QUARANTINE MANAGEMENT SYSTEM

A PROJECT REPORT SUBMITTED IN PARTIAL FULFILMENT OF REQUIREMENT FOR THE AWARD OF THE DEGREE

MASTER OF COMPUTER APPLICATIONS(MCA)

OF

MAHATMA GANDHI UNIVERSITY, KOTTAYAM

By

ROJILA SANTHOSH
REG No:22PMC146

MARIAN COLLEGE
KUTTIKKANAM
(AUTONOMOUS)

MAKING COMPLETE

Marian College Kuttikanam (Autonomous)

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Under the guidance of
Sr. Italia Joseph Maria
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PG Department of Computer Applications Marian College Kuttikanam (Autonomous)

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PG DEPARTMENT OF COMPUTER APPLICATIONS
Marian College Kuttikkanam Autonomous

MAHATMA GANDHI UNIVERSITY, KOTTAYAM

KUTTIKKANAM – 685 531, KERALA.

CERTIFICATE

This is to certify that the project work entitled

QUARANTINE MANAGEMENT SYSTEM

is a bonafide record of work done by

ROJILA SANTHOSH
REG No:22PMC146

In partial fulfilment of the requirements for the award of Degree of

MASTER OF COMPUTER APPLICATIONS [MCA]

During the academic year 2022-2023

SR. ITALIA JOSEPH MARIA

Assistant Professor

PG Department of Computer Applications
Marian College Kuttikkanam Autonomous

MR. WIN MATHEW JOHN

Head of the Department

PG Department of Computer Applications
Marian College Kuttikkanam Autonomous

Examiner

Examiner

ACKNOWLEDGEMENT

First of all, I thank the "God Almighty" for His immense grace and blessings in my life and at each stage of my project work.

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ROJILA SANTHOSH

ABSTRACT

The COVID-19 pandemic has highlighted the critical importance of efficient Quarantine Management Systems in curbing the spread of infectious diseases. is to help people through the unfortunate virus outbreak. The QMS offers a user-friendly web or mobile interface for individuals to register and provide essential personal and contact information. The website provide information about the quarantine centers in each district and the users will be able to search location by district and choose available centers. The Quarantine Management System offers a comprehensive solution to enhance the efficiency and safety of managing quarantine facilities.

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INTRODUCTION

1. INTRODUCTION

1.1 PROBLEM STATEMENT

The existing system is fully manual. It requires users to directly visit places to view the houses, by doing so they are risking their own health. They had to manually contact government officials or others for places to stay in quarantine. The users were responsible for their daily needs. The existing system does not equip citizens with necessary information and features. Citizens often have to undergo long waiting processes in order contact officials and can't completely rely on them for their needs.

1.2 PROPOSED SYSTEM

The proposed system is completely integrated online, and the users are needed to register in order to book a house to stay. Its implementation can significantly contribute to minimizing the spread of contagious diseases and maintaining the well-being of individual under quarantine. This Quarantine Management System offers a comprehensive solution to enhance the efficiency and safety of managing quarantine facilities.

FUNCTIONAL REQUIREMENTS

2. FUNCTIONAL REQUIREMENTS

1. **A User Registration and Authentication:**
    - Designing a user-friendly registration process that captures essential user information while ensuring data security and privacy.
    - Implementing a robust authentication mechanism to verify user credentials and protect user accounts from unauthorized access.

2. **House Viewing on the Home Page:**
    - Creating a home page that showcases available houses to users.
    - Displaying relevant information such as property details, images, location and pricing to attract user interest.

3. **Search Functionality:**
    - Developing a comprehensive search feature that allows users to filter houses based on specific criteria, such as location, price range, number of persons.
    - Implementing an efficient search algorithm that retrieves accurate and relevant search results to enhance user satisfaction.

4. **House Booking:**
    - Designing a seamless and user-friendly house booking process that enables users to select desired houses and initiate booking requests.

5. **Document Upload and Verification:**
    - Creating a secure and streamlined document upload feature that allows users to submit required documents for verification, such as vaccination certificate and covid test result.
    - Implementing a verification process that efficiently reviews and validates the uploaded documents to ensure authenticity and reliability.

6. Owner House Addition:

- Creating a user-friendly interface that enables property owners to add new houses to the platform.
- Implementing a system that securely manages and stores house information, including descriptions, images, pricing, and capacity, making it accessible to users during the search and booking processes.

NON-FUNCTIONAL REQUIREMENTS

3. NON-FUNCTIONAL REQUIREMENTS

RELIABILITY

The reliability of the overall project depends on the reliability of the separate components. The main pillar of reliability of the system is the backup of the database which is continuously maintained and updated to reflect the most recent changes, Also the system will be functioning inside a container. Thus, the overall stability of the system depends on the stability of container and its underlying operating system.

AVAILABLITY

The system should be always available, meaning the user can access it using a web browser, only restricted by the down time of the server on which the system runs. A customer-friendly system which is access of people around the world should work 24 hours. In case of a hardware failure or database corruption, a replacement page will be shown. Also, in case of a hardware failure or database corruption, backup of the database should be retrieved from the server and saved by the Organizer. Then the services will be restarted. It means 24 X 7 availability.

MAINTAINABLITY

A commercial database is used for maintaining the database and the application server takes care of the site. In case of a failure, a re-initialization of the project will be done. Also, the software design is being done with modularity in mind so that maintainability can be done efficiently.

SUPPORTABLITY

The code and supporting modules of the system will be well documented and easy to understand. Online documentation and help system requirements.

FEATURES AND HIGHTLIGHTS

4. FEATURES AND HIGHLIGHTS

- There are 3 users in the system admin, owner, user.
- User can search a house based on location and capacity.
- During booking user can select check in and check out date.
- Users can upload documents while booking
- Owner verifies the documents uploaded by user and approve or reject bookings.
- Owner can add stay homes details.
- Admin approves or reject the owner based on the documents they upload during registration
- The owner will be able to login to the system if the admin approves him/her.

TECHNICAL ASPECTS

5.1 ARCHITECTURE OF PROJECT

1. Presentation Layer

Templates: HTML templates are used to define the structure and layout of the user interface. Django's template engine allows you to dynamically populate the templates with data.

2. Application Layer

Controllers: In Django, controllers are implemented as views, which handle the request/response flow and control the overall behavior of the application.

3. Business Logic Layer

Models: Django's models define the data structure and business logic of the application. Models represent entities like users, bookings, flights, hotels, etc. They handle database operations, such as querying, inserting, updating, and deleting data. Models can also include methods to perform complex business logic.

4. Jazzmin

Django Jazmin is a customizable and modern admin interface for Django applications. It provides an alternative user interface for the Django admin site with a more visually appealing design and additional features. Jazmin aims to enhance theuser experience and improve the productivity of developers working with Django.

By installing and configuring django-jazzmin in your Django project, you cancustomize the admin interface by changing themes, layouts, icons, and other visual elements. It offers features such as responsive design, drag-and-drop sorting, inline editing, and support for various third-party Django packages. To use Django Jazzmin, you typically need to install it using a package manager like pip, add it to your Django project's settings, and configure it according to your preferences.

Here's a basic example of how to install Django Jazzmin using pip:

pip install django-jazzmin

Once installed, you would need to add 'jazzmin' to the INSTALLED_APPS list in your Django project's settings.py file:

INSTALLED_APPS = [

… 'jazzmin',

…

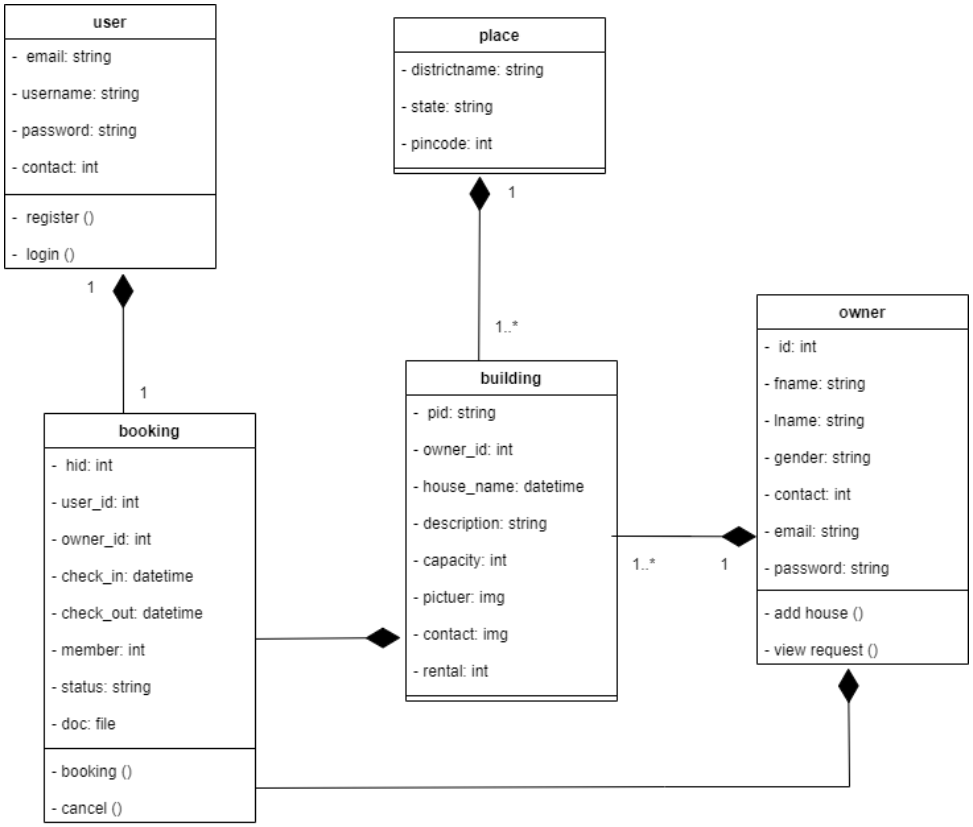
]

Afterwards you can customize Django Jazzmin by modifying the settings in your Django project's settings.py file.

5.2 THIRD PARTY LIBRARIES

- **Django-jazzmin:** a drop-in app to jazz up your Django admin site, with plenty of things you can easily customize, including a built-in UI customizer.
- **Pillow**: Pillow library is for image processing tasks such as opening, manipulating, and saving images.

5.3 CLASS DIAGRAM



CHALLENGES FACED

6. CHALLENGES FACED

- When it comes to the validation area i found difficulties in validating check in and check out fields.
- I felt it’s difficult to set the validation for a home stay date for a particular house taken by one person can’t be taken by another one.
- The documents uploaded by the owner during registration should be approved by the admin. Implementing this condition into my project was difficult

FUTURE ENHANCEMENT

7. FUTURE ENHANCEMENT

- **Payment Options:**

  Implement a secure and convenient payment system that allows users to make online payments for house bookings.

- **Chat Option between Users and Owners:**

  Develop a real-time chat feature that enables direct communication between users and property owners.

- **Daily Updates of COVID-19 Positives:**

  Integrate a reliable data source or API to provide daily updates on COVID-19 positive cases in relevant areas.

CONCLUSION

8. CONCLUSION

In conclusion, a quarantine home management system is a vital tool for efficiently and effectively managing individuals' isolation and quarantine periods. The system provides an easy medium for citizens to access its features. The objective of the project is to provide an online portal for the user. The purpose is to design a system which reduces the burden of having to visit people and houses for rent. The development of a quarantine home management system is crucial for effectively managing individuals' isolation and quarantine periods. By offering an online platform, individuals can easily search and view houses from the comfort of their homes, saving time and effort.

By implementing a user-friendly interface, the system enhances accessibility and convenience for users. They can easily navigate through the platform, search for specific criteria, and make bookings with minimal hassle.

Github repository of the project: https://github.com/RojilaS/Quarantine-management.git

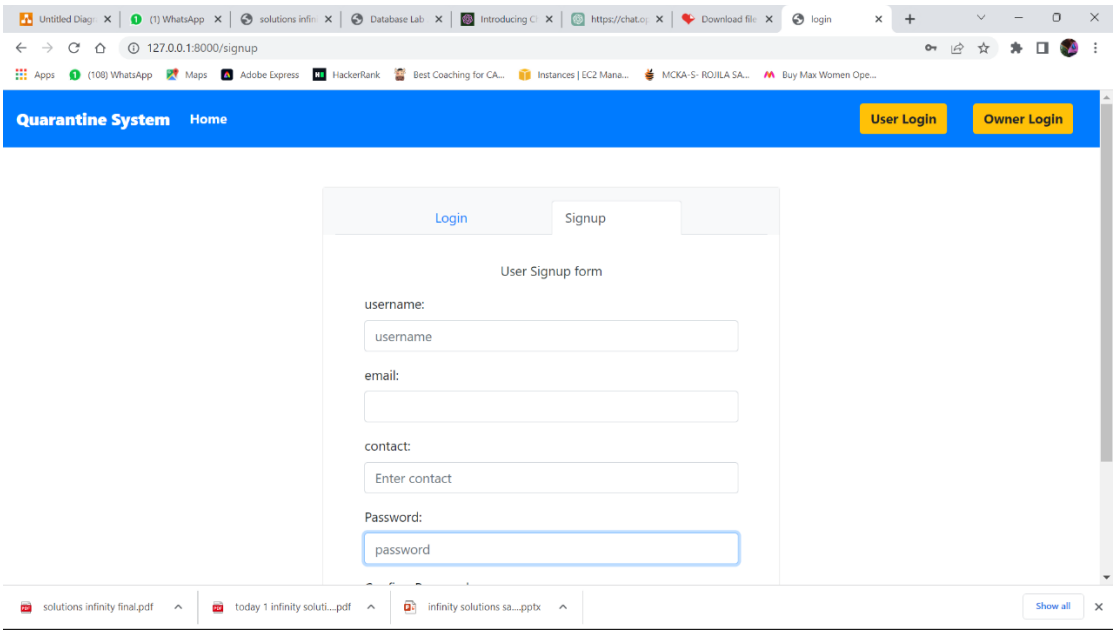
REFERENCE

9. REFERENCE

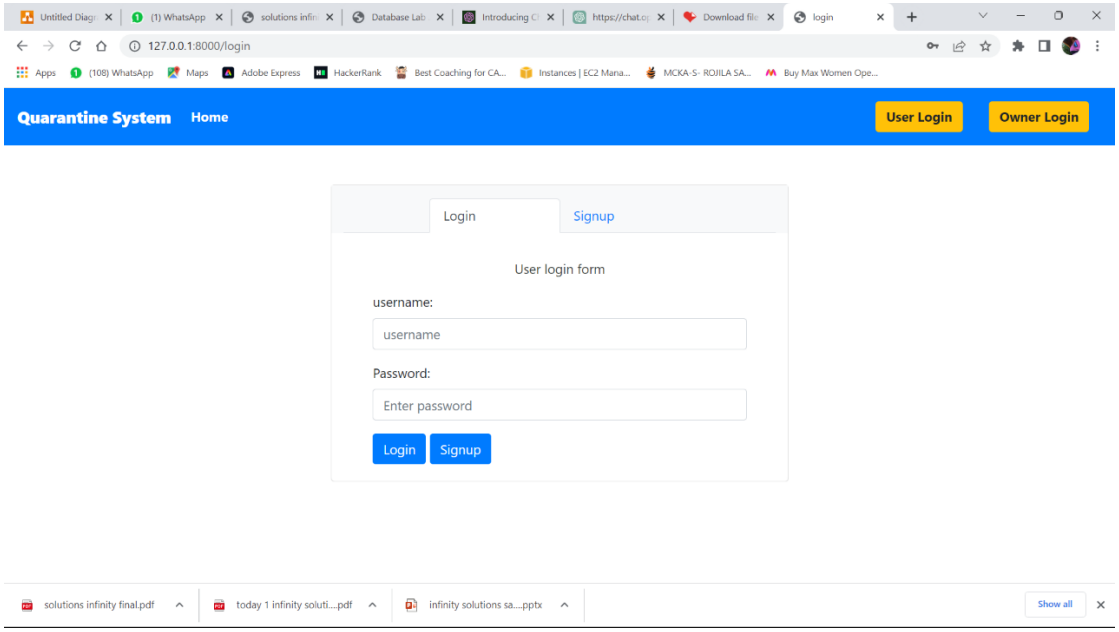
https://www.mohfw.gov.in/
https://www.fabhotels.com/hotels-with-quarantine-facility
https://www.travelguru.com/hotels/quarantine-self-isolation-hotels-in-cochin

ANNEXURE

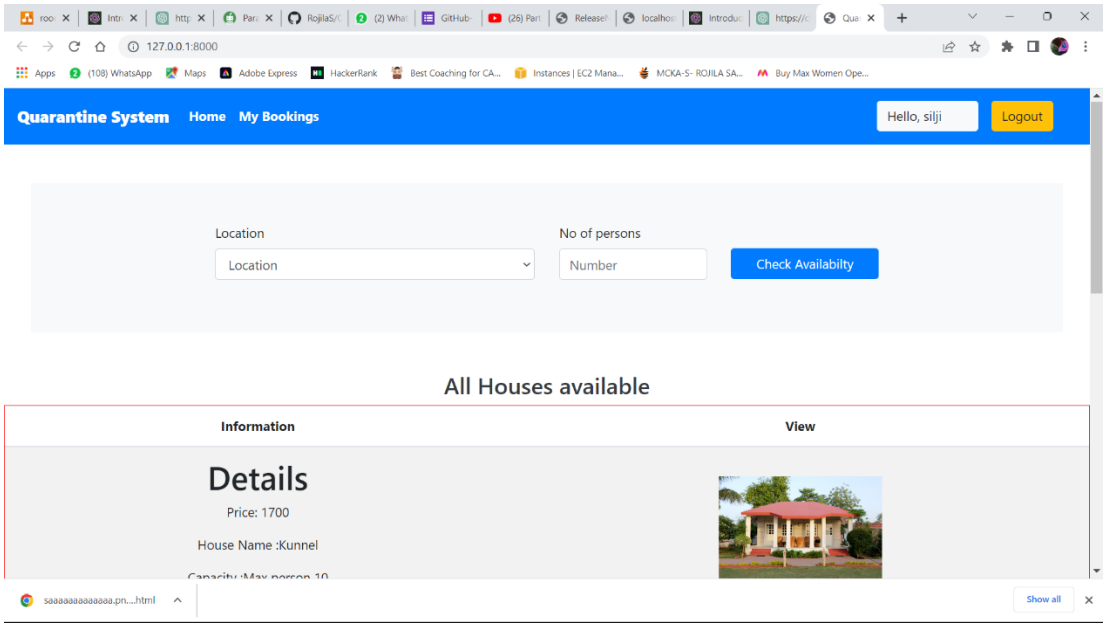
10.1 USER REGISTRATION



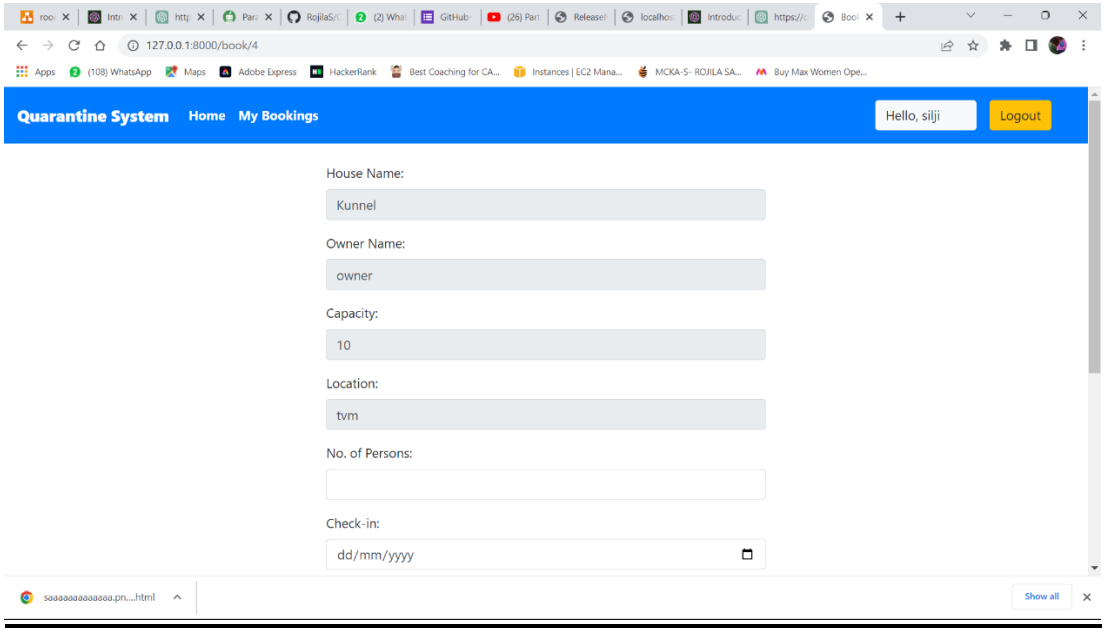
10.2 USER LOGIN PAGE



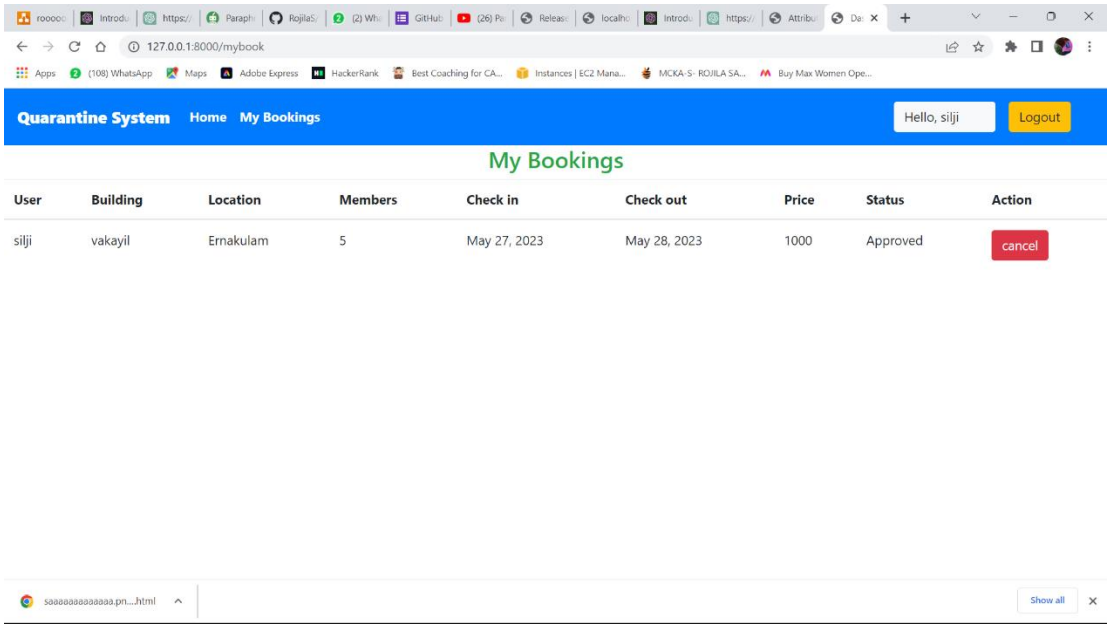
10.3 USER HOME PAGE



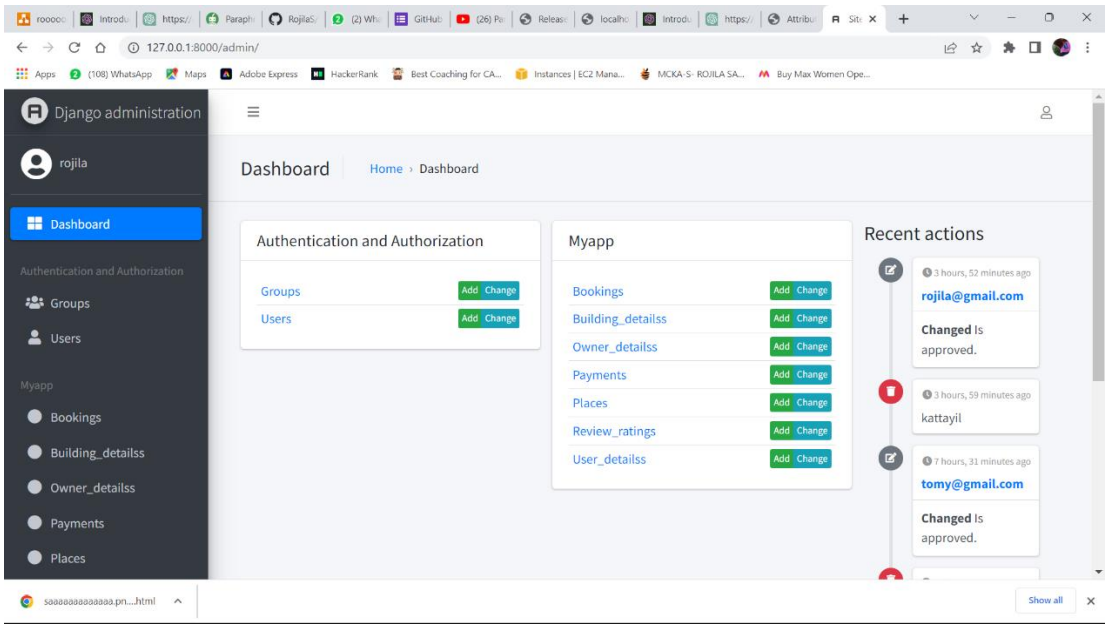
10.4 BOOKING PAGE



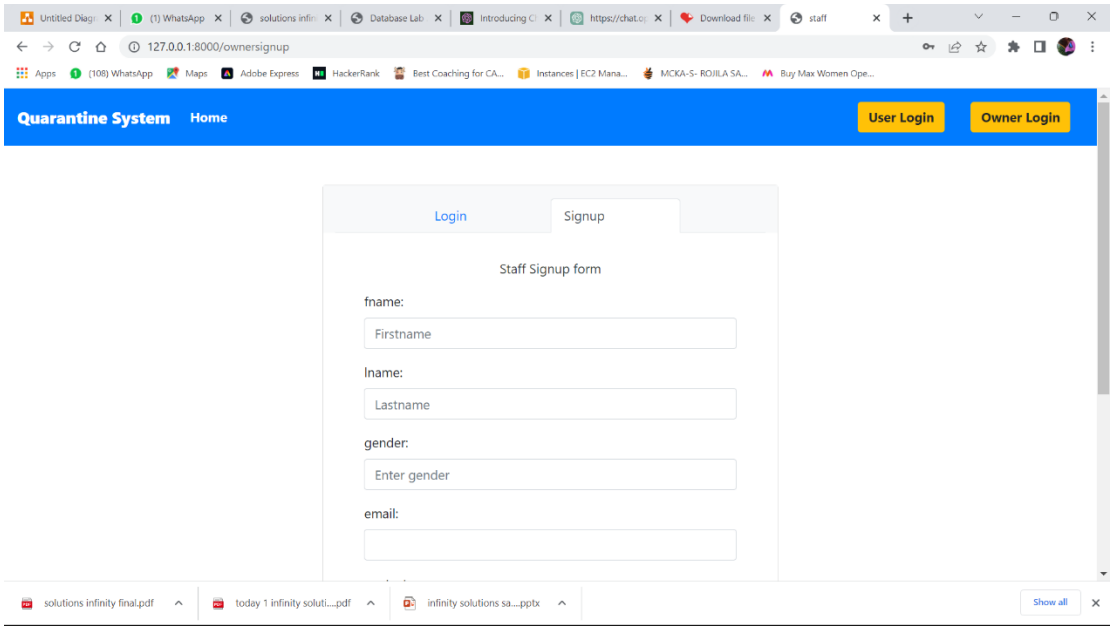
10.5 MY BOOKING

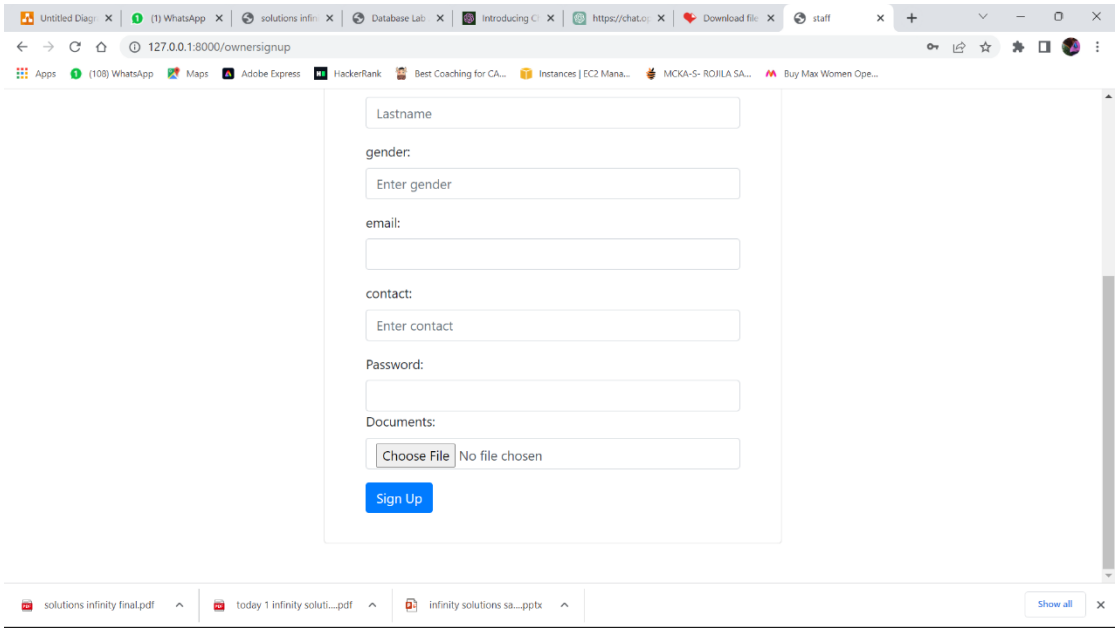


10.6 ADMIN DASHBOARD

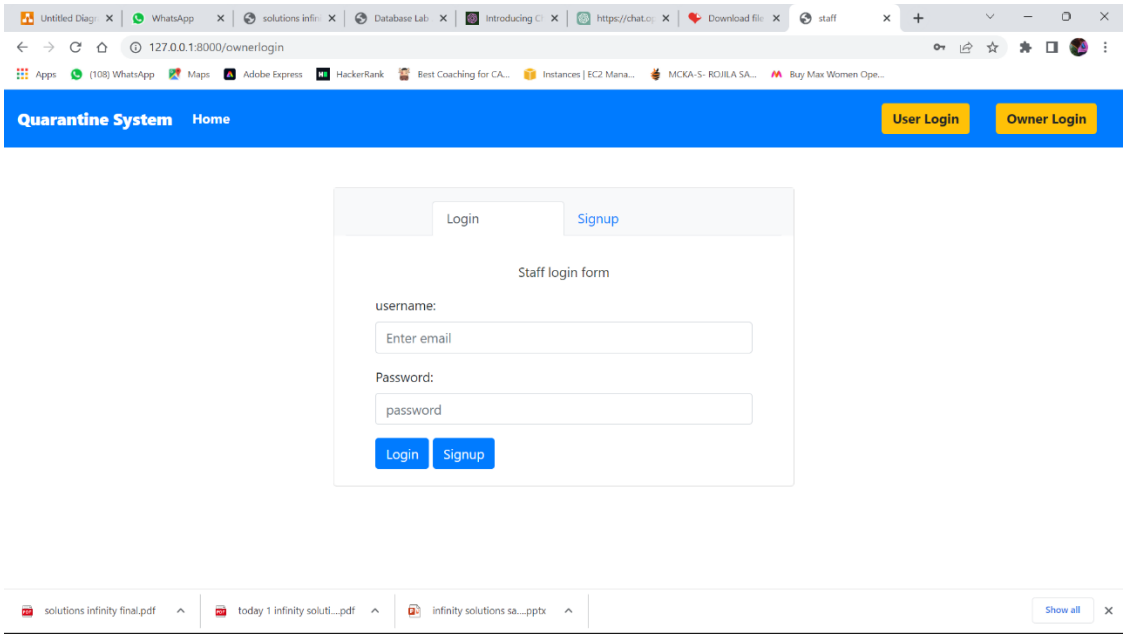


10.7 OWNER SIGNUP

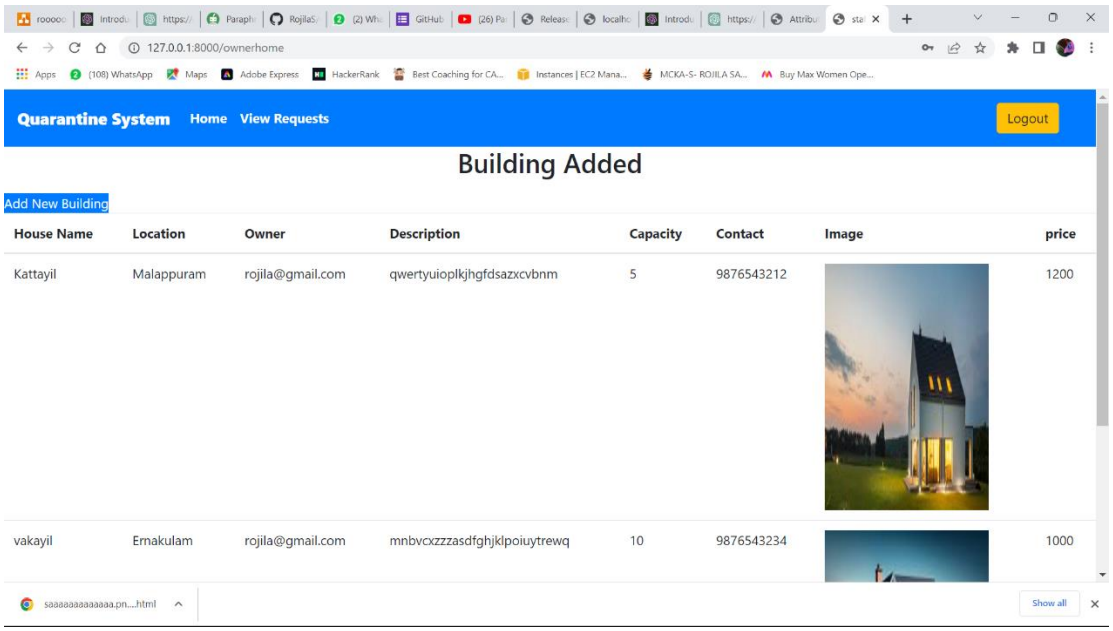




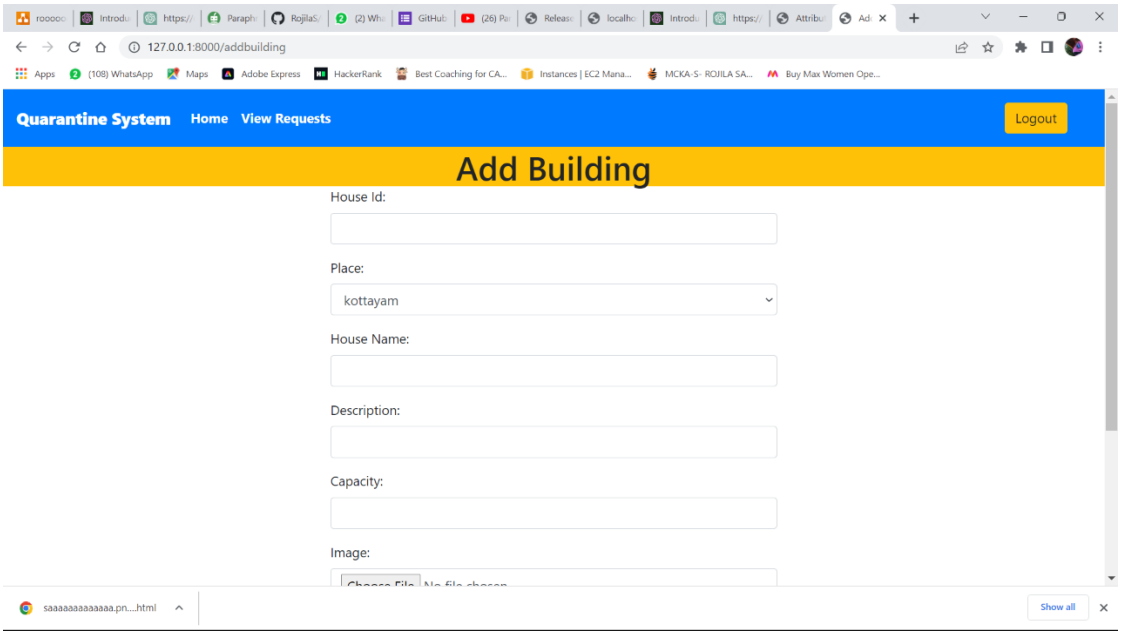
10.8 OWNER LOGIN



10.9 OWNER HOME PAGE



10.10 ADD BUILDING PAGE



10.11 HOUSE REQUEST PAGE