WanderLust

A Project Report Submitted to

NM Institute of Engineering & Technology
(affiliated to BPUT, Odisha & Approved by AICTE New Delhi, India)

In partial fulfillment for the award of Master Degree

in Master of Computer Applications

By

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DEPARTMENT OF MCA

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Education for a World Stage

DEPARTMENT OF MCA

CERTIFICATE

This is Certified that this report entitled "**WanderLust**" is the report of seminar presented by **Sudhansu Sekhar Pradhan** Regd. No: **2305288099** 2023-2025, **Kanhu Charan Sahoo** Regd. No: **2305288039, Itishree Jena Regd. No: 230528833** 2023-2025 in partial fulfillment of the requirements for the award of the Degree in Master of Computer Applications is a Bonafide record of the seminar presented by him/her.

External Examiner   Internal Examiner /Guide   Head of Department
                                                                                            CSE Department

<u>Acknowledgment</u>

We would like to express my sincere gratitude to everyone who contributed to the successful completion of this project.

First and foremost, We would like to thank **Bebrata Chinmayananda Das**, whose guidance, support, and valuable insights were instrumental throughout the project. My heartfelt thanks to **NMIET** for providing the necessary resources and a conducive environment to carry out this work. Finally, I am grateful to my family and friends for their constant encouragement and support throughout the project duration.

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DECLARATION

We **Kanhu Charan Sahoo, Sudhansu, Sekhar Pradhan, Itishree Jena** hereby declare that the project report titled **"WanderLust"** is a genuine work carried out by me under the guidance of **Bebrata Chinmayananda Das**. This project has been submitted in partial fulfilment of the requirements for the **Master of Computer Applications** and has not been submitted previously, in part or full, to any other institution or university for the award of any degree.

I have ensured that the work presented in this project is original, and all sources of information and data have been duly acknowledged and referenced.

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ABSTRACT

WanderLust: A Vacation Rental Booking Platform

WanderLust is a web-based vacation rental booking platform inspired by Airbnb, developed as a final year Major Project using core web technologies—HTML, CSS, JavaScript—and the MERN stack (MongoDB, Express.js, Node.js), excluding React. The platform enables users to browse, search, and book short-term rental accommodations, while allowing property owners to list and manage their properties.

The front-end is developed using vanilla JavaScript, HTML, and CSS, ensuring a responsive and interactive user interface without the use of modern front-end frameworks. On the server side, Node.js with Express.js handles API routing, authentication, and business logic. MongoDB is used as the primary database to store user information, property listings, bookings, and reviews.

Key features include user authentication, property listing management, booking functionality, and an admin interface for platform oversight. Emphasis was placed on building RESTful APIs, secure user sessions, and efficient data handling to simulate a real-world booking experience.

This project demonstrates the practical application of full-stack development principles, database integration, and UI/UX design without reliance on front-end frameworks, highlighting a strong grasp of core web technologies.

Contents

1. **Introduction**
   This section introduces the concept behind *WanderLust*, explaining the motivation for developing a vacation rental booking system. It outlines the objectives, the real-world problem it aims to solve, and the technologies chosen to build the project.

2. **System Analysis**
   An analysis of the current landscape of online rental platforms, identifying gaps or limitations in existing systems. It discusses the need for a new system, describes the proposed solution, and presents a feasibility study covering technical, economic, and operational aspects.

3. **System Design**
   This part elaborates on the architecture and structural design of *WanderLust*. It includes diagrams such as the architecture diagram, data flow diagrams, and entity-relationship (ER) diagrams. It also explains the database schema and how various modules interact within the system.

4. **Implementation**
   A detailed account of how the project was developed using HTML, CSS, JavaScript, and the MERN stack (excluding React). This section covers front-end design, server-side scripting with Node.js and Express.js, API development, MongoDB integration, and user authentication mechanisms.

5. **Testing**
   Describes the testing strategies employed to ensure the functionality, performance, and reliability of the application. Includes various test cases, error handling, and a discussion of bugs encountered and resolved during development.

6. **Results and Discussion**
   Presents the outcomes of the project, including screenshots of the user interface, descriptions of major features, and a discussion of the performance and usability of the system based on testing and evaluation.

7. **Conclusion and Future Scope**
   Summarizes the achievements of the project and reflects on the development process. It also discusses the limitations of the current system and proposes enhancements that could be implemented in the future to improve scalability, user experience, and features.

8. **References**
   A list of books, articles, websites, and tools that were referred to during the development of the project.

A Smart Rental Booking Application

Team members, guide, and institution details are included. Submission date noted.
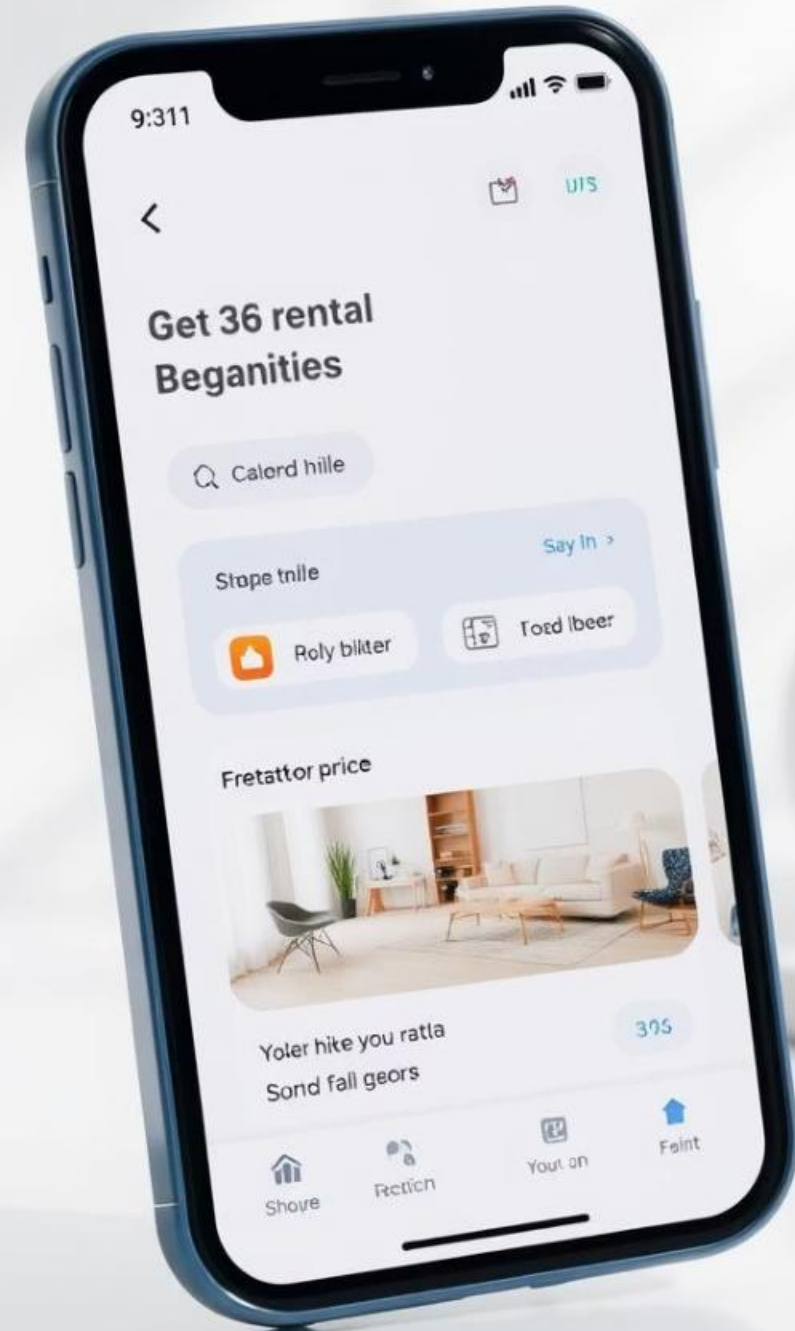
Introduction to Online Rental Platforms

What is Wanderlust?

Leading online marketplace for short-term rentals.

Project Objective

Create a smart, user-friendly rental booking app.

Application Scope

Supports hosts and guests with real-time bookings.

Significance

Enables seamless, trusted online rental experiences.

Identified Problems in Rental Booking

Verification Issues

Difficulty accessing authentic rental listings.

Platform Fragmentation

No single hub for hosts and guests.

Manual Booking Problems

Time-consuming, error-prone booking processes.

Proposed Solution Overview

Booking Platform

Web and mobile application for property bookings.

User Verification

Ensuring genuine host and guest profiles.

Real-Time Features

Instant booking confirmation and review system.

System Architecture Design

Frontend

HTML-CSS-JS.

Backend

Node.js, Express.js

Database & APIs

MongoDB with RESTful API integration.

Application Modules

User Module

Signup, profile, bookings management.

Host Module

Property listings, availability control, pricing.

Admin Module

User management and listing verification.

Search & Filter

Efficient property discovery options.

Booking & Payment

Secure transactions and booking confirmation.

Review & Rating

Feedback to build trust and quality.

UML Diagrams for System Modeling

Use Case Diagram

Defines system interactions with users.

Class Diagram

Shows data structures and relationships.

Sequence Diagram

Details process workflows and message flows.

Activity Diagram

Visualizes operational workflows and control flow.

Technology Stack Overview

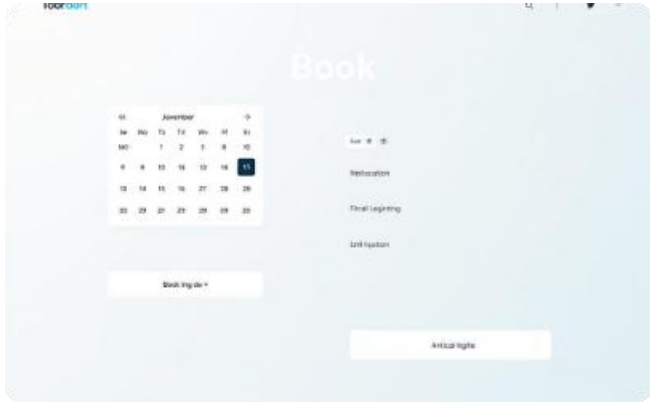|	
Frontend	ReactJS
Backend	Node.js, Express JS
Database	MongoDB

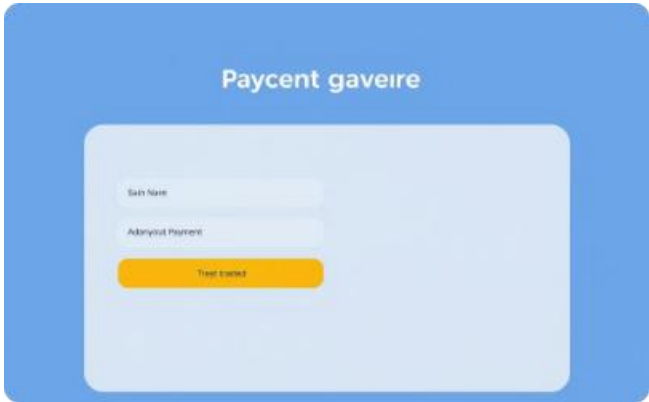# Application Interface Screenshots

Homepage
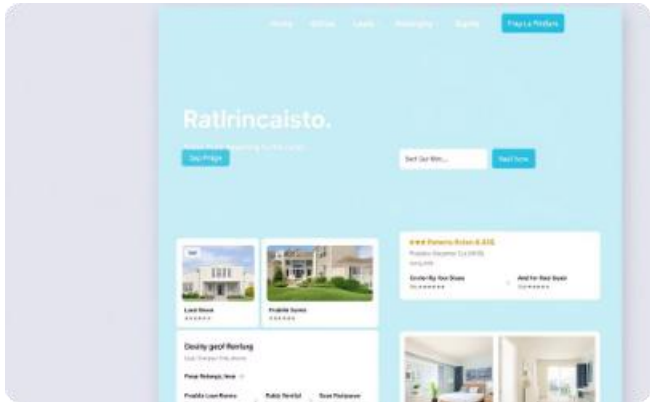
Property Listing

Booking Page

Payment Gateway

Admin Dashboard

Testing and Validation Process

Unit Testing

Verifies individual components for correctness.

Integration Testing

Ensures modules work together seamlessly.

User Acceptance Testing

Validates application with real-user scenarios.