# 📘 Project Summary – PG Listing Website

## 1. Introduction

The PG Listing Website was developed as part of Phase 2 of the internship program. The main objective of this project was to create a user-friendly and responsive web application that allows users to search, filter, and explore PG (Paying Guest) accommodations. The platform is designed to simplify the process of finding a suitable PG by providing essential details such as price, amenities, location, and sharing type in an organized manner.  
  
This project demonstrates the use of modern web technologies such as Next.js, React, and Tailwind CSS to build a scalable and responsive application. Additionally, the project structure has been designed in a way that supports future enhancements like authentication, booking systems, and payment gateways.

## 2. Project Files, Documents, and Designs

The submission package for this project consists of the following:

• Project Files  
 - pages/: Contains all application pages including Home, Listings, PG Details, and Contact.  
 - components/: Reusable UI elements such as PgCard, FilterSidebar, Navbar, and Footer.  
 - styles/: Tailwind CSS configuration and custom styles for responsive design.  
 - api/: Mock API endpoints or JSON data for PG listings.  
 - package.json: Dependency management and scripts for running the application.  
 - README.md: Setup instructions for installation, running, and deploying the project.  
  
• Documents  
 - Summary Report (this file): Explains the project workflow, challenges, and learnings.  
 - Design Documentation: Describes the overall architecture and folder structure.  
  
• Designs  
 - Wireframes of the home page and listing page.  
 - Screenshots of the user interface, including listing cards, filter section, and PG details page.

## 3. Short Summary of Work

During this phase, I focused on building the core functionality of the PG Listing Website. The following key features were implemented:  
  
1. Home Page – A clean landing page introducing the platform.  
2. PG Listings Page – Displays available PGs in a card format with essential details.  
3. Filter System – Users can filter PGs based on location, price range, and sharing type.  
4. PG Details Page – A dedicated page for each PG showing more details like price, amenities, and contact information.  
5. Responsive Design – Ensured that the application is mobile-friendly and accessible on all devices.  
6. Reusable Components – Implemented modular components such as PgCard, FilterSidebar, and Navbar to maintain code efficiency and scalability.

## 4. Challenges Faced

The development process included several challenges:  
  
- State Management: Handling state for multiple filters and ensuring real-time updates on listings was tricky in Next.js.  
- Dynamic Routing & SEO: Implementing SEO-friendly dynamic pages for PG details required fine-tuning of Next.js routing.  
- Responsive Design Issues: Tailwind CSS responsiveness required multiple iterations to make sure all screen sizes were supported.  
- Mock Data Integration: Without a live backend, I had to simulate real-world scenarios using JSON and mock APIs.  
  
These challenges provided valuable learning experiences in debugging, optimizing performance, and working with modern frontend frameworks.

## 5. Outcome

The final outcome of this phase is a fully functional and responsive PG Listing Website. The platform offers:  
  
- Easy navigation through PG listings.  
- Search and filter features to improve user experience.  
- Clean and attractive UI with mobile-first design principles.  
- A modular codebase that can be extended with additional features such as login, booking, and admin dashboards.

## 6. Conclusion

This project allowed me to practically apply my knowledge of frontend frameworks, responsive design, and project structuring. It gave me hands-on experience in solving real-world challenges like state management, routing, and UI optimization.  
  
The PG Listing Website is not just a demonstration of coding skills, but also a foundation for a scalable application that can be expanded in future phases. Overall, Phase 2 has been a valuable step toward improving my technical expertise and preparing for larger full-stack projects.