

HACKATHON REPORT

SYNHACK'25

November 8-9th, 2025

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VNIT Guest House Booking &
Approval Management System

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INTRODUCTION

Our team participated in **SynHack 2025**, a 30-hour hackathon organized at VNIT Nagpur. The hackathon aimed to encourage innovative solutions to real-world institutional problems using technology.

We selected the problem statement "**VNIT Guest House Booking and Approval Management System**", which focused on digitizing and streamlining the existing manual booking process of the VNIT guest house. The project was built using the **MERN stack (MongoDB, Express.js, React.js, Node.js)** to ensure scalability, speed, and modern UI/UX design.





PROBLEM STATEMENT

DESCRIPTION

The current guest house booking process at VNIT involves multiple manual steps — students or staff must submit room requests via offline forms or email. These requests are then verified by faculty advisors, after which payments are made and rooms are allocated manually.

This manual system suffers from several issues:

- Time-consuming and inefficient verification process
 - High chances of miscommunication and human error
 - No centralized tracking of approval and payment status
 - Lack of transparency for users
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OUR OBJECTIVE

Our main objectives were:

1. To design a **centralized digital platform** for booking and managing guest house rooms.
 2. To enable **faculty approval workflow** directly through the web interface.
 3. To allow **secure payment tracking and booking history management**.
 4. To create an **intuitive and responsive frontend interface** for students and staff.
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SYNHACKERS

08 NOVEMBER 2025

VNIT GUEST HOUSE MANAGEMENT



TEAM- SYNHACKERS

RAKSHIT SINGHVI(Leader)

VRAJ BORAD

LUVSINGH RAJPUT

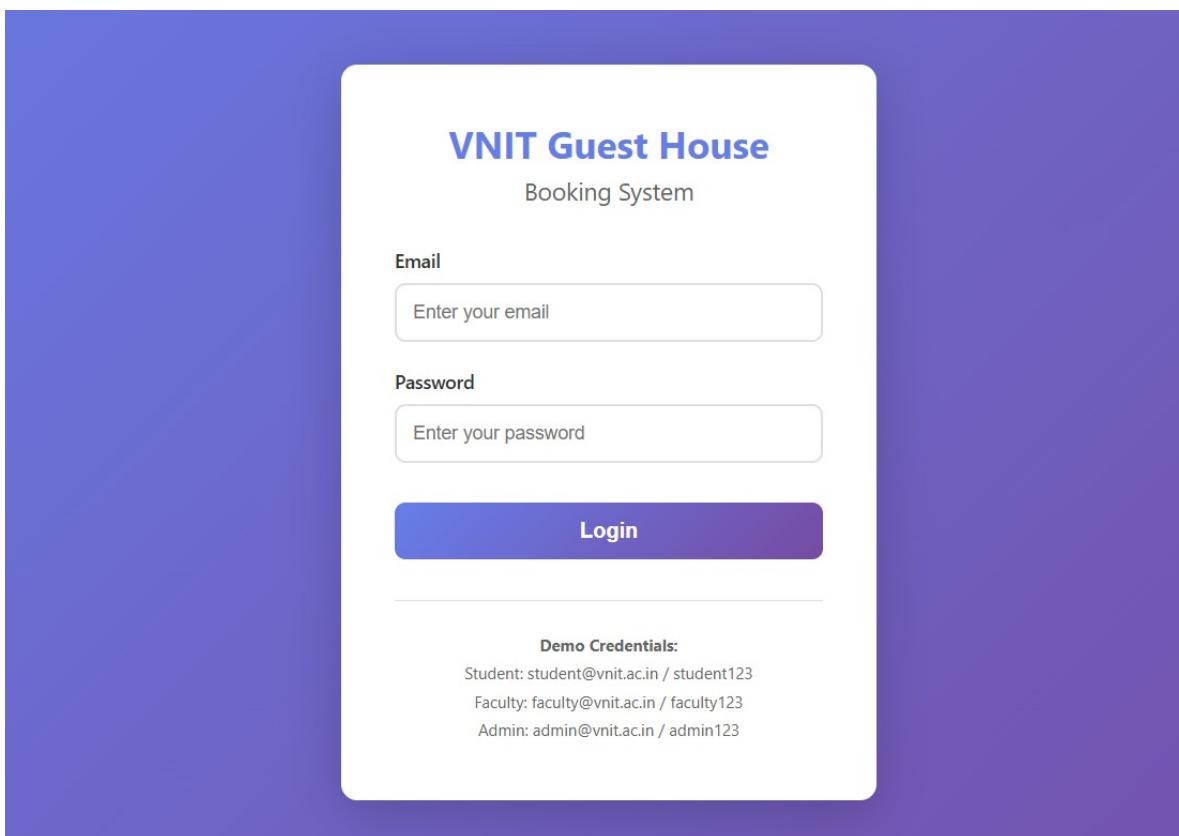
MIHIR VIJAY

PROPOSED SOLUTION

We proposed and developed a **web-based Guest House Booking and Approval Management System** that automates the end-to-end process.

Features Implemented:

- **User Authentication:** Secure login and signup for students, faculty, and admin.
- **Room Availability Check:** Users can view available rooms with dates and prices.
- **Booking Request Form:** Students can submit booking details through a digital form.
- **Faculty Approval:** Faculty can log in to approve or reject booking requests.
- **Admin Dashboard:** Admins can manage rooms, view all bookings, and verify payments.



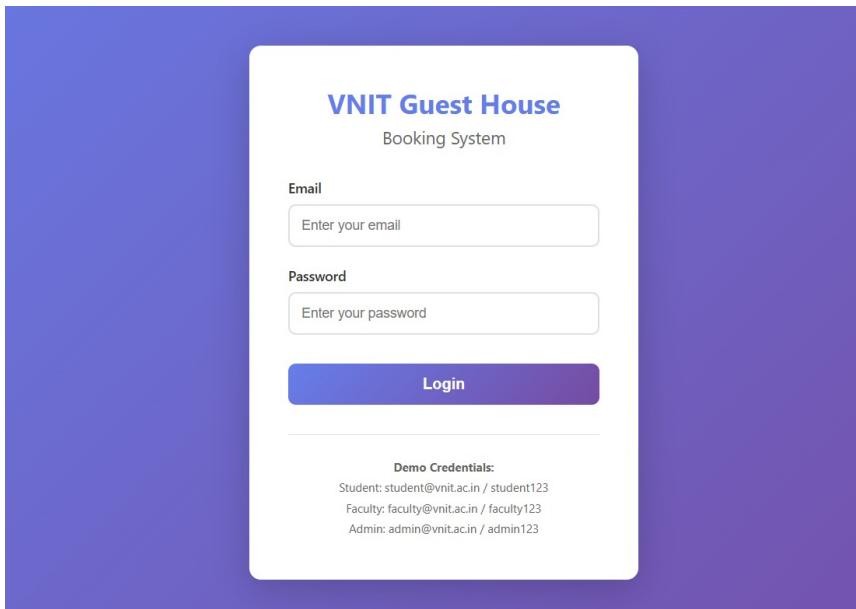
TECHNOLOGY STACK

| Layer | Technology Used | Description |
|------------------------|------------------------|--|
| Frontend | React.js | For building a responsive and dynamic user interface |
| Backend | Node.js, Express.js | For handling API requests and server-side logic |
| Database | MongoDB | For storing user, room, and booking data |
| Styling | CSS | For creating a clean and user-friendly UI |
| Version Control | Git & GitHub | For collaborative development and code tracking |

Reference Repo used: <https://github.com/SamiurRahmanMukul/Hotel-Room-Booking-System?tab=readme-ov-file>



SCREENSHOTS OF WEBSITE



New Booking Request

Select Rooms

| Boys Guest House | Girls Guest House | Institute Guest House |
|--|--|--|
| <input type="checkbox"/> Room 102 Capacity: 2 Price: ₹500/night AC, WiFi, Attached Bathroom | <input type="checkbox"/> Room 201 Capacity: 2 Price: ₹500/night AC, WiFi, Attached Bathroom | <input type="checkbox"/> Room 302 Capacity: 3 Price: ₹800/night AC, WiFi, Attached Bathroom, TV |
| <input type="checkbox"/> Room 202 Capacity: 2 Price: ₹500/night AC, WiFi, Attached Bathroom | | |

Booking Details

Check-in Date: dd-mm-yyyy

Check-out Date: dd-mm-yyyy

Number of Guests: 1

Purpose of Stay: e.g., Family visit, Conference, etc.

My Bookings

#528418

PAID

Rooms: Boys Guest House - 101, Institute Guest House - 301

Check-in: 18/11/2025

Check-out: 20/11/2025

Total Amount: ₹2600

Remarks: Booking approved

[Download Receipt](#)

System Analytics

Bookings Overview

| | |
|-----------------|---|
| Total Bookings: | 1 |
| Pending: | 0 |
| Approved: | 0 |
| Paid: | 1 |
| Rejected: | 0 |

Revenue

Total Revenue: ₹2600

Room Status

| | |
|--------------|---|
| Total Rooms: | 6 |
| Available: | 4 |
| Occupied: | 2 |

Bookings by Guest House

| | |
|------------------------|---|
| Boys Guest House: | 1 |
| Institute Guest House: | 1 |

Room Management

+ Add Room

Boys Guest House

Room 101

Unavailable

Capacity: 2
Price: ₹500/night
Amenities: AC, WiFi, Attached Bathroom

New price

Delete

Room 102

Available

Capacity: 2
Price: ₹500/night
Amenities: AC, WiFi, Attached Bathroom

New price

Delete

Girls Guest House

Room 201

Available

Capacity: 2
Price: ₹500/night
Amenities: AC, WiFi, Attached Bathroom

New price

Delete

Room 202

Available

Capacity: 2
Price: ₹500/night
Amenities: AC, WiFi, Attached Bathroom

New price

Delete