

The Cozy Table Restaurant Management Application

Project Overview

The Cozy Table Hotel Management System aims to streamline and automate key hotel operations, enhancing the overall customer experience while improving administrative efficiency. The system facilitates customer reservations, menu and order management, and feedback processing, while also empowering administrators with robust tools for managing hotel activities.

Components To Implement:

1. **User Authentication and Profile Management:** Implements secure login and role-based access for customers and administrators.
2. **Table Reservation Management:** Enables table booking and availability tracking.
3. **Menu and Food Categories Management:** Provides comprehensive menu organization and management.
4. **Order and Billing Management:** Facilitates seamless ordering and payment processing.
5. **Feedback :** Collects customer feedback regarding the food and service .

Detailed Module Descriptions:

User Authentication and Profile Management

Purpose: To ensure secure access and role-specific permissions, providing a personalized experience for different types of users.

Roles: Admin, Customer

Core Functionalities:

- **User Registration:** Allows new customers to create accounts by providing essential personal information (e.g., name, email, phone).
- **Secure Login:** Robust authentication system for verifying credentials for both Admin and Customers.
- **Profile Management:** Customers can view and update personal details(contact info,booking history), while Admins can manage customer accounts.
- **Password Management:** Implements secure password change using current password validation and bcrypt encryption.
- **Role-Based Access Control:** Defines specific roles(Customer, Admin) and ensures access to relevant sections (Admin sees all data, customers see only their profile and booking details).

Table Reservation Management

Purpose: Facilitates seamless table booking and management, ensuring customers can easily reserve tables and administrators can manage reservations.

Roles: Admin, Customer

Core Functionalities:

- **Table Reservation:** Customers can select date, time, persons count, and other preferences for booking a table.
- **Availability Check:** Displays the table availability based on customer requirements.
- **Reservation Management:**
 - ✓ **Admin:** Can manage, modify, or cancel customer reservations, ensuring optimal table usage.

- ✓ **Customer:** Can view, modify, or cancel their own reservations

Menu and Food Categories Management

Purpose: Manages the restaurant's menu offerings, allowing customers to explore and admins to update the menu.

Roles: Admin, Customer

Core Functionalities:

Menu Catalog: Administrators should have full control over the menu catalog, allowing them to:

- ✓ Add new menu items with details such as name, price, description, category, and reviews.
- ✓ Update existing menu items to reflect changes in pricing, descriptions, or availability.
- ✓ Delete menu items that are no longer offered or relevant.
- ✓ Upload images for each menu item to enhance visual appeal and improve customer decision-making.

Filter Items: Customers should have an intuitive and seamless browsing experience, with options to:

- ✓ Filter menu items based on predefined categories such as appetizers, main courses, drinks, or desserts.
- ✓ Apply multiple filters simultaneously, such as price range or customer ratings.

Cart and Billing Management

Purpose: Streamlines the ordering process, providing flexibility in selecting items, managing the cart, processing payments, and generating detailed bills.

Roles: Admin, Customer

Core Functionalities:

Cart:

Customer:

- ✓ After selecting the menu, the items should be added to the cart , and he should able to increase/decrease/delete the cart items
- ✓ Automatically generates an itemized bill with the total cost, taxes, discounts, and any other applicable charges and continue to placing the order

Order and Billing:

- ✓ **Customer** : On placing the order, it should navigate to My-Orders which should display the ordered items along with the itemized bill. Further it should ask the customer to proceed to payment.
- ✓ **Admin:** Can able to see the customer orders, update the status of the order(preparing/pending/delivered), or cancel orders if its not available.

Payment:

- ✓ **Customer:** Should pay the bill through the payment gateway (either Card/net banking/cash on delivery). And update the payment status

Feedback

Purpose: Collects customer feedback and provides actionable insights for restaurant management to improve services.

Roles: Admin, Customer

Core Functionalities:

Customer Feedback Collection:

- ✓ **Customer:** Can rate and comment on their dining experience (food quality, service, ambiance).
- ✓ **Admin:** Can able to see all the feedback given by the customers.

Role-Specific Features:

Admin:

- ✓ Full access to all modules(table reservations, menu management, customer accounts, order management, and feedback).
- ✓ Ability to modify or manage all aspects of the platform (update menu, cancel reservations, cancel orders).

Customer:

- ✓ Limited to browsing the menu, making reservations, placing orders, viewing order status, and submitting feedback.
- ✓ Can only manage personal details in the profile section and track their own reservations and orders.

Common functionalities

Header, Footer, and Navigation: Provides a user-friendly layout with a consistent header for easy navigation between modules, a footer for quick access to contact information and support, and seamless navigation menus for exploring services.

Validation: Validation for all form fields based on specific rules and criteria to ensure data accuracy, completeness, and proper formatting before submission. This includes:

- Email format validation
- Password strength requirements
- Required field checks
- Phone number format validation
- Address completeness validation
- Credit card format validation (for payment forms)
- Real-time validation feedback with clear error messages

Search and Filter: Advanced search functionality across the platform with auto complete suggestions, recent search history, and comprehensive filtering options to help users quickly find desired products or information.

Responsive Design: Mobile-first responsive design ensuring optimal user experience across all devices (desktop, tablet, mobile) with touch-friendly interfaces and adaptive layouts.

Backend Security Implementations (Express Layer)

Authentication & Authorization:

- JWT with access and refresh token mechanism

- Role-based access control middleware
- Secure session management
- Token blacklisting for logout functionality

Password Security:

- bcrypt hashing with appropriate salt rounds
- Password complexity requirements enforcement

Database Security:

- ORM usage with parameterized queries to prevent SQL injection
- Least-privilege database user access configuration
- Regular database backups and recovery procedures
- Sensitive data encryption at rest

API Security:

- Helmet middleware for secure HTTP headers
- Rate limiting to prevent brute-force attacks
- CORS configuration with whitelisted origins
- Comprehensive API documentation with security guidelines

Error Handling & Logging:

- Centralized error handling middleware
- Structured logging using Winston/Morgan
- Error tracking without exposing sensitive information

- Monitoring for failed login attempts and suspicious activities
- Audit trails for critical operations

Example Workflows

Customer → User Authentication → Menu Module → Add to Cart → Place Order → Order Confirmation → Payment

Admin → Reservation Module → Manage Tables

Customer → Feedback Module → Submit Review → Admin → view all feedback's

Conclusion

The Cozy Table Hotel Management Application built on the MEAN Stack offers a robust, modular, and secure solution for managing restaurant operations. It ensures efficient order handling, reservation management, and customer engagement while maintaining scalability and performance

Sample Screenshots: Home Page

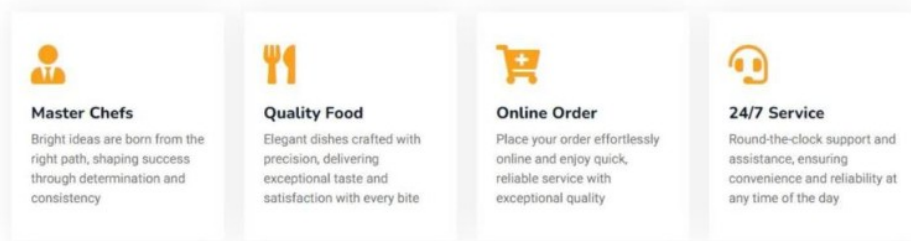
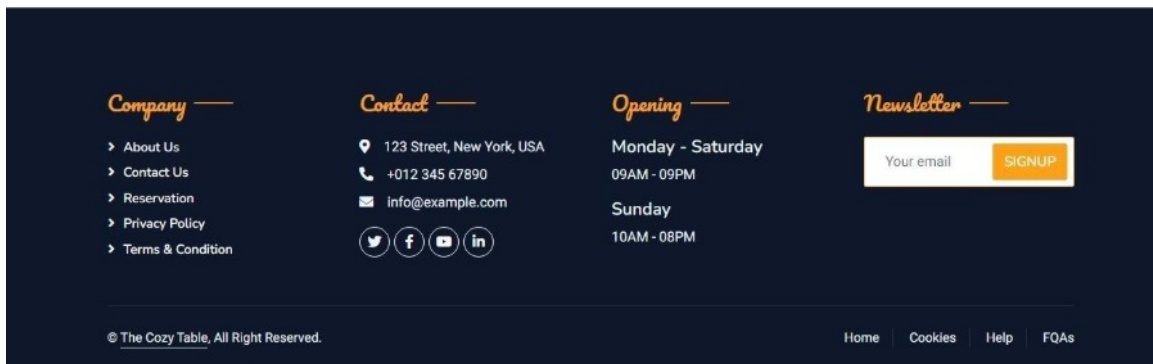
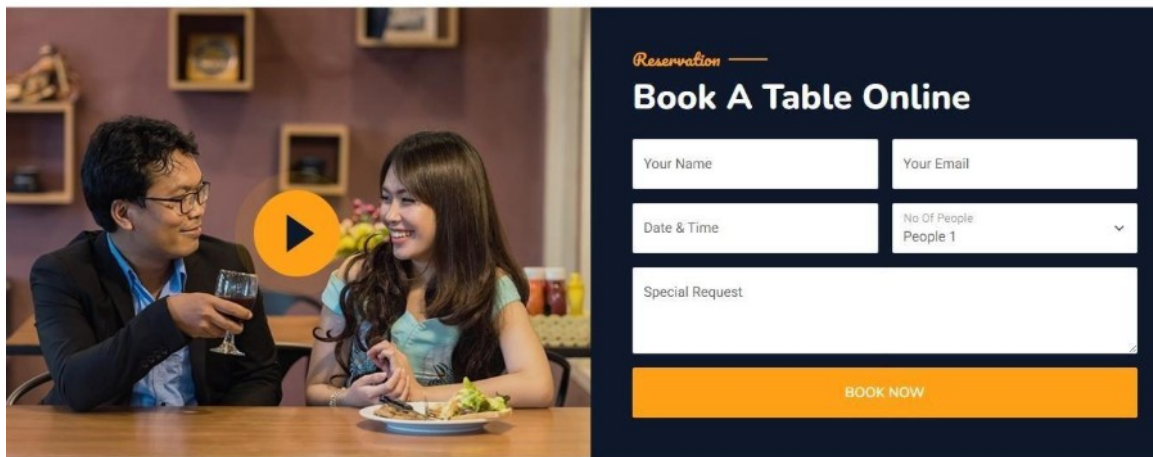
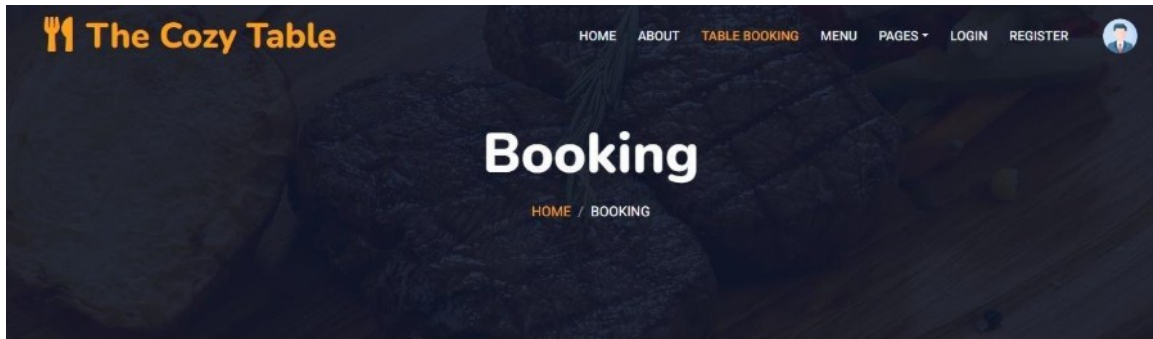




Table reservation




Menu

The Cozy Table

[HOME](#) [ABOUT](#) [TABLE BOOKING](#) [MENU](#) [PAGES](#) [LOGIN](#) [REGISTER](#) 

Food Menu


[HOME](#) / [MENU](#)



Veg Manchuria


₹265


Not Available



Hakka Chicken Masala


₹330






Tomato soup

₹380






Corn Soup


₹185


Not Available



chicken soup

₹670






White Sauce Pasta


₹225


Not Available



Red Sauce Pasta


₹250






Veg Noodles


₹150






Pizza


₹200






Veg Nuggets


₹110





233444

₹33



Company

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» Reservation


» Privacy Policy





» Terms & Condition

Contact

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 info@example.com

Opening

Monday - Saturday

09AM - 09PM

Sunday

10AM - 08PM

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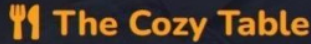
[Home](#)

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Cart and Billing




HOMEABOUTTABLE BOOKINGMENU

PAGES

LOGINREGISTER






Hakka Chicken Masala

starters

₹330 × 1 = ₹330

1




Chicken Biryani

main

₹295 × 1 = ₹295

1




Biscoff waffle

desserts

₹300 × 1 = ₹300

1



Carlsberg

alcoholic beverages

₹230 × 1 = ₹230

1


Clear cart

Cart (4)

Subtotal: ₹1155


Place order

Feedback



HOMEABOUTTABLE BOOKINGMENU

PAGES ▾

LOGINREGISTER

Feedback Form

Please share your feedback with us

Your Name

Your Email

Your Feedback

How would you rate your overall experience?

★

★

★

★

★

How would you rate our customer service?

☹

☹

☹

😊

😊

How would you recommend us to your friends?

0

1

2

3

4

5

Not likely

Very likely

Submit Feedback

Company

> About Us

> Contact Us

> Reservation

Contact

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✉ info@example.com

Opening

Monday - Saturday

09AM - 09PM

Newsletter

Your email

SIGNUP