PROJECT OBJECTIVE AND OVERVIEW

Project Title:

Online Accommodation Booking System

Technology Stack:

MEAN Stack (MongoDB, Express, Angular, Node.js)

1. Introduction

Purpose:

The goal of this project is to develop an Online Accommodation Booking System that offers an intuitive and efficient platform for users to find and book accommodation. This initiative aims to:

Provide hands-on experience with the MEAN stack.

Demonstrate the integration of frontend and backend technologies to create a seamless user experience.

Improve problem-solving skills in full-stack web development.

Background:

With the increasing reliance on online platforms for booking accommodations, there is a need for responsive and user-friendly systems. Utilizing the MEAN stack, this project will enable students to create a scalable and robust solution that caters to these needs.

Scope:

This project will include:

Developing an Angular frontend for dynamic accommodation display.

Creating a Node.js backend with RESTful APIs for data management.

Using MongoDB to store accommodation details such as descriptions, prices, and images.

Implementing search, filter, and booking functionalities.

Ensuring responsive design for various devices.

Deploying the application on a cloud platform.

2. Problem Statement

Identified Problem:

Travelers often face difficulties finding a convenient platform that provides detailed information and easy navigation for browsing and booking accommodations.

Objectives:

Simplify the process for customers to find and book accommodations.

Save time and money for users by providing an efficient booking system.

On a small scale, collect accommodation data from sources like Kaggle.

Importance:

Developing a feature-rich accommodation booking system will bridge the gap in the current market, enhancing user experience and making the process of booking accommodations more accessible and streamlined.

3. Project Objectives

Develop a user-friendly and responsive UI using Angular for browsing, filtering, and booking accommodations.

Create RESTful APIs using Node.js and Express for managing accommodation data.

Store accommodation details in MongoDB, including specifications, images, and prices.

Seamlessly connect the frontend and backend for real-time data updates.

Provide advanced search and filtering options.

Implement efficient booking tools.

Deploy the application on a cloud platform for accessibility.

4. Methodology

Data Collection:

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Collect sample accommodation data from websites such as Kaggle, including details like name, location, price, amenities, and images.

Tools and Technologies:

Frontend: Angular

Backend: Node.js and Express

Database: MongoDB.

Implementation Steps:

Environment Setup: Configure the MEAN stack development environment.

Database Design: Design and implement the MongoDB schema.

API Development: Create RESTful APIs using Node.js and Express for CRUD operations.

Frontend Development: Build a responsive Angular frontend to fetch and display data.

Feature Implementation: Add filtering, sorting, searching, and booking functionalities.

Testing: Conduct thorough testing and debugging to ensure performance and functionality.

5. Project Timeline

Phase	Tasks
Phase 1	Setup environment, gather requirements, design database
Phase 2	Develop backend APIs and integrate MongoDB
Phase 3	Build Angular frontend with dynamic components
Phase 4	Implement features (filtering, sorting, booking), testing
Phase 5	Final integration, deployment, documentation

Milestones:

Completion of backend APIs with full CRUD functionality.

Development and integration of the Angular frontend.

Deployment of the application with a demo-ready version.

6. Deliverables

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Codebase:

Full MEAN stack project with clean, modular code.

Database Design:

MongoDB schema and sample accommodation data.

Presentation:

Live demo showcasing the application's features.

Explanation of development processes and technical decisions.

Documentation:

Comprehensive project report detailing the problem statement, methodology, system architecture, and challenges encountered.