

# HOTEL MANAGEMENT SYSTEM

P SAIKARTHIK

VU21CSEN0100398

## 1. Abstract

This report details the development and functionality of a hotel booking application featuring OTP (One-Time Password) authentication. The application is designed to offer a secure and user-friendly interface for browsing hotel options, booking stays, and accessing hotel services. The OTP authentication feature enhances security by verifying users' identities before allowing access to sensitive operations, such as booking or payment. This report provides an overview of the application structure, key features, implementation details, and security considerations.

## 2. Introduction

The hospitality industry requires robust and secure online platforms to manage bookings, customer interactions, and service offerings. To address these needs, this hotel booking application incorporates OTP authentication, ensuring that only authorized users can complete transactions. The application's design focuses on user experience, security, and flexibility, allowing customers to easily browse hotel options, make reservations, and explore various services.

## 3. Application Structure

The application is divided into the following key components:

**User Interface (UI):** Designed with HTML and CSS, the UI provides an intuitive and aesthetically pleasing experience for users. It includes sections for hotel information, quick links, and a contact form.

**Backend:** Handles user authentication, including OTP generation and verification, booking management, and service requests.

Database: Stores user information, booking details, and available services, ensuring data is organized and easily retrievable.

## **4. Key Features**

### **4.1. OTP Authentication**

Purpose: To secure user accounts and ensure that only authorized users can make bookings or access sensitive information.

Process:

When a user attempts to log in or book a room, the system sends an OTP to their registered mobile number or email.

The user must enter the OTP to verify their identity.

Upon successful verification, the user is granted access to continue with the booking or other secure operations.

### **4.2. Hotel Information and Booking**

Explore Section: Displays announcements such as new menus or special offers.

Quick Links: Provides easy access to essential pages like destinations, offers, room types, and customer reviews.

Booking Button: Users can quickly proceed to the booking process from the footer section.

### **4.3. Service Offerings**

Service Menu: Highlights services such as concierge assistance, flexible booking options, airport transfers, and wellness & recreation activities.

Contact Information: Provides users with contact details and social media links for further engagement.

## **5. Implementation Details**

### **5.1. Frontend (HTML/CSS)**

Explore Section: Contains dynamic content announcements.

Footer Section: Organized into columns for quick links, services, and contact information.

Responsive Design: Ensures the application is accessible on various devices, including smartphones and tablets.

### **5.2. Backend (OTP System)**

OTP Generation: Randomly generates a numeric or alphanumeric code.

Delivery Mechanism: Sends the OTP via SMS or email using an external service.

Verification: Matches the user-inputted OTP against the stored OTP for authentication.

### 5.3. Security Considerations

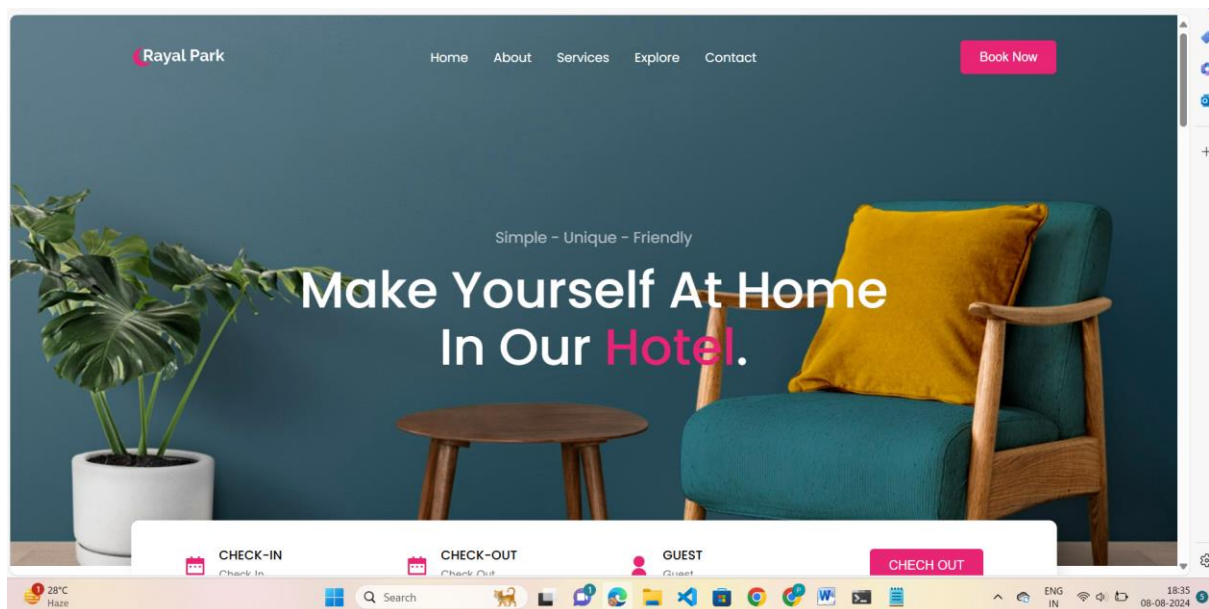
OTP Expiry: Each OTP is valid for a short period (e.g., 5 minutes) to reduce the risk of unauthorized access.

Rate Limiting: Limits the number of OTP requests to prevent abuse.

Encryption: Sensitive user data, including OTPs, is encrypted to protect against data breaches.

## 6. Conclusion

The hotel booking application with OTP authentication is a secure, user-friendly platform for managing hotel reservations and exploring services. The integration of OTP authentication significantly enhances security, ensuring that users' accounts and booking processes are protected from unauthorized access. The application is designed to provide an intuitive experience, making it easy for users to explore hotels, book stays, and enjoy a range of services.





#### ABOUT US

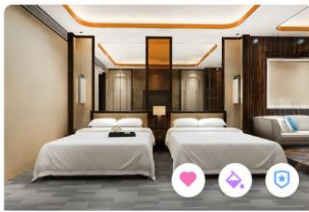
## The Best Holidays Start Here!

With a focus on quality accommodations, personalized experiences, and seamless booking, our platform is dedicated to ensuring that every traveler embarks on their dream holiday with confidence and excitement.

[Read More](#)

#### OUR LIVING ROOM

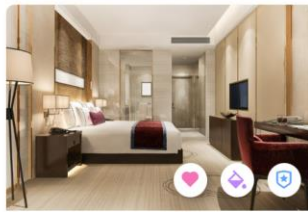
## The Most Memorable Rest Time Starts Here.



### Deluxe Ocean View

Bask in luxury with breathtaking ocean views from your private suite.

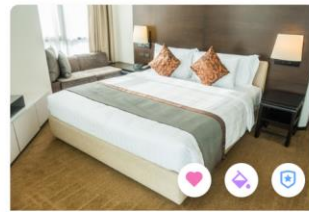
Starting from \$299/night

[Book Now](#)

### Executive Cityscape Room

Experience urban elegance and modern comfort in the heart of the city.

Starting from \$199/night

[Book Now](#)

### Family Garden Retreat

Spacious and inviting, perfect for creating cherished memories with loved ones.

Starting from \$249/night

[Book Now](#)

#### SERVICES

## Strive Only For The Best.



High Class Security



24 Hours Room Service

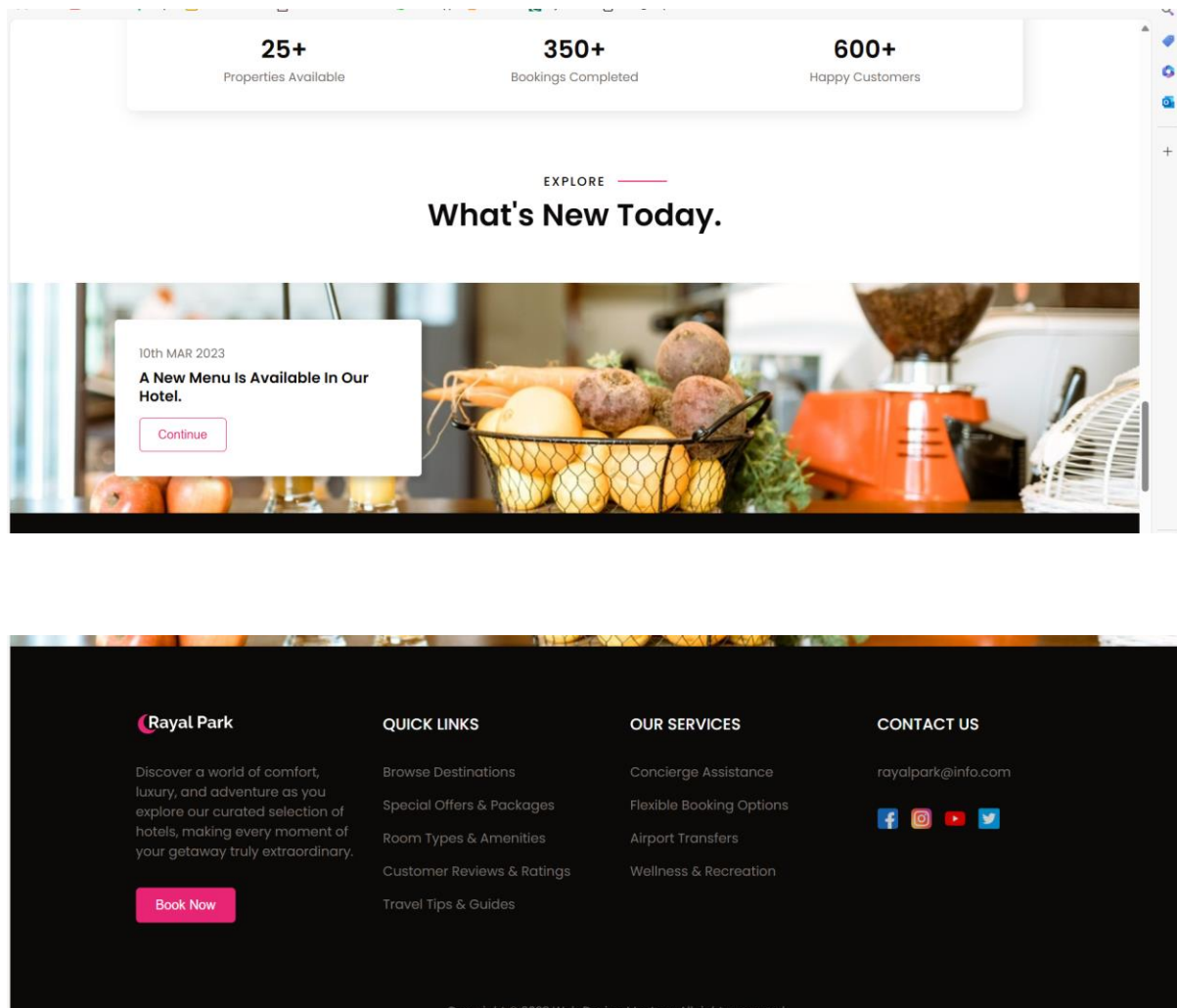


Conference Room



Tourist Guide Support





## 7. Future Enhancements

**Multi-Factor Authentication (MFA):** Introduce additional layers of security, such as biometric verification.

**Integration with Payment Gateways:** Securely handle payments directly through the application.

**Personalized Recommendations:** Use machine learning to suggest hotels and services based on user preferences and past bookings.

## 🌐 Sources

This report is based on general web development practices and security best practices. Further reading can be found in the following resources:

W3Schools - HTML and CSS Basics

MDN Web Docs - Web Security Basics

Twilio - OTP Implementation Guide