

- Live table grill item control
- Automatic buffet pricing calculation
- Royal dining UI presentation
- Smooth dine-in + delivery switching

Thus, current systems fail to deliver a premium, immersive dining experience.

CHAPTER 2: BACKGROUND STUDY

2.1 Problem Definition

There is a need for a centralized restaurant system that:

- Shows menu in an elegant & user-friendly interface.
- Allows adding items to cart.
- Supports live grill dishes placed at the customer's table.
- Allows customers to book buffet by selecting persons.
- Automatically assigns table numbers for dine-in.
- Stores all orders securely in MySQL.

2.2 Goals/Objectives

Objectives of the System:

1. **Improve User Experience:**
   The system is designed to make the process of ordering food faster, more convenient, and visually elegant, providing customers with a premium dining experience.

2. **Automate Order Management:**
   By digitizing the ordering process, the workload on waiters is reduced, communication errors are minimized, and the kitchen receives accurate order details instantly.

3. **Provide Buffet Automation:**
   The system automatically calculates the total bill for buffet orders based on the number of persons selected, ensuring quick and error-free billing.

4. **Ensure Secure Data Storage:**
   All customer and order information is stored in a well-structured MySQL database, allowing reliable tracking and record maintenance.

5. **Enhance Restaurant Brand:**
   The platform is designed to reflect a premium and royal dining theme, improving brand identity and customer perception of the restaurant.

CHAPTER 3: DESIGN FLOW/PROCESS

3.1 Evaluation & Selection of Specifications/Features

Features of the System:

1. **Login / Signup:**
   Allows customers to create their own account, ensuring a personalized experience and enabling order history to be saved.

2. **Menu Display with Veg/Non-Veg Indicators:**
   The menu clearly marks every dish as vegetarian or non-vegetarian, helping customers make choices easily and quickly.

3. **Add to Cart System:**
   Customers can select multiple items and review them before placing the order, making the process more organized and user-friendly.

4. **Live Table Grill Menu:**
   Offers a special live-grill dining experience, enhancing the overall luxury and uniqueness of the restaurant.

5. **Buffet Booking Module:**
   Allows customers to book buffet packages where the total price is automatically calculated based on the number of people.

6. **Dine-In or Delivery Mode Selection:**
   Customers can choose whether they want to eat at the restaurant or have their food delivered, making the system versatile.

7. **Automatic Table Allocation (Dine-In):**
   When dining in, the system assigns a table number automatically, reducing staff effort and preventing allocation mistakes.

8. **MySQL Database Storage:**
   All orders, user details, and booking records are stored securely in a MySQL database for accurate record management and future reference.

3.2 Analysis of Features and Finalization Subject to Constraints

Constraints Considered:

Simplicity:

1. The user interface is designed to be intuitive and simple so that customers of all age groups can easily navigate the system without confusion.
2. Speed:
3. The system is optimized to ensure that food orders and buffet bookings are processed instantly, minimizing waiting time and improving service efficiency.
4. Aesthetics:
5. The visual theme and layout reflect a premium and royal dining atmosphere, ensuring that the user experience aligns with the luxury branding of the restaurant.

Compatibility:

The system is built to run smoothly on all modern web browsers and across devices such as mobile phones, tablets, and desktop computers.

Frontend:

HTML, CSS, JavaScript, and Bootstrap are used to design the user interface and ensure responsiveness and smooth user interaction.

Backend:

The server-side logic is handled using Node.js along with the Express.js framework to manage routing and data flow.

Database:

MySQL is used for structured and reliable data storage. For deployment and remote accessibility, PlanetScale (MySQL Cloud) can be used as well.

3.3 Design Flow

The overall workflow of the Imperial Feast Management System follows a simple and organized sequence to ensure smooth ordering and dining experience. The flow is as follows:

User Login:

The customer first logs into the system using their registered email and password. This allows the system to identify the user and maintain a personalized experience.

Navigate to Menu Page:

Once logged in, the user is redirected to the main menu page where all food categories (Veg, Non-Veg, Starters, Grill Items, Main Course, Drinks, etc.) are displayed clearly.

Select Items and Add to Cart:

The user selects the desired items, and each item is added to the cart. The cart system maintains quantity and the total cost of selected items.

Choose Mode of Dining:

After finalizing the cart, the user chooses whether they want:

1. Dine-In, or
2. Home Delivery

Buffet Booking (If selected):

If the customer selects the Buffet option, the system asks for the number of persons. The total buffet amount is calculated automatically based on a fixed per-person rate.

Order Placement:

1. The user confirms the order.
2. In Dine-In, a table number is assigned automatically.
3. In Delivery, the customer provides address and phone details.

Data Storage in MySQL:

1. The final confirmed order is stored securely in the MySQL database, including:
2. User Details
3. Ordered Items
4. Total Amount
5. Mode (Dine-In / Delivery)
6. Table Number (if applicable)

CHAPTER 4: RESULTS ANALYSIS AND VALIDATION

4.1 Implementation of Solution

The **Imperial Feast Management System** was successfully implemented and tested across multiple usage scenarios such as dine-in ordering, live grill ordering, buffet booking, and delivery mode requests. The system performed efficiently with smooth screen transitions, fast processing, and clear data storage.

The key functionalities that were implemented successfully are:

1. **User Login & Registration:**
   Users are able to create accounts and log in securely. The system identifies each user and stores their profile details.

2. **Menu Display with Price & Veg/Non-Veg Indication:**
   All menu items are displayed in a structured layout with clear pricing and proper veg/non-veg icons for clarity.

3. **Add to Cart System:**
   Users can add multiple dishes to the cart. The total price updates automatically with respect to quantity.

4. **Live Table Grill Ordering:**
   Special items designed for table grill service are handled separately, offering a royal dining experience.

5. **Buffet Booking Module:**
   Users can select the number of persons, after which the total buffet amount is automatically calculated.

6. **Dine-In / Delivery Service Mode:**
   Users can choose between restaurant dining or home delivery.
7. **Automatic Table Number Allocation:**
   In dine-in mode, the system assigns a random table number between 10 and 70, reducing human effort and confusion.

8. **Order Storage in MySQL:**
   All orders are saved in the database in structured format, ensuring data safety and future retrieval.

CHAPTER 5: CONCLUSION AND FUTURE WORK

5.1 Conclusion

The **Imperial Feast Management System** successfully modernizes the restaurant dining experience by introducing automation at every stage. The system reduces dependency on manual service, avoids communication errors, and enhances the luxury feel of dining through an organized, user-friendly, and visually elegant interface.

It provides:

- Faster service
- Clear order communication
- Royal and premium dining atmosphere
- Organized buffet and grill service management
- Secure, digital database records

Overall, the system meets the objective of combining **technology with royal hospitality**.

5.2 Future Scope

The system can be improved further with:

1. **Admin Dashboard** for kitchen staff to view and update live orders.
2. **Online Payment Integration** (UPI, Card, Wallets).
3. **Order Tracking Screen** inside the restaurant for customers.
4. **AI Recommendation System** based on user order history.
5. **Multi-branch Mode** to support chain restaurants.