SARDAR BEANT SINGH STATE UNIVERSITY, GURDASPUR

SIX Weeks INDUSTRIAL TRAINING REPORT

ON

Book My Stay

COMPLETED AT

CODER ROOTS

By

Deepak Saini

UNIVERSITY ROLL NO.

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

SARDAR BEANT SINGH STATE UNIVERSITY, GURDASPUR

[JUNE- JULY, 2025]

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[i] Certificate of Training issued by company

Company Profile

CODER ROOTS, is an ISO 9001:2015 & 27001:2022 certified IT Company, founded in 2022. We are specialized in web development, web design, software solutions, App development, digital marketing & branding, cyber security, internship programs etc.

This start-up was founded to help and increase business owner's efficiency through cutting-edge Digital Transformation of traditional working with the use of latest and advanced technological platforms. Since then, we are committed to provide end-to-end solutions through web development, wire-framing and highly skilled engineering execution. We prefer to form long-lasting strategic partnerships with clients by offering the solutions at affordable prices with timely deliveries and measurable business results.

We are a single point Software and IT internship company who can work as a guide in any of your project with the aim of cost saving without compromising the quality. We are aiming to become the market leader in providing Digital assistance to various industries in their transformation to increase productivity.

In addition to it, CODER ROOTS provide training & internship programs including 6 Weeks/6 Months Industrial Training, Project-Based Training, Corporate Training, and Job-Oriented Course Training while covering major IT trends such as Full Stack Development (MEAN/MERN), Flutter, Kotlin Android, Firebase, Python, React.js, Node.js, Core PHP, Laravel, Software Testing, Cloud Computing, DevOps, Data Science, Artificial Intelligence, Machine Learning, UI/UX Designing, Digital Marketing, WordPress, Linux, CCNP, CCNA Security, Network Security, Cyber Security, Java, Spring, Hibernate, C/C++, Photoshop, Adobe Illustrator, Figma, CorelDraw and many more.

By leveraging our extensive technological expertise, We, here at CODER ROOTS ensure that every project meets the highest standards of quality and efficiency.

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ABSTRACT

The **Book My Stay** is a user-centric platform developed using Python to streamline the search and listing process for Paying Guest (PG) accommodations. With the increasing mobility of students and working professionals in urban areas, finding suitable PG housing that matches individual preferences has become a significant challenge. This application addresses the issue by offering a centralized, efficient, and intelligent system for both property seekers and owners.

The backend is powered by Python, integrating key libraries and frameworks to handle data processing, API interactions, and search functionalities. Users can filter PG listings based on location, budget, amenities, gender preference, and availability. The system supports real-time search, user registration, listing uploads, image handling, and feedback mechanisms. The design also considers scalability and data security to ensure a reliable user experience.

The Book My Stay aims to reduce the dependency on brokers, save time, and enhance transparency in the PG discovery process. With a clean user interface (when paired with front-end tools) and a flexible architecture, it can be extended to include features like map integration, chat support, and digital payments in future versions.

ACKNOWLEDGEMENT

The successful completion of the *"Book My Stay"* project would not have been possible without the invaluable guidance, support, and encouragement from various individuals and institutions.

I extend my heartfelt gratitude to **Coder Roots, Mohali**, for providing the platform, infrastructure, and resources essential for the development of this application. Their focus on hands-on learning and real-world problem-solving played a vital role in shaping the practical knowledge gained throughout this project.

A special note of thanks is due to **Mr. Ankush** , whose mentorship and continuous support were instrumental in every phase of this project. His deep expertise in software development and dedication to teaching helped navigate through technical challenges, offering clarity and direction with every step.

I would also like to express sincere appreciation to the entire **Coder Roots team** for fostering a positive and collaborative learning environment. Their assistance and encouragement were invaluable in enhancing the quality and scope of this work.

Lastly, heartfelt thanks are extended to my peers, friends, and family for their unwavering encouragement and belief in my efforts. Their support provided the motivation needed to successfully complete the Book My Stay project.

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CHAPTER I: INTRODUCTION

1.1 Introduction

In today's fast-paced and urban-centric world, the demand for flexible and affordable accommodation options like Paying Guest (PG) facilities has significantly increased, especially among students, working professionals, and individuals relocating for education or employment. However, the traditional method of finding suitable PG accommodations is often time-consuming, unorganized, and dependent on local brokers or word-of-mouth referrals.

To address this gap, the **Book My Stay** has been developed using **Python** as the core programming language. This application serves as a digital platform that connects PG seekers with PG owners, simplifying the search and listing process. It is designed to offer a seamless experience where users can search for PG accommodations based on various filters such as location, budget, amenities, gender preference, and availability.

The platform aims to eliminate the need for intermediaries and reduce the manual effort involved in property hunting. By leveraging Python's robust libraries and tools for backend processing, the application ensures data accuracy, faster search results, and an intuitive user interface when integrated with a frontend.

The **Book My Stay** not only enhances user convenience but also empowers PG owners to manage and update their listings efficiently. This project is a step towards digitizing the rental accommodation sector and providing a user-friendly solution to a common urban challenge.

1.2 Necessity

The development of the **Book My Stay** stems from a pressing need to simplify and modernize the way individuals search for and manage Paying Guest (PG) accommodations. The necessity of this application arises from the following key factors:

- **Unorganized PG Market**

  The current PG rental ecosystem is largely informal and lacks standardization. Tenants often rely on local brokers, advertisements, or word-of-mouth, which are inefficient and

unreliable methods of finding accommodations.

Time-Consuming Search Process

Visiting multiple PGs physically to inquire about availability, rent, and facilities is not only time-consuming but also exhausting, especially for individuals new to a city.

- **Lack of Verified Information**

  Most available sources provide limited or outdated details. There is often a lack of transparency about room conditions, amenities, security, pricing, and house rules.

- **Limited Digital Presence for PG Owners**

  Many PG owners do not have a platform to list their properties online, reducing their visibility to potential tenants.

- **Need for Customization & Filtering**

  Users have specific needs related to budget, gender-specific accommodations, food facilities, Wi-Fi, or proximity to workplaces or educational institutions. An application is necessary to provide filtering based on such parameters.

- **Urban Migration and Rising Demand**

  With an increase in student and professional migration to urban areas, there is a growing demand for a centralized and digital platform to find budget-friendly living spaces.

- **Scalability and Data Management**

  As demand increases, there is a necessity for a system that can handle large volumes of data efficiently and provide real-time updates for listings and bookings.

1.3 Objectives

The primary aim of the **Book My Stay** is to simplify and digitalize the process of finding and managing Paying Guest (PG) accommodations. The following objectives outline the core goals of the project:

- **To Provide a Centralized Platform**

  Create a single, accessible portal where users can browse, search, and filter PG listings based on their preferences and requirements.

- **To Simplify PG Searching for Users**
  Allow users to easily find suitable accommodations by applying filters such as location, rent range, gender preference, food availability, and other amenities.
- **To Digitize PG Listings for Owners**
  Enable PG owners to register and post their listings with complete details including room photos, rent, facilities, and contact information.
- **To Reduce Dependency on Middlemen**
  Eliminate the need for brokers and third-party agents by providing direct access to verified property information and owner contacts.
- **To Ensure Real-Time Data Updates**
  Keep all PG listings up-to-date with real-time availability status, rent changes, and new postings.
- **To Offer an Intuitive and User-Friendly Interface**
  Design a clean and efficient interface for both desktop and mobile users, ensuring a smooth and hassle-free experience.
- **To Enhance Transparency and Trust**
  Include verified listings, user reviews, and ratings to help users make informed decisions and build trust in the platform.
- **To Facilitate Seamless Communication**
  Integrate basic contact or messaging functionality between users and PG owners for queries and follow-ups.
- **To Ensure Scalability and Future Expansion**
  Develop the backend architecture to support future enhancements like online payments, map-based searches, chatbot support, and more.

1.4 Theme

The theme of the **Book My Stay** revolves around **"Digital Housing Solutions for Urban Migrants."** It aims to bridge the gap between accommodation providers and seekers through a modern, tech-driven approach. As cities grow and the demand for temporary, affordable housing rises among students and professionals, there is a clear need for smart solutions that simplify the process of finding and offering Paying Guest (PG) accommodations.

This project embraces the concept of **digital transformation in the rental sector**, focusing on user convenience, transparency, and efficiency. By leveraging Python and related technologies, the application delivers a structured platform where PG listings are easy to manage, and users can quickly find a place that fits their needs without hassle.

Key focus areas within this theme include:

- **Urban Accommodation Accessibility**
- **Digitalization of Manual Processes**
- **Empowering Local PG Owners through Technology**
- **User-Centric and Data-Driven Solutions**

The theme not only aligns with the ongoing trend of digital platforms replacing traditional methods but also supports broader objectives such as smart city initiatives, tech-enabled real estate, and enhanced urban living.

1.5 Organization

- **Project Title:** Book My Stay
- **Project Category:** Software Development / Web Application
- **Domain Area:**
    - Urban Housing and Rental Management
    - Real Estate Digitalization
    - Location-based Property Search
- **Project Description:**

  A Python-based application developed to help users search for and manage Paying Guest (PG) accommodations efficiently. It provides a digital platform for PG seekers to browse listings and for PG owners to post and manage their properties without relying on brokers or third-party services.
- **Mode of Development:**
    - Developed as a capstone/training project
    - Completed under guided mentorship
    - Involves both frontend (if integrated) and backend components

- **Training & Development Organization:**
  - **Name:** Coder Roots
  - **Location:** Mohali, Punjab
  - **Nature:** IT Training and Software Development Institute
  - **Support Provided:** Infrastructure, mentorship, training sessions, project review
- **Project Guide / Mentor:**
  - **Name:** Mr. Ankush
  - **Role:** Project Instructor & Technical Mentor
  - **Contribution:** Provided technical guidance, architecture suggestions, and regular feedback
- **Team Structure:**
  - Solo developer or small team depending on the actual setup
  - Each member responsible for specific modules such as UI, backend, database, and testing
- **Duration:**
  - 6 Weeks / 45 Days (as part of summer/winter industrial training)
- **Target Audience:**
  - College students seeking accommodation
  - Job seekers and working professionals in metro cities
  - PG owners looking to list their properties online
  - Local landlords and small property managers
- **Project Goals:**
  - To reduce the stress and complexity of finding PG accommodations
  - To offer a bridge between demand and supply of affordable housing
  - To improve transparency and accessibility in the PG rental market
- **Modules Developed:**
  - User Registration and Login
  - PG Listing Management (for Owners)
  - PG Search and Filter System (for Tenants)
  - Image Upload and Detail View
  - Contact/Inquiry Feature

CHAPTER 2: LITERATURE SURVEY RELATED WITH TRAINING

The literature survey involves a comprehensive study of existing technologies, platforms, and similar systems that inspired and informed the development of the **Book My Stay**. The aim is to understand how existing solutions function, their limitations, and how our application can offer improvements. This survey also includes the tools and technologies learned during the training at **Coder Roots, Mohali**.

2.1 Study of Existing PG Finder Applications

- Several platforms such as *NestAway*, *NoBroker*, and *99acres* already offer PG and rental services.
- These applications primarily focus on urban regions and involve complex interfaces that may overwhelm new users.
- Many require brokerage fees or premium subscriptions for full access, which can be a barrier for students or job seekers.
- Most apps are developed using full-stack web technologies like JavaScript (MERN) or Java, with mobile app versions in Kotlin or Flutter.

2.2 Limitations in Current Systems

- Lack of flexibility for PG owners to directly manage listings without intermediaries.
- Inadequate real-time updates, often resulting in outdated or unavailable property listings.
- Minimal filtering options based on user-specific requirements like gender, budget, or distance from college/workplace.

2.3 Learning and Integration from Training at Coder Roots

- During the training, we covered **Python programming**, which formed the backbone of the application's logic.
- We explored **Tkinter** for building UI.

- Training modules included **database management** using **MySqlLite/MySQL**, which helped in handling PG records efficiently.
- Gained hands-on experience in **CRUD operations**, user authentication, and session management.
- Learned how to build modular, scalable code, apply validations, and handle routing for dynamic content delivery.

2.4 Research on Technology Adoption

- Python is widely adopted in backend development due to its readability, large library support, and rapid development capabilities.
- Tkinter was studied for its simplicity and suitability for small to mid-sized applications like Book my stay.
- SQL was preferred for initial development due to its simplicity, zero configuration, and fast performance.

2.5 Conclusion from Literature Review

- There is a strong demand for simple, transparent, and user-friendly PG search platforms.
- Most existing platforms are commercial or overly complex for new users.
- There is space for a lightweight, Python-based application focused solely on essential features.
- Training at Coder Roots provided the foundational knowledge and technical guidance required to build such a solution effectively.

2.6 Technological Stacks and Architectures

Introduction to Python:

I have done my training in Python with MY SQL. Python is an easy to learn, powerful programming language. Python is a high-level, interpreted programming language known for its simplicity, readability, and versatility. Developed by Guido van Rossum and first released in 1991, Python has since gained widespread popularity among programmers, both beginners and professionals alike. Its design philosophy emphasizes code readability and a clean syntax, making it easy to learn and write code in Python.

Features of Python:

1. Readable and Beginner-Friendly Syntax
2. Cross-Platform Compatibility
3. Comprehensive Standard Library
4. Extensive Ecosystem of Packages and Frameworks
5. Dynamic Typing and Automatic Memory Management
6. Support for Multiple Programming Paradigms
7. Interpreted Language for Rapid Development
8. Easy Integration with Other Languages
9. Strong Community and Support
10. Scalability and Versatility

Some popular Python Libraries:

- geopy – A Python library for geocoding and handling geographical locations and distances.
- tkintermapview – A widget for Tkinter that displays interactive maps using OpenStreetMap or other tile servers.
- customtkinter – A modern, customizable variant of Tkinter for building stylish GUIs with themes and advanced widgets.
- matplotlib – A comprehensive library for creating static, animated, and interactive plots in Python.
- openpyxl – A Python library for reading and writing Excel (.xlsx) files.
- tkinter: Module for creating GUI applications and windows with various widgets and controls.

Advantages of Python:

1. Readability and Simplicity: Python's clean and easy-to-read syntax makes it highly readable and reduces the cost of program maintenance.
2. Large Standard Library: Python comes with a comprehensive standard library, offering a wide range of modules and functions for common programming tasks, reducing the need for external dependencies.

3. Extensive Third-Party Ecosystem: Python has a vibrant ecosystem of third-party libraries and frameworks that provide ready-to-use solutions for various domains, such as data analysis, machine learning, web development, and more.

4. Cross-Platform Compatibility: Python programs can run on different operating systems, ensuring compatibility and portability.

Disadvantages of Python:

1. Performance: Python is an interpreted language, which can result in slower execution speed compared to compiled languages like C or C++. However, this drawback is mitigated by using optimized libraries and modules written in lower-level languages.
2. Global Interpreter Lock (GIL): The GIL is a mechanism in Python that allows only one thread to execute Python bytecode at a time, potentially limiting the performance of multi-threaded applications.
3. Mobile and Browser Support: Python is not as commonly used for mobile app development or client-side web development compared to languages like Java or JavaScript.
4. Database Access: Although Python offers database support through modules like SQL 3 and connectors for other databases, it may not be as robust or performant as specialized database languages or frameworks

INTRODUCTION TO TKINTER

TKINTER- PYTHON LIBRARY:

Tkinter is a built-in Python library used for creating graphical user interfaces (GUIs) for desktop applications. It provides a set of pre-built widgets and tools that enable developers to design and build interactive windows, buttons, menus, text boxes, labels, and other GUI elements.

KEY FEATURES OF TKINTER:

1. Built-in Python Library: Tkinter is a standard library in Python, so no additional installation is required.
2. GUI Widget Set: It provides a wide range of pre-built GUI widgets, including buttons, text boxes, labels, checkboxes, dropdown menus, and more.
3. Event-Driven Programming: Tkinter supports event-driven programming, allowing developers to define actions or functions to be triggered by user interactions, such as button clicks or mouse movements.
4. Layout Management: Tkinter offers layout managers that help in organizing and arranging GUI elements within a window, ensuring a consistent and responsive user interface.
5. Customization Options: Developers can customize the appearance and behavior of GUI elements, including colors, fonts, sizes, and styles, to create visually appealing applications.
6. Cross-Platform Compatibility: Tkinter applications can run on different operating systems, including Windows, macOS, and Linux, with minimal modifications.
7. Integration with Python: Tkinter seamlessly integrates with other Python libraries and frameworks, allowing developers to leverage additional functionalities as needed.

8. Rapid Development: Tkinter simplifies GUI development with its intuitive API and drag-and-drop support, enabling developers to quickly build interactive applications.
9. Community Support: There is a large and active community of Tkinter users who share resources, tutorials, and code snippets, making it easy to find assistance and solutions to common problems.

INTRODUCTION TO MySQL

MySQL is a popular relational database management system (RDBMS) that is used to store, manage, and retrieve structured data. It is a server-client system where the MySQL server handles database operations, while client applications interact with the server to perform tasks like querying data, updating records, and managing the database structure. MySQL uses a structured query language called SQL to interact with the database.

Key features of MySQL include:

1. Data storage and retrieval: MySQL provides efficient and scalable storage and retrieval of structured data in tables.
2. SQL Queries: It supports SQL queries for performing operations such as data insertion, deletion, updating, and data retrieval from the database.
3. Data Integrity and Security: MySQL enforces data integrity constraints and provides security measures to protect sensitive data.
4. Scalability and Performance: MySQL is designed to handle large amounts of data and high performance requirements, making it suitable for enterprise-level applications

2.8 Modules in Book My Stay

The **“Book My Stay”** project is a hotel room booking system built entirely using **Python** for the application logic and **MySQL** as the relational database for storing and managing data. The application is structured into two primary modules — **User Module** and **Admin Module** — each with distinct responsibilities and features, ensuring a clear separation of roles and functionalities within the system.

1. User Module

The User Module is designed for customers or guests who want to explore hotel options, check room availability, and make bookings. This module focuses on providing a smooth and interactive experience for end-users.

Key Features of User Module:

- **User Registration and Login:** Users can create an account and securely log into the system.
- **Search Functionality:** Allows users to search for available rooms based on date, room type, or other filters.
- **Room Booking:** Enables booking of rooms with check-in and check-out details, including real-time availability status fetched from the database.
- **View Booking History:** Users can see their current and past bookings, including details such as room number, stay duration, and total cost.
- **Cancellation Option:** Users can cancel bookings as per the cancellation policy.
- **Profile Management:** Users can update their profile information like contact details, email, and password.

All the logic in this module is implemented in Python, and all booking and user data is stored and managed in MySQL, ensuring data persistence and consistency.

2. Admin Module

The Admin Module is designed for hotel management staff to oversee and control the system's backend. This includes managing room inventory, viewing customer bookings, and updating hotel information.

Key Features of Admin Module:

- **Admin Authentication:** Only verified admins can access this module using a secure login.
- **Room Management:** Admins can add new rooms, update room details (type, price, availability), or remove rooms from the system.
- **Booking Oversight:** View all bookings made by users, including guest details, dates, and payment status.
- **User Management:** Monitor registered users, reset passwords, or deactivate accounts if necessary.
- **Reports and Analytics:** Generate basic reports such as occupancy rate, total bookings per day/month, and revenue statistics (if implemented).
- **Database Maintenance:** Perform maintenance tasks like resetting booking tables or backing up data (executed through Python-MySQL integration).

The admin interface is also built using Python, with backend operations interacting directly with the MySQL database for data retrieval and updates.

CHAPTER 3: TRAINING WORK

The development of the **Book My Stay** was an integral part of the industrial training program conducted at **Coder Roots, Mohali**. Over the duration of the training, students were guided through the process of building a real-world application from scratch using modern web technologies, particularly focusing on Python and Flask.

The training was designed to blend **theoretical understanding with hands-on practical development**, enabling students to learn full-cycle application development — from planning and designing to coding, testing, and deployment.

3.1 Key Focus Areas of Training

- **Core Python Programming**
  Understanding of data types, control structures, functions, and object-oriented concepts essential for backend logic.
- **CustomTkinter**
  The standard Python library for creating graphical user interfaces (GUIs) with windows, buttons, labels, and other widgets.
- **Database Integration**
  Integration **SQL** for storing and retrieving PG listings and user data.
- **CRUD Operations**
  Learning how to create, read, update, and delete PG listings in the application using database models and routes.
- **XAMpp :** XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages.

3.2 Timeline of Training Activities

Week	Training Activity
Week 1	Introduction to Python and basic syntax, control structures
Week 2	OOP in Python, file handling, intro to Tkinter
Week 3	First GUI window, geometry managers, Labels, buttons, entries,Text, checkbox, radio button, message, pack(), grid(), place()
Week 4	Combobox,scrollbars,Treeview(ttk),Image with PhotoImage, Pillow
Week 5	DB installation, Creating tables and inserting records, CRUD operations.
Week 6	Testing, bug fixing, documentation, and deployment basics

3.3 Practical Implementation through Book My Stay

The skills learned during training were directly applied in building the **Book My Stay**, allowing trainees to:

- Build a real-time rental listing platform
- Understand backend architecture and database relations
- Develop problem-solving abilities and debugging techniques
- Apply user-centric design principles in frontend development
- Prepare for real-world software development practices

3.4 Outcome of Training Work

- A **fully functional Book my stay application** was created
- Improved understanding of full-stack web development
- Gained exposure to **end-to-end project lifecycle**
- Prepared for **internship/job opportunities** with practical experience

CHAPTER 4

EVALUATION OF TRAINING

The industrial training undertaken at **Coder Roots, Mohali**, provided a highly enriching and practical learning experience. The training focused on equipping students with industry-relevant

technical skills and applying them through the real-world development of the **Book My Stay**. Evaluation of the training can be analyzed based on various key parameters:

4.1 Skill Development

During the course of training and project development, several technical skills were acquired and strengthened. These skills spanned across core programming, backend development, frontend design, and full-stack integration.

In the area of **Python Proficiency**, a strong foundation was developed in core Python concepts including syntax, control structures, object-oriented programming (OOP), data structures such as lists, dictionaries, and sets, as well as writing efficient backend logic. This allowed for the creation of modular and maintainable code throughout the project.

Database Management skills were developed by understanding the fundamentals of relational databases. Practical implementation was done using SQL , and SQLAlchemy was used for handle CRUD operations, and interact with the database securely and efficiently.

Finally, in the area of python development, the complete development cycle was experienced, involving seamless connection between the frontend, backend, and the database. This helped in understanding how different components of a web application interact and work together, leading to a more holistic approach to software development.

4.2 Project Execution and Application Building

- Successfully designed and developed a **Book My Stay** from scratch.
- Applied theoretical concepts learned during training to practical scenarios.
- Implemented two working modules: **User Module** and **Admin Module** with real features and database connectivity.

- Ensured functionality through rigorous **testing and debugging**.
- Demonstrated **independent problem-solving** in handling backend logic and data flow.

4.3 Professional Exposure

Throughout the training period, multiple professional and technical aspects were evaluated, leading to both personal and collaborative growth.

In terms of Mentorship, consistent support and guidance were provided by the training instructor, **Mr. Ankush**. His expert insights, structured explanations, and regular feedback played a crucial role in building a strong foundation in both theoretical knowledge and practical implementation.

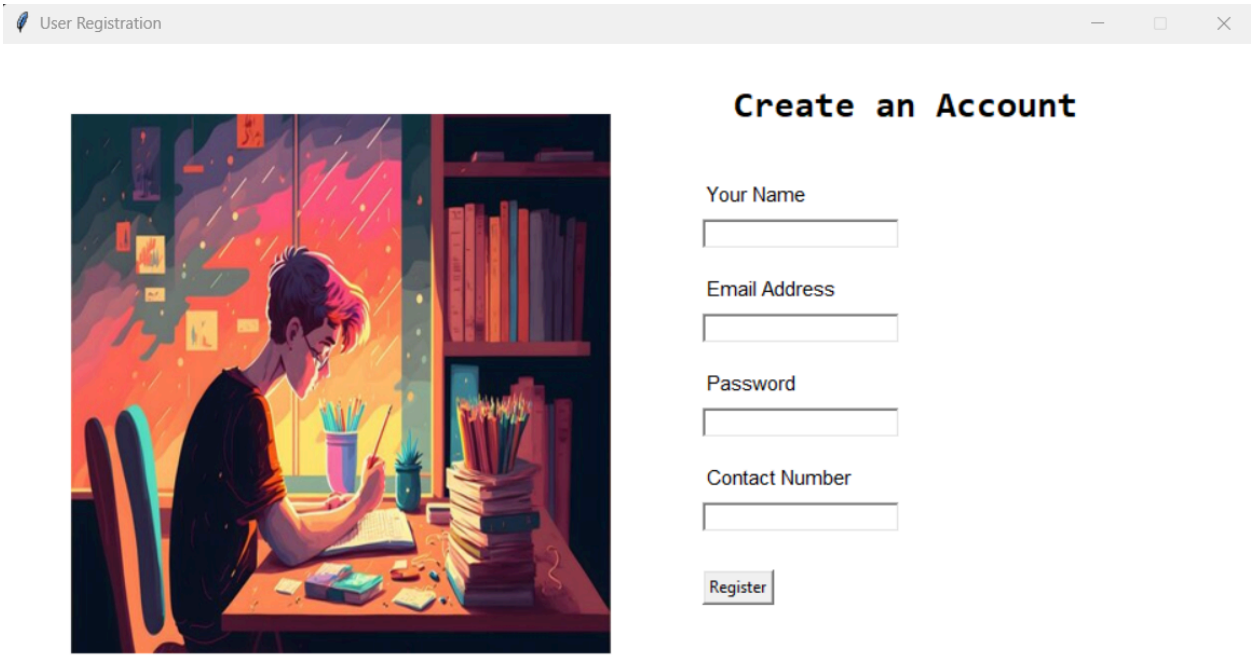
The value of **Teamwork** was recognized through collaborative sessions with peers. These interactions encouraged idea sharing, collective problem-solving, and constructive group discussions. In case of a team-based project, working together enabled smoother task division and mutual learning, which significantly enhanced the overall development process.

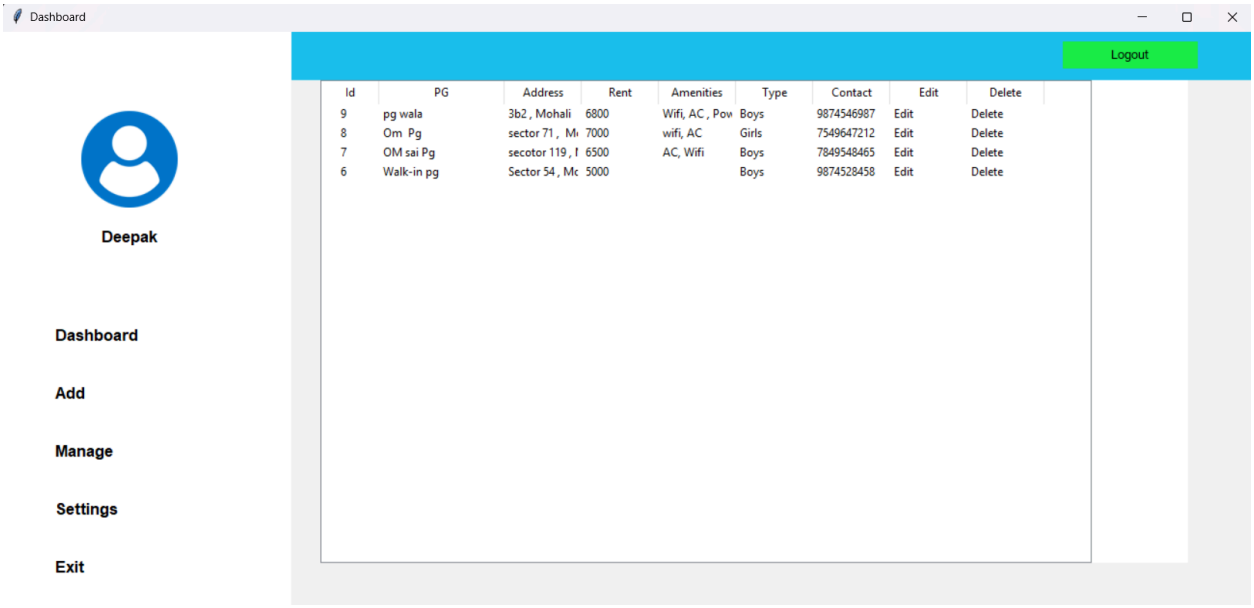
A significant improvement was observed in **Documentation** skills. Proper documentation practices were taught and applied, including writing a detailed description of the project's architecture, explaining the technologies used, and recording the training methodologies followed during the development cycle. This improved the ability to communicate technical details clearly and professionally.

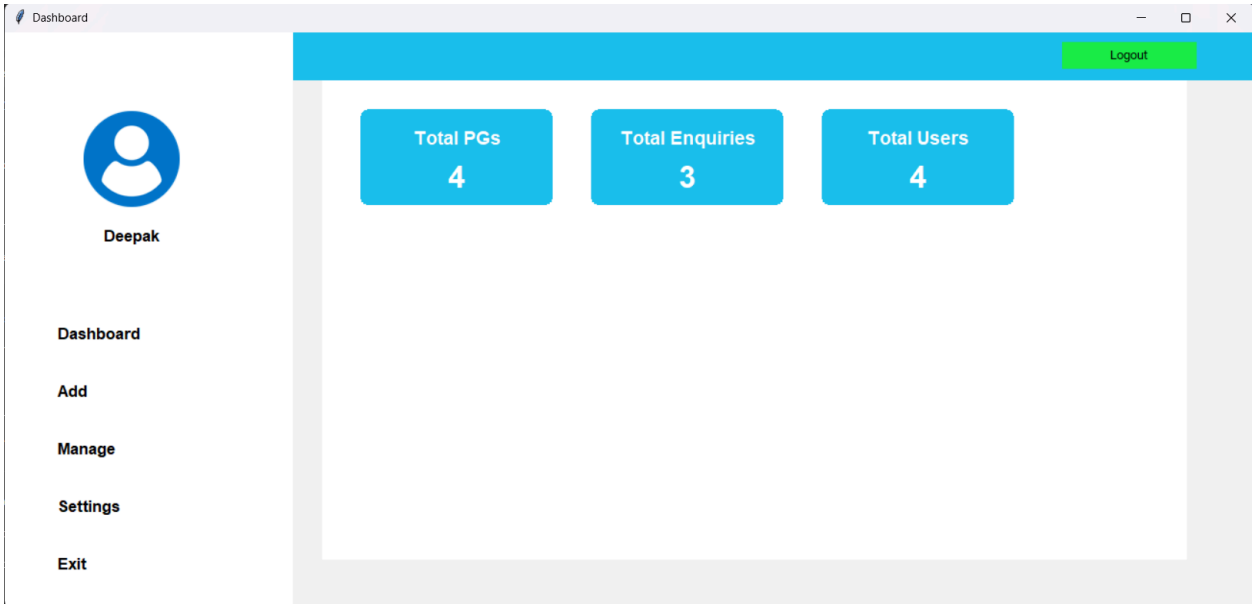
4.4 Learning Outcome

- Ability to develop a **functional, real-world web application** independently.
- Confidence in building backend logic and handling data using Tkinter and Python.
- Awareness of **software development lifecycle** (SDLC) stages

CHAPTER 5: SCREENSHOTS OF PROJECT



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Manage
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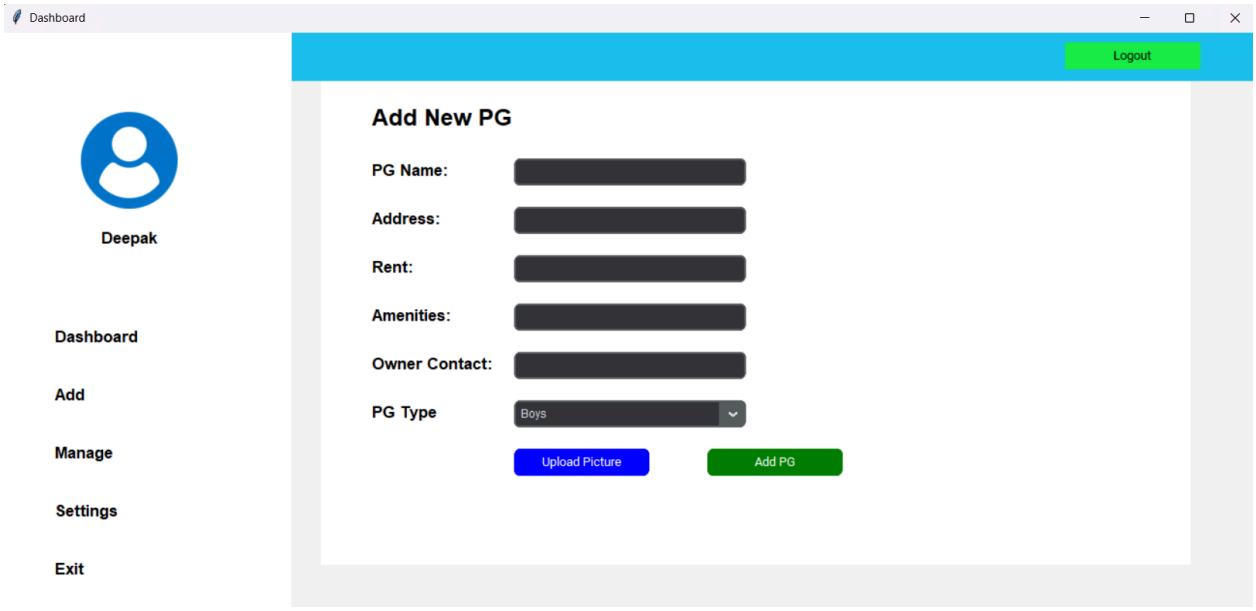
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Owner Contact:
PG Type
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Upload Picture
Add PG
Dashboard
Add
Manage
Settings
Exit

Sign-Up

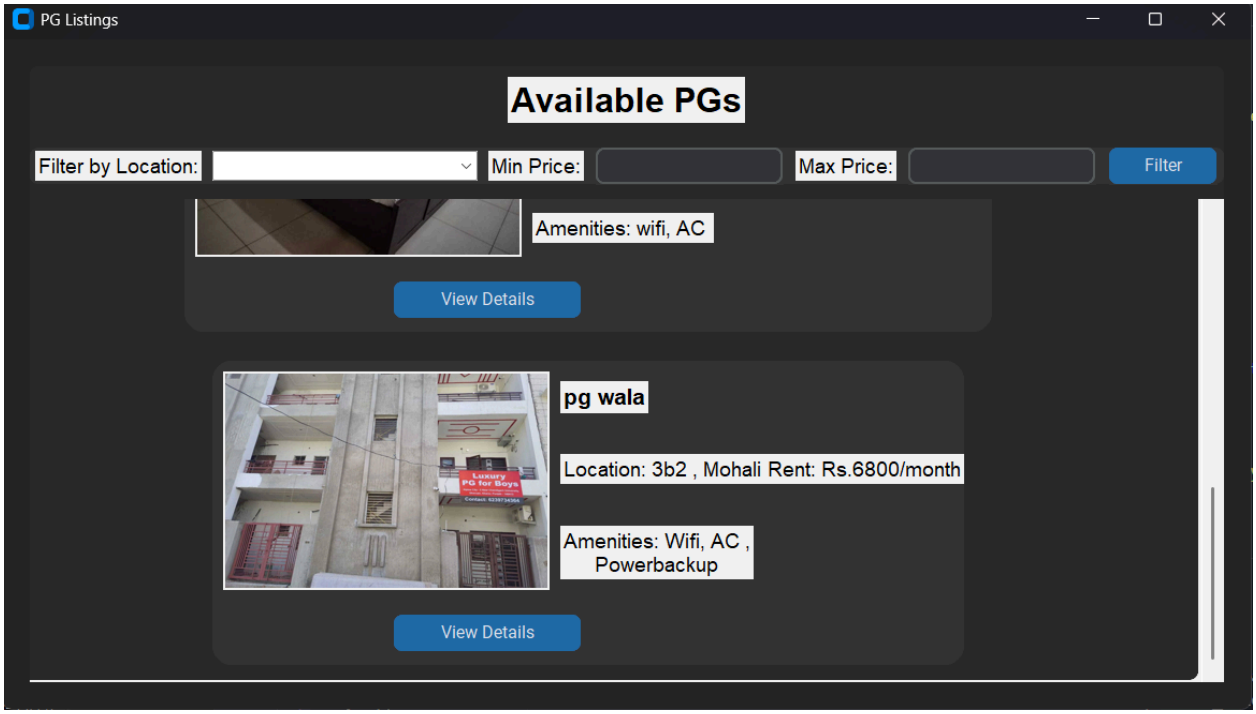
Welcome Back !!

Your Name

Password

Login

Don't have an account ? Register


PG Listings
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Filter by Location:
Min Price:
Max Price:
Filter
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View Details
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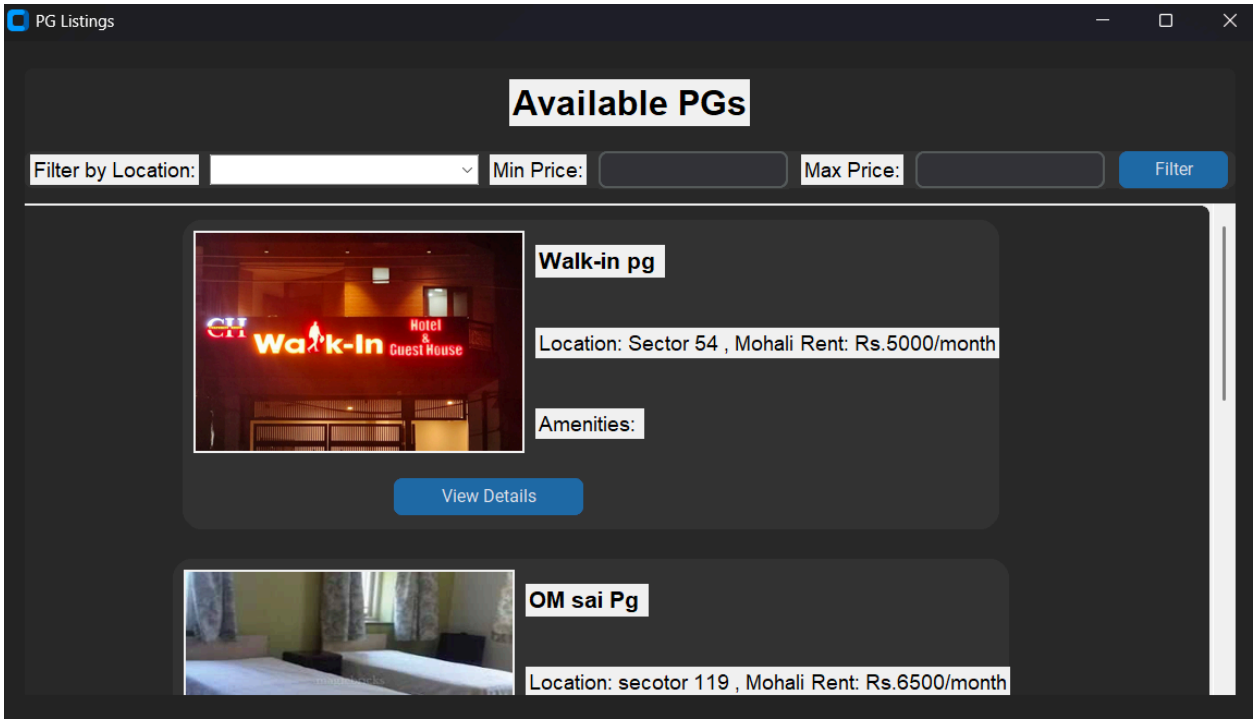
Amenities: Wifi, AC , Powerbackup
View Details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Available PGs
Filter by Location:
Min Price:
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Filter
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Amenities:
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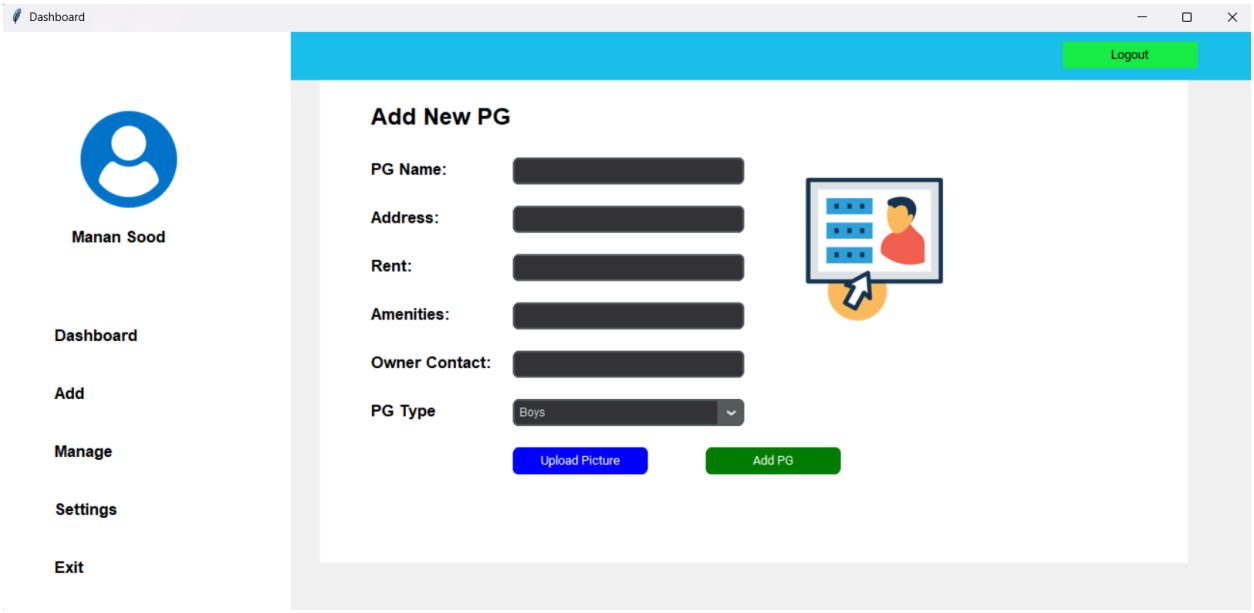
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Address:
Rent:
Amenities:
Owner Contact:
PG Type
Boys
Upload Picture
Add PG

CHAPTER 6: CONCLUSIONS AND FUTURE SCOPE

Conclusions

The development of the **Book My Stay** marked the culmination of a comprehensive industrial training program conducted at **Coder Roots, Mohali**. The application addresses a common and significant challenge faced by students and working professionals — locating reliable and affordable Paying Guest (PG) accommodations.

Through the practical application of programming and software development principles, the Book my stay project provided an excellent opportunity to integrate theoretical knowledge into a tangible product. The application was built using **Python**,**Tkinter**, and **SQL** , focusing on creating a dynamic and interactive web-based platform.

Major accomplishments include:

- **Design and Implementation**: A full-stack application was built from scratch with proper routing, authentication, database management, and CRUD functionalities.
- **Role-Based Functionality**: Two modules were developed — **User Module** for PG seekers and **Admin Module** for PG owners/admins to manage listings and inquiries.
- **Training Application**: Concepts learned during the training such as object-oriented programming, form handling, and Tkinter Tree view were successfully applied.
- **Database Integration**: A normalized database was created using SQL with python ensuring seamless data interaction.
- **Code Modularity**: The codebase was structured with clear separation between modules and static files.
- **User Experience**: A clean, intuitive interface was designed for ease of use and quick navigation.

The project served as a comprehensive learning exercise, enabling practical exposure to web development, backend integration, and basic deployment understanding. The mentorship

provided throughout the training by experienced instructors, especially **Mr. Ankush** played a vital role in ensuring quality and continuity in development.

Future Scope

While the current version of the Book My Stay is sufficient for basic operations, it can be expanded and optimized in several directions to enhance usability, scalability, and market-readiness.

1. Cloud Deployment

- Hosting the application on cloud platforms like **Heroku**, **PythonAnywhere**, **Render**, or **AWS EC2** to allow access across devices and locations.
- Use of environment variables and production-grade configurations for secure deployments.

2. Mobile Compatibility and Applications

- Development of mobile applications using **React Native** or **Flutter** for Android and iOS users.
- Improve responsiveness and optimize UI for mobile browsers.

3. Location-Based Services

- Integration of **Google Maps API** for viewing PG locations on a map.
- Use of geo-coordinates to filter results based on proximity to colleges, transport hubs, or workplaces.

4. Online Booking and Payment Integration

- Adding secure **payment gateway** integration for online booking or advance fee transactions.
- Implementation of transaction receipts and booking confirmations.

5. Real-Time Chat and Notifications

- Adding real-time communication between users and PG owners using WebSockets or Firebase.
- Implementation of email/SMS notifications for inquiries, updates, and verifications.

6. Advanced Search Filters

- Adding filters based on rent range, gender-specific accommodations, facilities (Wi-Fi, meals, laundry), sharing type (single/double/triple), etc.

7. User Reviews and Rating System

- Allowing users to post reviews and ratings for PGs they have stayed in.
- Displaying aggregate ratings to improve transparency and user trust.

8. Admin Analytics Dashboard

- Building an analytics dashboard for admins to monitor user activity, inquiries, and PG listing performance.
- Visual charts and statistical reports for decision-making.

9. Enhanced Security Features

- Encrypting passwords using secure hashing algorithms like bcrypt.
- Implementing **email verification**, **forgot password flow**, and **CAPTCHA** for login/register pages.

10. Scalability

- Transitioning to more scalable databases like **PostgreSQL** or **MySQL**.
- Adopting microservices-based backend architecture for larger feature integration in future phases.