

# INDIAN INSTITUTE OF TECHNOLOGY PATNA

**HCL**



*A project report Submitted by*

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Computer Science And Data Analysis

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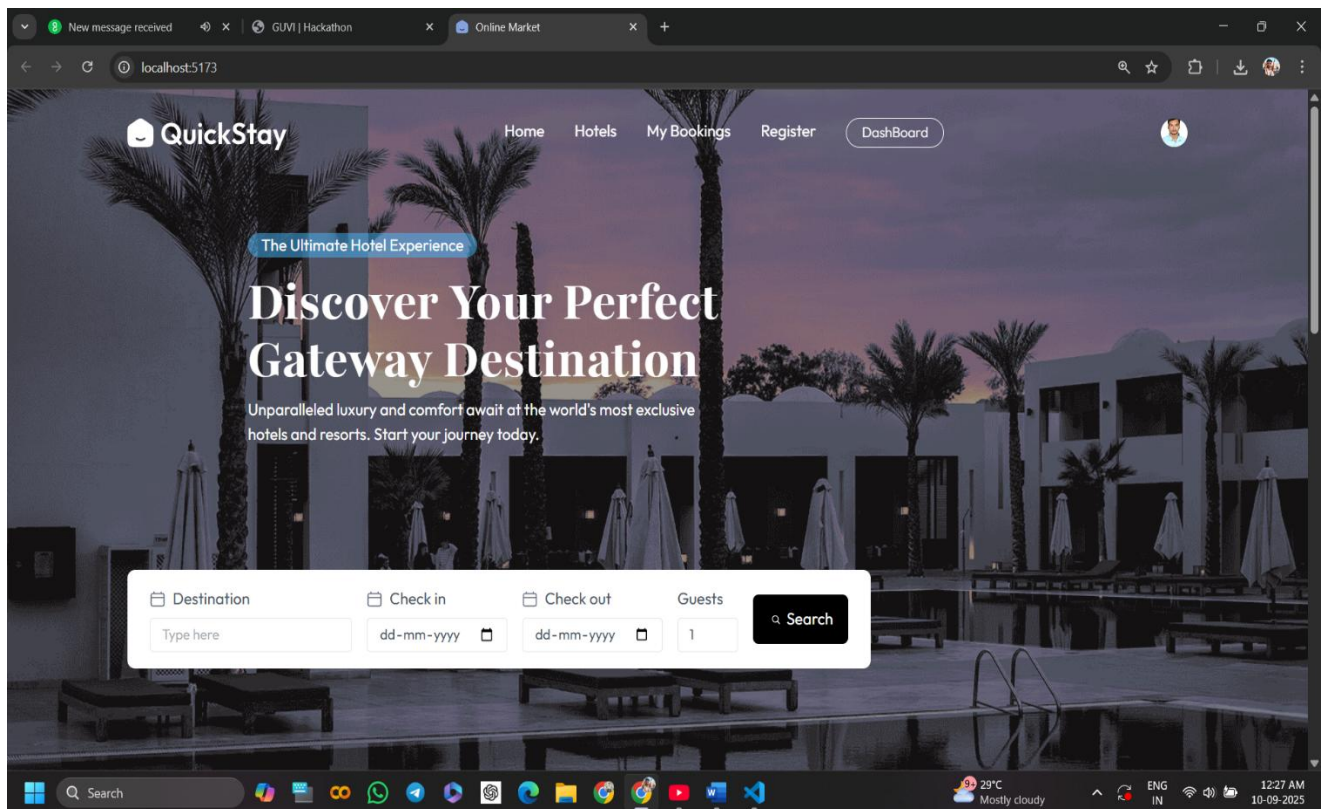


Skill Up. Level Up

1. Introduction
2. Objectives
3. Project Framework
4. System Architecture
5. Key Features
6. Workflow
7. Benefits
8. Conclusion

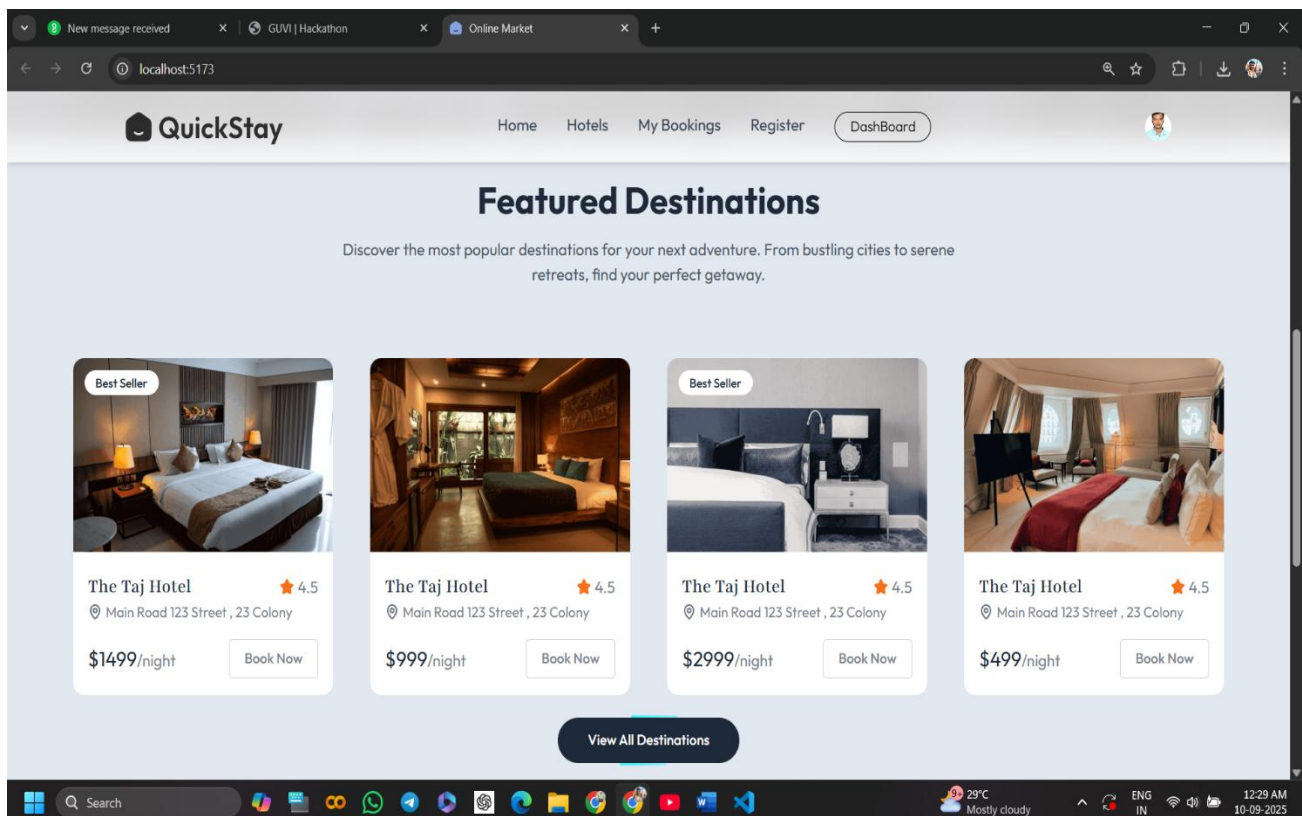
# 1. INTRODUCTION

A full-stack web application for quick and easy hotel bookings. Users can browse hotels, view rooms, make bookings, and manage their reservations. Hotel owners can register their properties and manage rooms.



## 2. OBJECTIVE

- To create a **responsive hotel booking platform**.
- Allow users to **search hotels by location, date, and price**.
- Provide **secure authentication** (Login/Signup).
- Maintain **real-time booking data**.
- Ensure **admin panel for hotel management**.



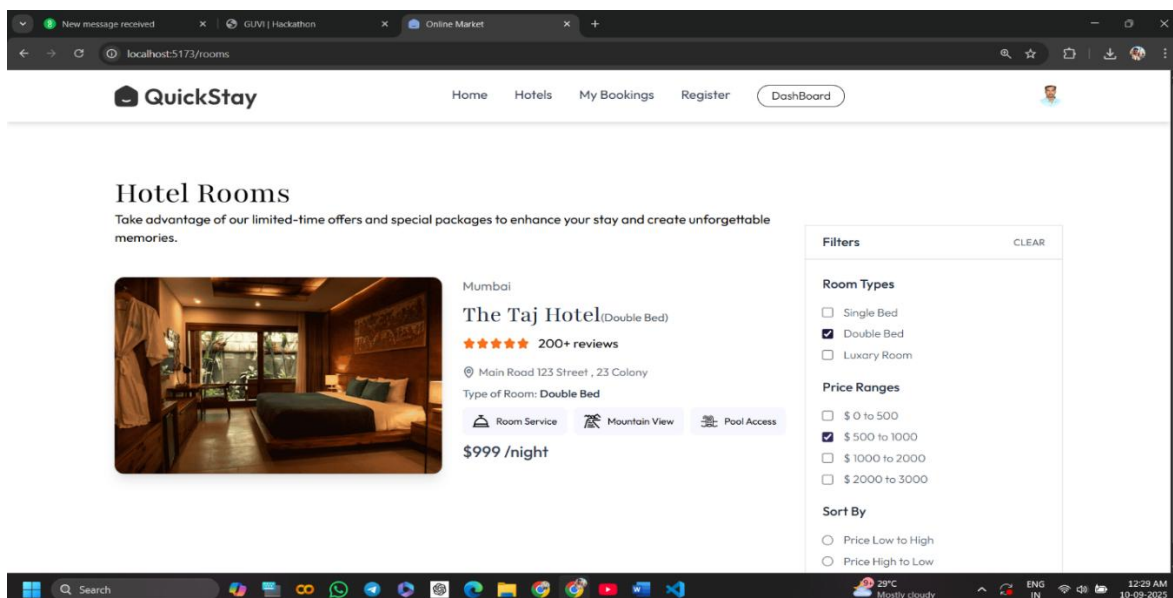
## 3. PROJECT FRAMEWORK

### Frontend

- **React**: JavaScript library for building user interfaces.
- **Vite**: Fast build tool and development server.
- **CSS**: Custom styling for responsive design.


### Backend

- **Node.js** : JavaScript runtime for server-side development.
- **Express.js** : Web framework for building APIs.
- **MongoDB** : NoSQL database for storing user, hotel, room, and booking data.
- **Clerk** : Authentication and user management service.




QuickStay

Home Hotels My Bookings Register Dashboard



**The Taj Hotel**(Luxury Room)  
★★★★★ 200+ reviews  
Main Road 123 Street , 23 Colony  
Type of Room: **Luxury Room**  
Free WiFi Free Breakfast Room Service  
**\$2999 /night**

Mumbai





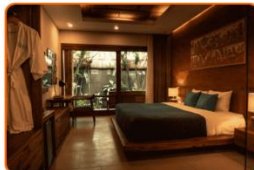
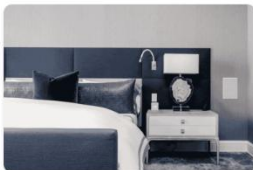

**The Taj Hotel**(Double Bed)  
★★★★★ 200+ reviews  
Main Road 123 Street , 23 Colony  
Type of Room: **Double Bed**  
Room Service Mountain View Pool Access  
**\$1499 /night**

☐ Single Bed  
☐ Double Bed  
☐ Luxury Room  
**Price Ranges**  
☐ \$ 0 to 500  
☐ \$ 500 to 1000  
☐ \$ 1000 to 2000  
☐ \$ 2000 to 3000  
**Sort By**  
☐ Price Low to High  
☒ Price High to Low  
☐ Newest First

QuickStay

Home Hotels My Bookings Register Dashboard

**The Taj Hotel**(Double Bed) 20% OFF  
★★★★★ 200+ reviews  
Main Road 123 Street , 23 Colony

**Experience Luxury Like Never Before** **\$1499/night**

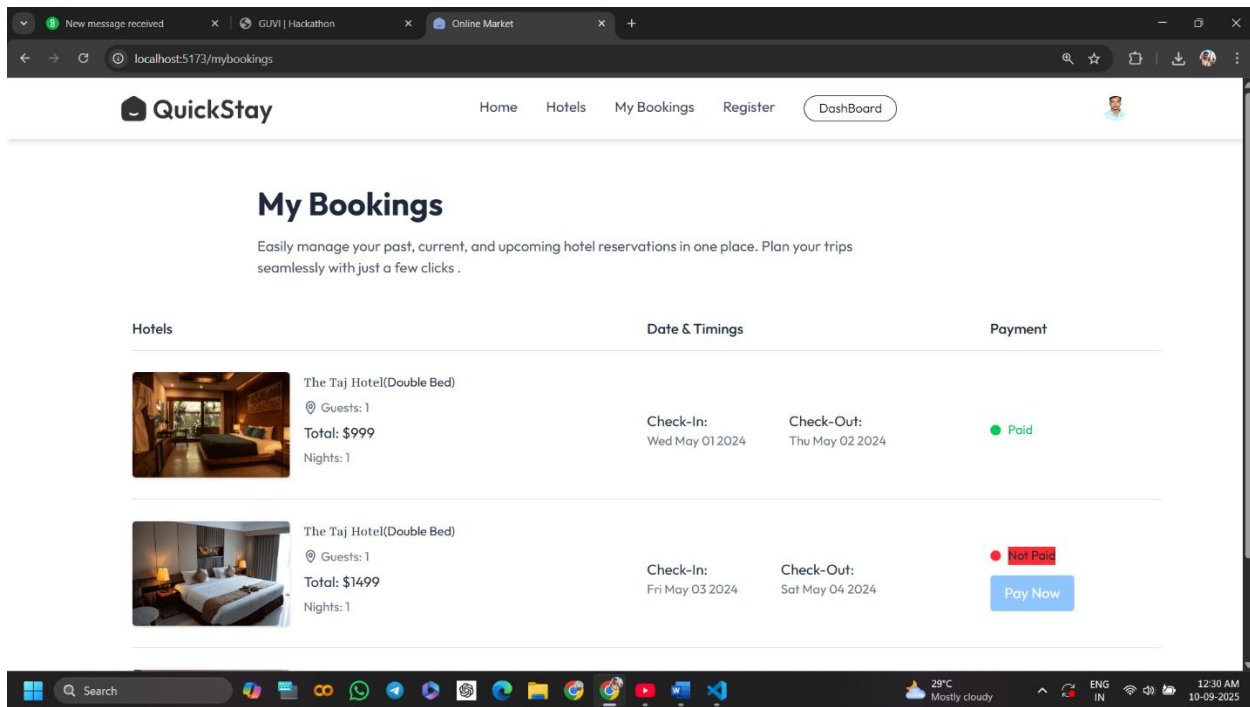
## 4. SYSTEM ARCHITECTURE

hotel-booking/

- |— client/ # Frontend React application
  - | |— public/ # Static assets
  - | |— src/
    - | | |— assets/ # Images and icons
    - | | |— components/ # Reusable React components
    - | | | |— hotelOwner/ # Owner-specific components
    - | | |— pages/ # Page components
    - | | | |— hotelOwner/ # Owner-specific pages
    - | | |— utils/ # Utility functions (e.g., API calls)
    - | | |— main.jsx # App entry point
  - | |— package.json
  - | |— vite.config.js
- |— server/ # Backend Node.js application
  - | |— configs/ # Database configuration
  - | |— controllers/ # Route handlers
  - | |— middleware/ # Authentication middleware
  - | |— models/ # MongoDB schemas



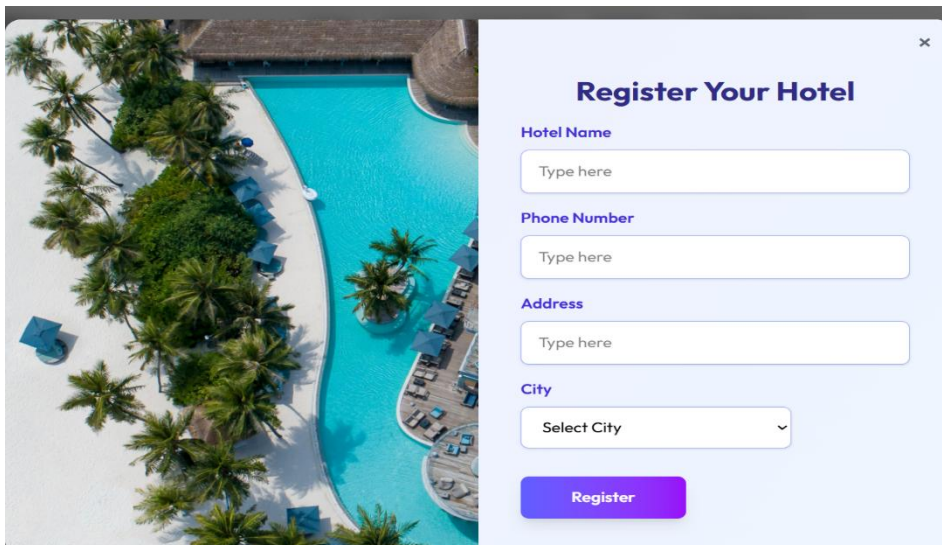
- | | — routes/      # API routes
- | | — package.json
- | | — server.js      # Server entry point
- | — .gitignore
- | — package.json      # Root package.json (if any)
- | — README.md      # This file
- | — vercel.json





## 5. KEY FEATURES

- **User Authentication** :- : Secure login and registration using Clerk.
- **Hotel Registration** : Hotel owners can register their hotels and add details.
- **Room Management** : Add, list, and manage hotel rooms with images and amenities.
- **Booking System** : Users can search, view, and book rooms with payment integration.
- **Dashboard** : Separate dashboards for users and hotel owners to manage bookings and listings.
- **Responsive Design** : Mobile-friendly interface built with React.
- **Real-time Updates** : Integrated with Clerk webhooks for seamless user management.



The image is a composite. On the left is a photograph of a tropical resort featuring a large, curved swimming pool with turquoise water, surrounded by white sand, palm trees, and blue lounge chairs. On the right is a screenshot of a web form titled "Register Your Hotel". The form has a light blue background and a close button (X) in the top right corner. It contains the following fields: "Hotel Name" (text input), "Phone Number" (text input), "Address" (text input), and "City" (dropdown menu with "Select City" as the placeholder). A purple "Register" button is at the bottom of the form.



## 6. WORK FLOW

### User Workflow:

- A user registers or logs in.
- They browse the list of hotels and select one.
- They view the available rooms and choose one to book.
- They proceed to payment to confirm the booking.
- They can view and manage their bookings in their personal dashboard.


### Hotel Owner Workflow:

- A hotel owner registers and lists their hotel.
- They add and manage the rooms available in their hotel.
- They can view all bookings for their properties on their dashboard.

 Home Hotels My Bookings Register Dashboard 

Complete Your Booking

**Booking Summary**

 **The Taj Hotel**  
Double Bed  
Main Road 123 Street , 23 Colony

Check-in: 20/09/2025

Check-out: 22/09/2025

Guests: 1

Nights: 2

**Total: \$2998**

**Payment Information**

**Select Payment Method**

Debit Card

UPI

UPI QR

**Debit Card Information**

Card Number

1234 5678 9012 3456

Expiry Date

MM/YY

CVV

123

Cardholder Name

John Doe

Back

Pay \$2998

Your payment information is secure and encrypted.

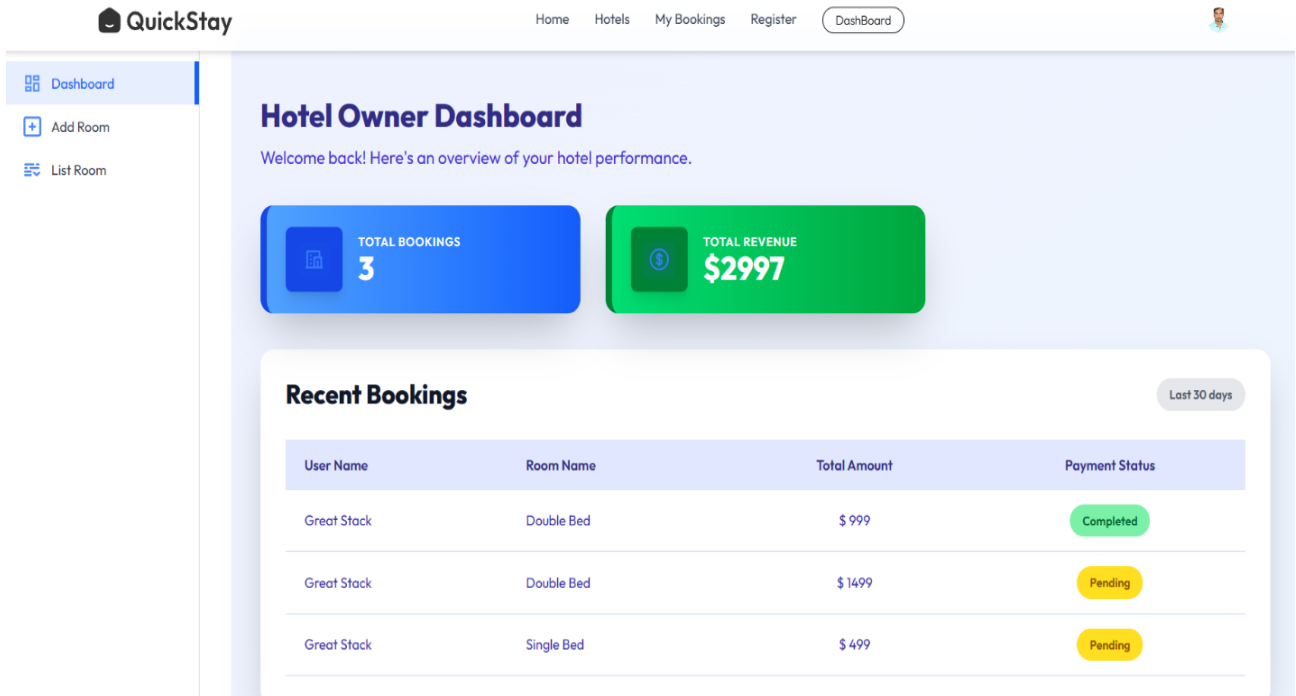
## 7. BENEFITS

### For Users:

- Simple and fast hotel booking.
- Real-time availability updates.
- Secure authentication.

### For Admins:

- Easy hotel management.
- Data stored centrally.
- Analytics for better decisions.



The screenshot displays the 'QuickStay' application interface for a 'Hotel Owner Dashboard'. The top navigation bar includes links for Home, Hotels, My Bookings, Register, and a highlighted Dashboard button. A sidebar on the left contains options for Dashboard, Add Room, and List Room. The main content area features a welcome message and two summary cards: 'TOTAL BOOKINGS' with a value of 3 and 'TOTAL REVENUE' with a value of \$2997. Below these is a 'Recent Bookings' section with a 'Last 30 days' filter. A table lists three bookings with columns for User Name, Room Name, Total Amount, and Payment Status.

User Name	Room Name	Total Amount	Payment Status
Great Stack	Double Bed	\$ 999	Completed
Great Stack	Double Bed	\$ 1499	Pending
Great Stack	Single Bed	\$ 499	Pending

## 8. CONCLUSION

The Hotel Booking App is a comprehensive and modern solution for the hospitality industry. Its robust architecture, rich feature set, and user-friendly design make it a valuable tool for both travelers and hotel owners. The use of modern technologies ensures a scalable and maintainable application that can be extended with new features in the future.

### List of Rooms

View, edit, or manage all listed rooms. Keep the information up-to-date to provide the best experience for users.

All Rooms

Name	Facility	Price / Night	Actions
Double Bed	Room Service, Mountain View, Pool Access	1499	<input checked="" type="checkbox"/>
Double Bed	Room Service, Mountain View, Pool Access	999	<input checked="" type="checkbox"/>
Luxury Room	Free WiFi, Free Breakfast, Room Service	2999	<input checked="" type="checkbox"/>
Single Bed	Free WiFi, Room Service, Pool Access	499	<input checked="" type="checkbox"/>

### Add New Room

Fill in the details to add a new room to your hotel.

Upload Images

Room Type

Select Room Type

Price (\$/night)

0

Amenities

☐ Free WiFi ☐ Free Breakfast

☐ Room Service ☐ Mountain View

☐ Pool Access

Add Room