Object Oriented Analysis and Design using Java (UE20CS352)

Project Title - AirBnb Clone

Team:

1. Mrunalini Thamankar D – PES1UG20CS565
2. N V Bharath Ithal – PES1UG20CS567
3. Thejas N U – PES1UG20CS606
4. Veeresh R G – PES1UG20CS609

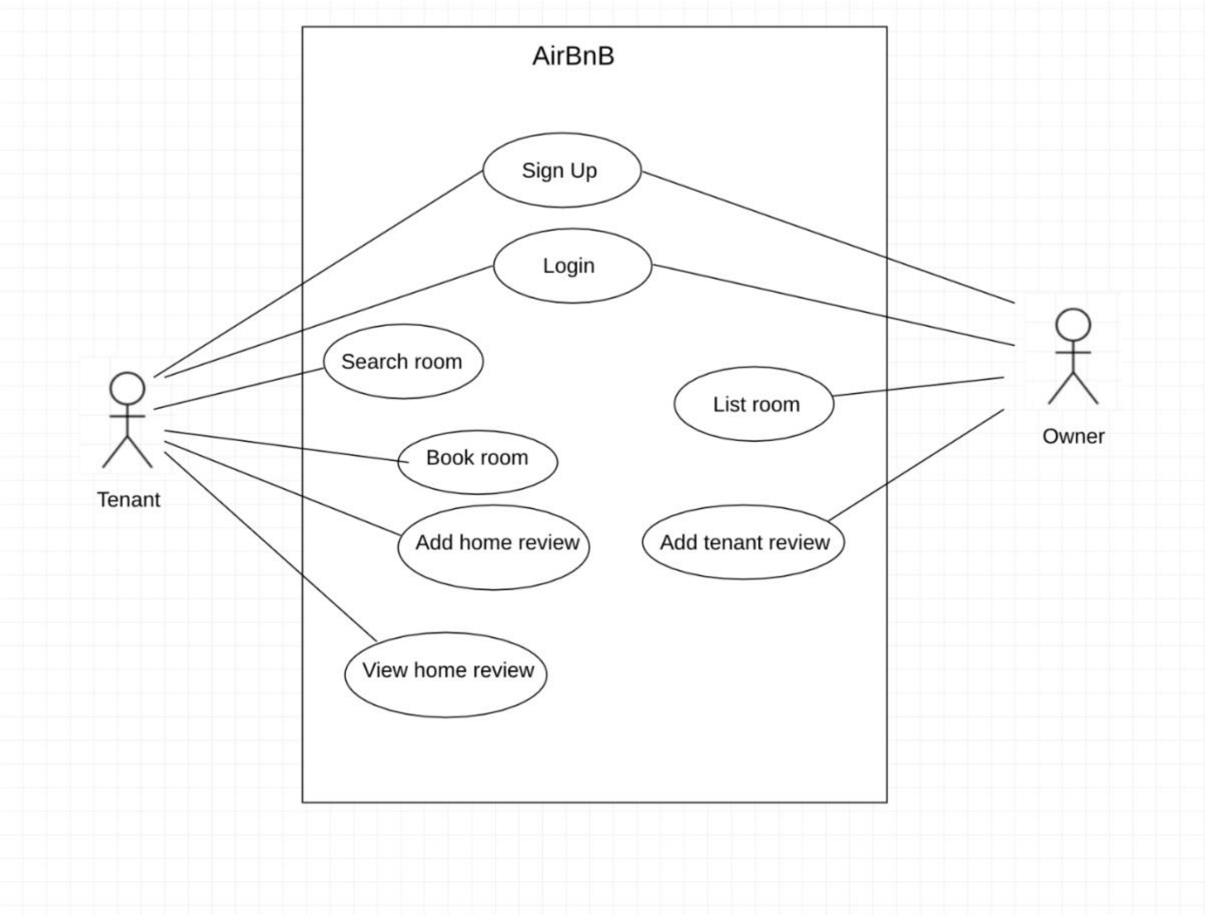
Abstract:

The Airbnb clone Java project is a web-based application that emulates the functionalities of the original Airbnb website. It allows users to search for and book accommodations, just like the original Airbnb website. The application is designed to provide a platform for property owners to list their properties and for users to search for suitable accommodations based on their preferences. The project is developed using Java programming language and web technologies such as HTML, CSS, JavaScript, and Bootstrap. The Model-View-Controller (MVC) architectural pattern is used to ensure a clear separation of concerns.

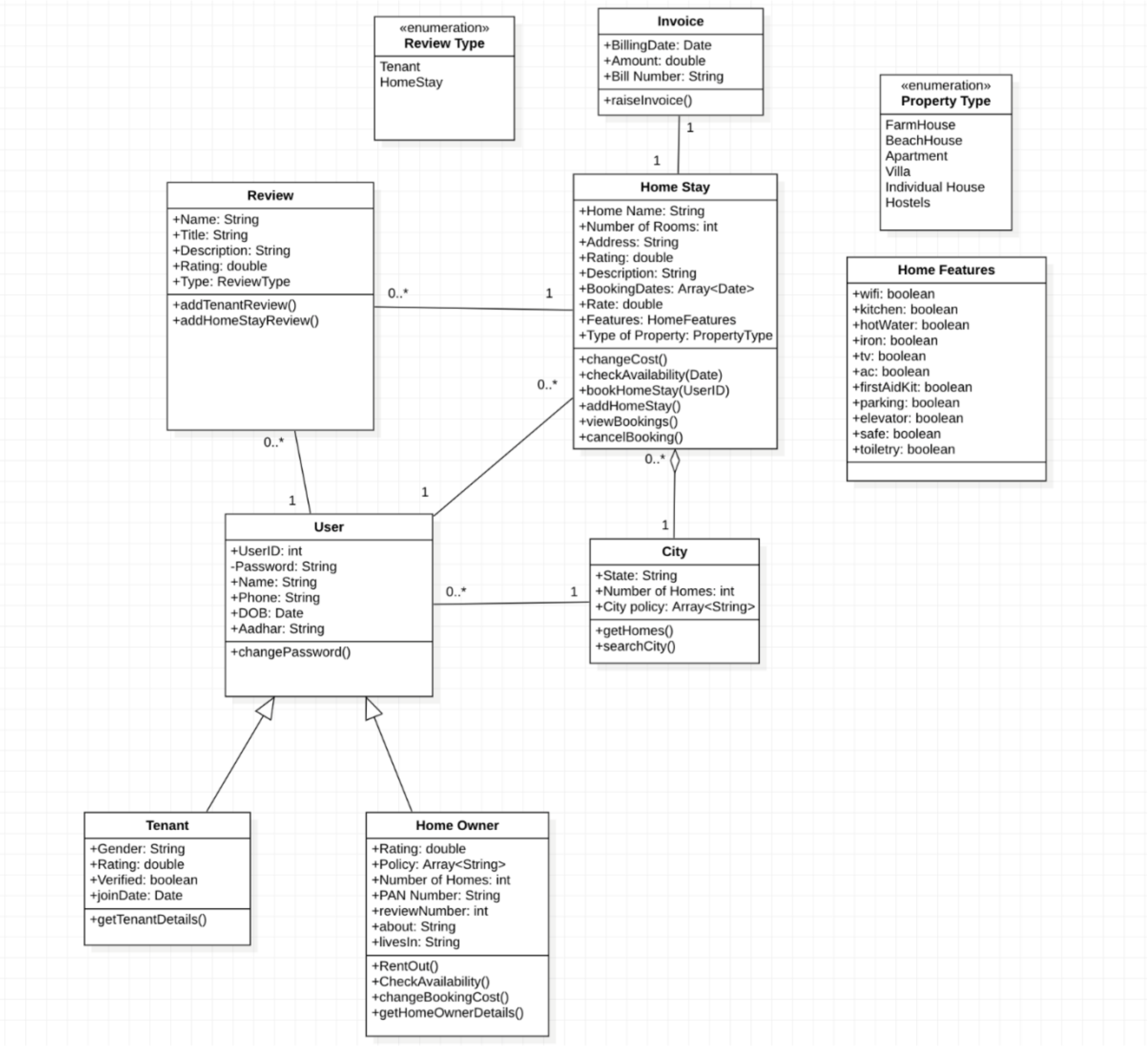
The application is designed to provide a platform for property owners to list their properties and for users to search for suitable accommodations based on their preferences. The main features of the application include a user registration and login system, property listing and management, search and add and view reviews.

<u>Models:</u>

Use case diagram:



Class model:



Architecture used:

This project was built using the Model-View-Controller(MVC) architecture. It is an architectural pattern that separates an application into three main logical components: the model, the view, and the controller. Each of these components are built to handle specific development aspects of an application.

Design principles and patterns:

- **Singleton**: Springboot automatically uses singleton pattern. It creates only a single object of a class and injects it into the required class.

- **Chain of responsibility:** The request is first handles by the root controller. Depending upon whether tenant or owner is chosen, the control moves to either tenant controller or owner controller respectively which is then handled by the respective services where the repositories for the CRUD operations.
- **Single responsibility principle:** The tenant and owner responsibilities have been separated.
- **Liskov substitution principle:** A base class called User can be replaced with objects of either tenant or owner without changing the functionality of the application.
- **Interface segregation principle:** The interfaces of owner and tenant services are separated.

Link:

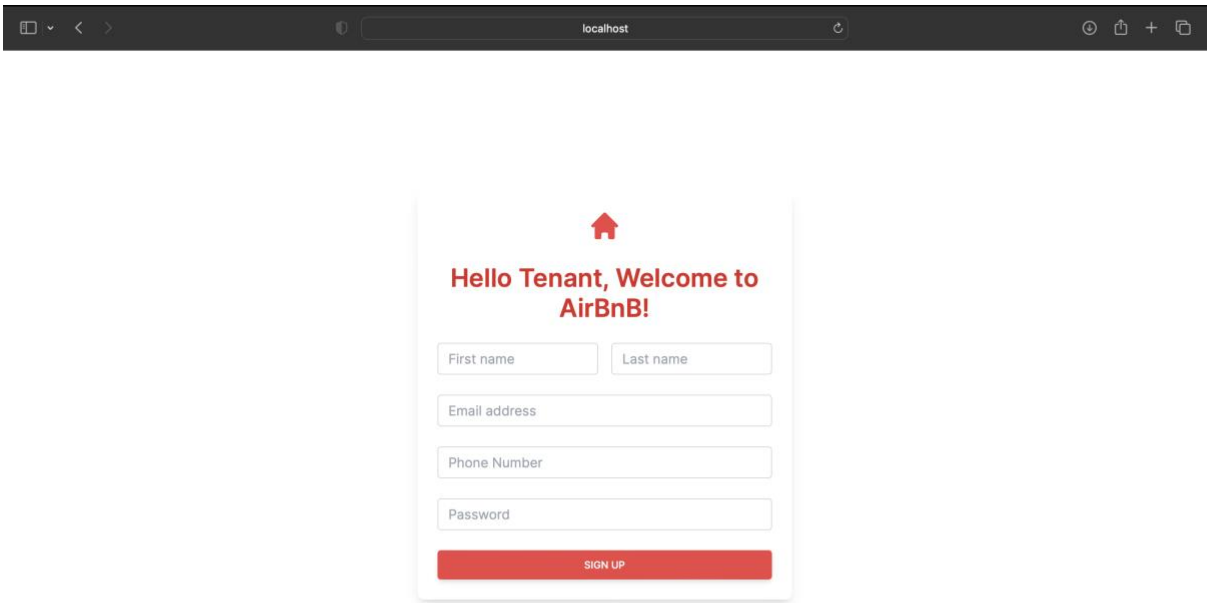
https://github.com/ThejasNU/AirBnb-Clone

Contributions:

- Thejas N U: SpringBoot setup, User login/signup, Search homes by City, Book Room, CSS Styling
- Mrunalini Thamankar: Add Tenant Review, Tenant dashboard
- Bharath Ithal: Add Home Review, View Tenant Reviews
- Veeresh R G: Owner Dashboard, View Home Reviews

Screenshots:

Tenant Login and Sign Up:



Hello Tenant, Welcome to AirBnB!

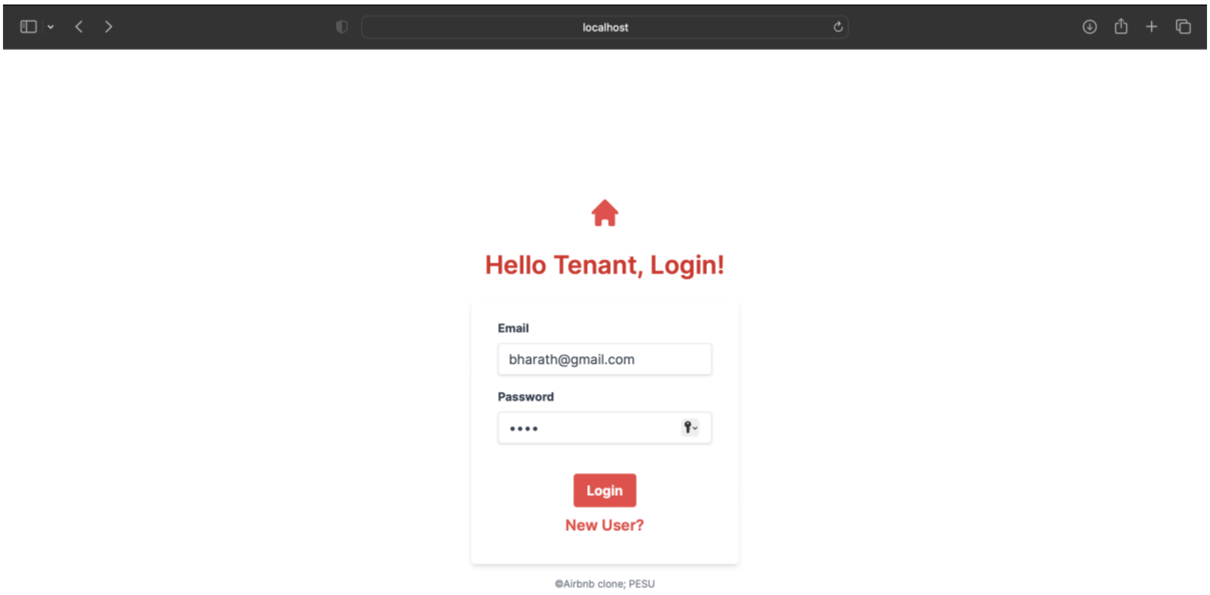
First name

Last name

Email address

Phone Number

Password



Hello Tenant, Login!

Email

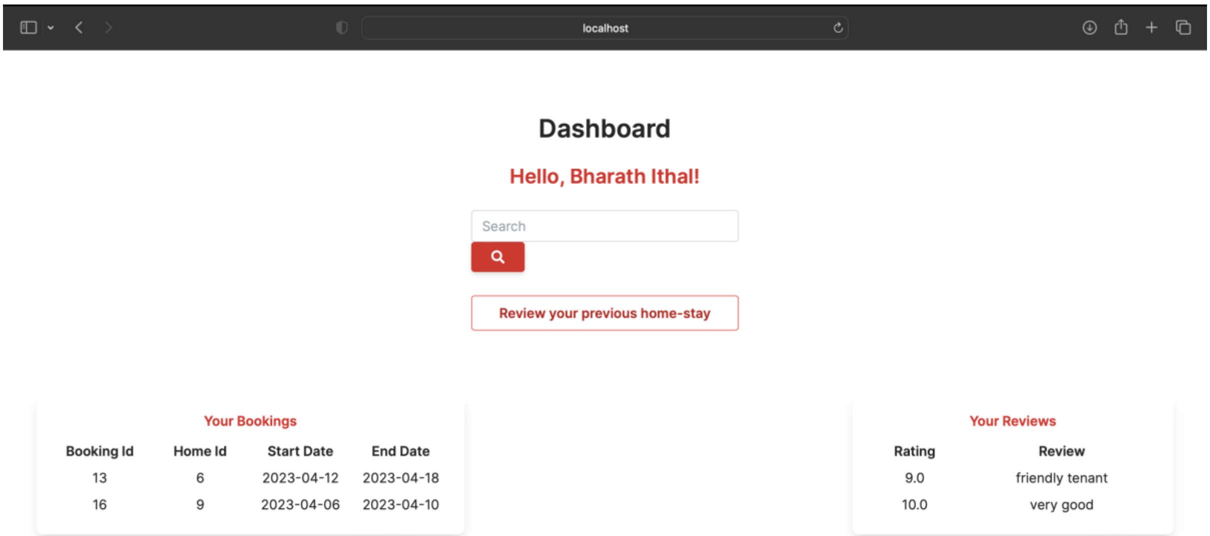
bharath@gmail.com

Password

••••

©Airbnb clone; PESU

Tenant dashboard after logging in:



Dashboard

Hello, Bharath Ithal!

Your Bookings

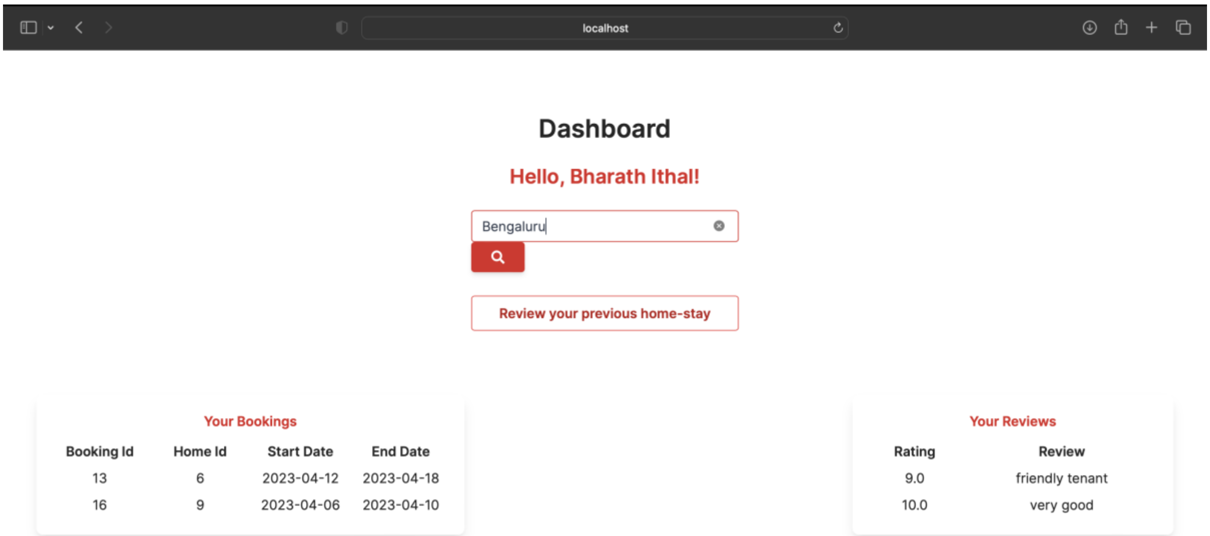
Booking Id	Home Id	Start Date	End Date
13	6	2023-04-12	2023-04-18
16	9	2023-04-06	2023-04-10

Your Reviews

Rating	Review
9.0	friendly tenant
10.0	very good

Search stays based on city:

Before:



Dashboard

Hello, Bharath Ithal!

Bengaluru

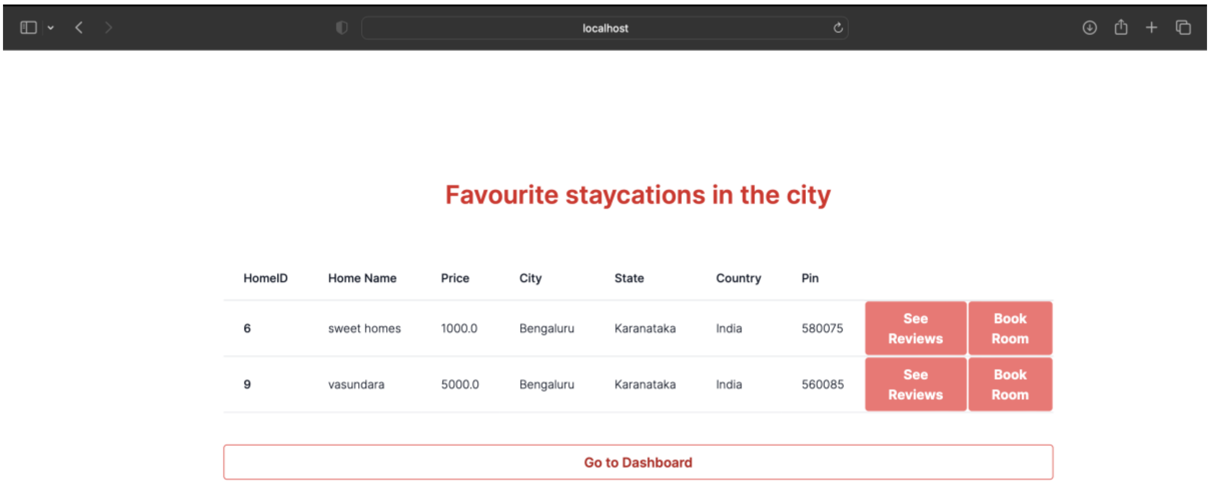
Your Bookings

Booking Id	Home Id	Start Date	End Date
13	6	2023-04-12	2023-04-18
16	9	2023-04-06	2023-04-10

Your Reviews

Rating	Review
9.0	friendly tenant
10.0	very good

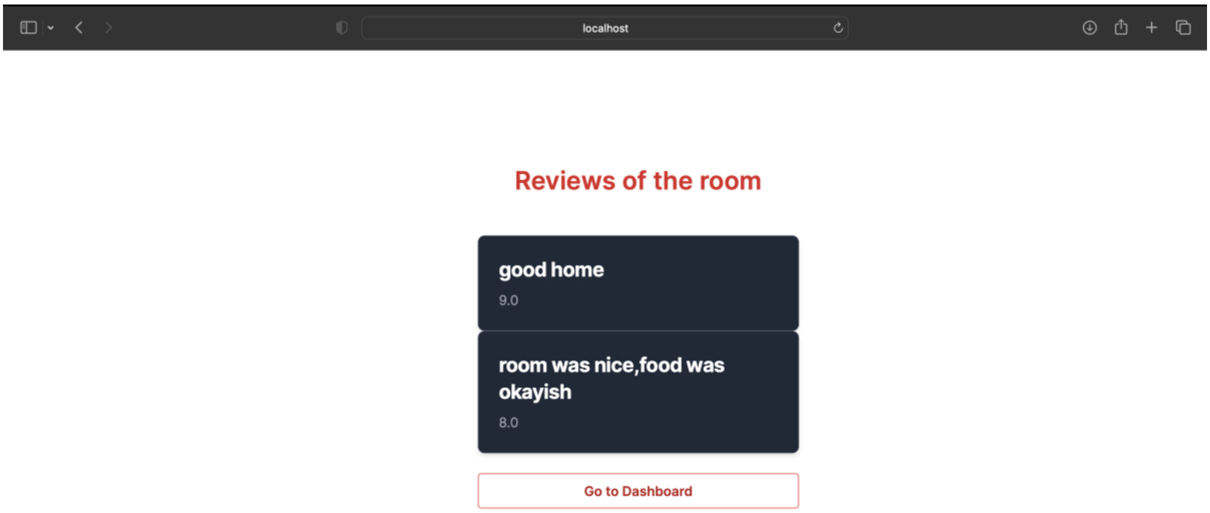
After:



Favourite staycations in the city

HomeID	Home Name	Price	City	State	Country	Pin		
6	sweet homes	1000.0	Bengaluru	Karanataka	India	580075	See Reviews	Book Room
9	vasundara	5000.0	Bengaluru	Karanataka	India	560085	See Reviews	Book Room

Home reviews:



Reviews of the room

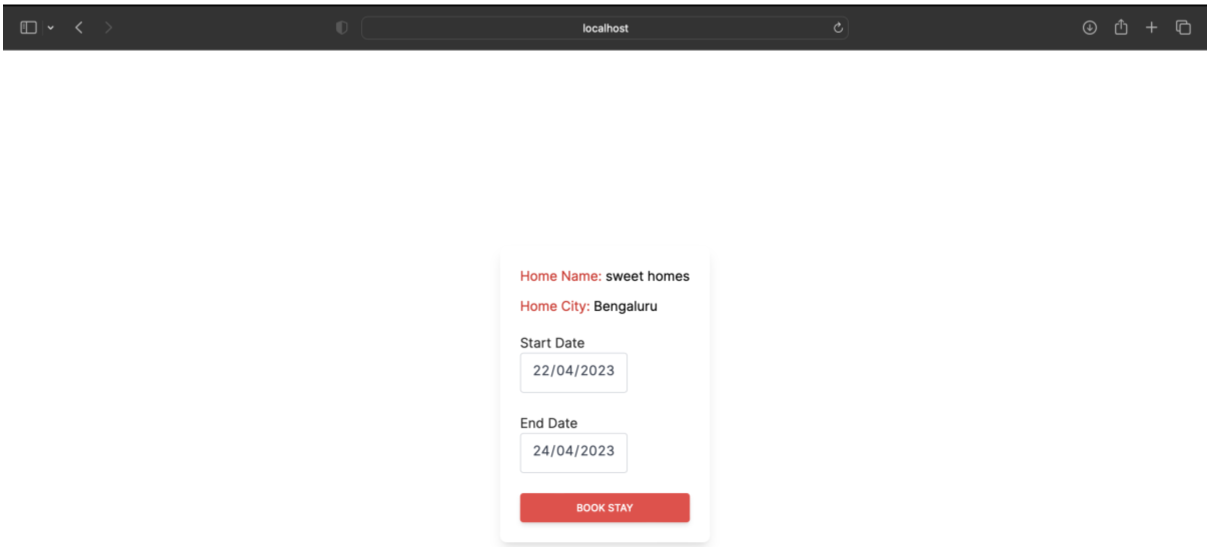
good home

9.0

room was nice,food was okayish

8.0

Home booking page:



Home Name: sweet homes

Home City: Bengaluru

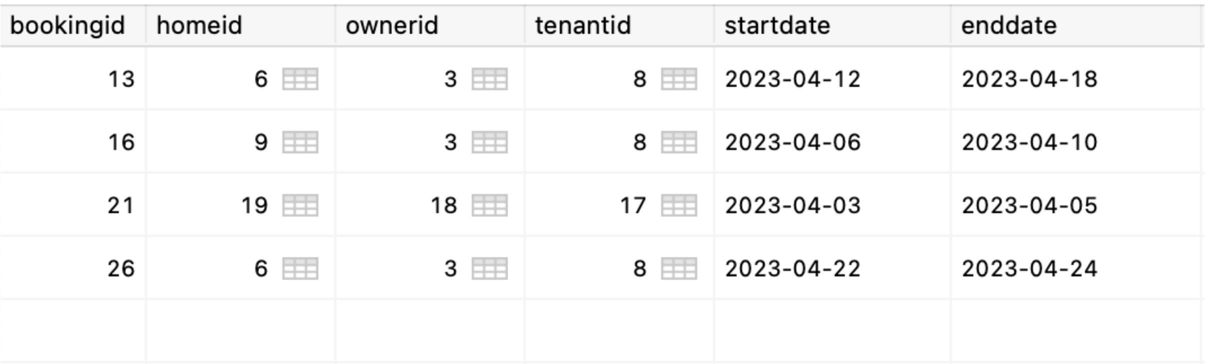
Start Date

22/04/2023

End Date

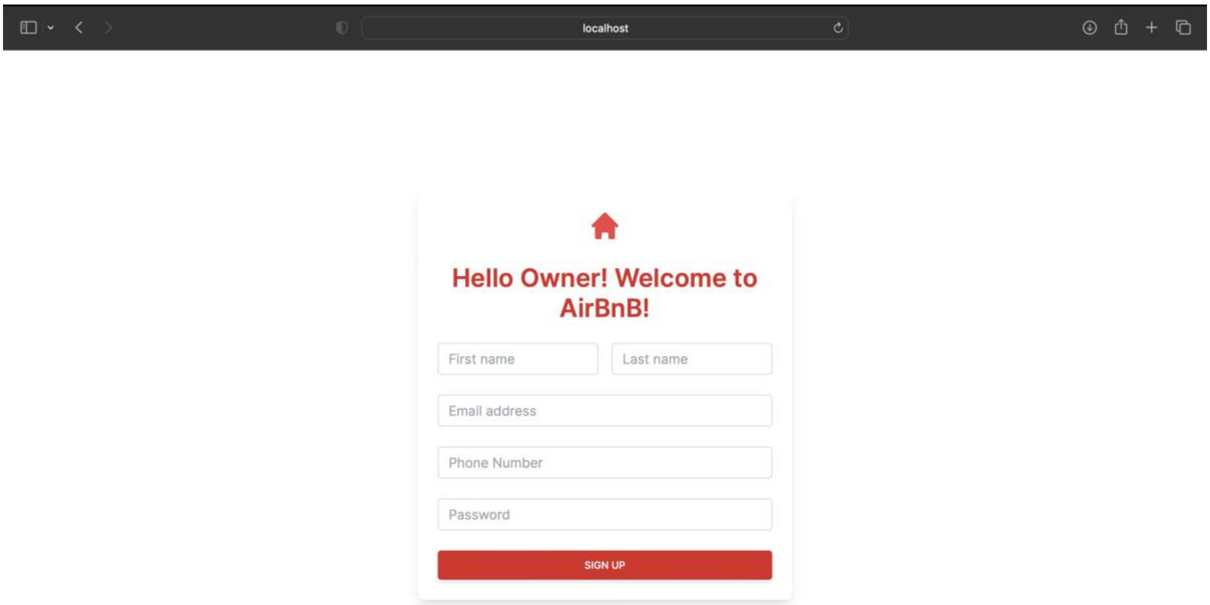
24/04/2023

Database update after booking:



bookingid	homeid	ownerid	tenantid	startdate	enddate
13	6	3	8	2023-04-12	2023-04-18
16	9	3	8	2023-04-06	2023-04-10
21	19	18	17	2023-04-03	2023-04-05
26	6	3	8	2023-04-22	2023-04-24

Owner signup/login:



Hello Owner! Welcome to AirBnB!

First name

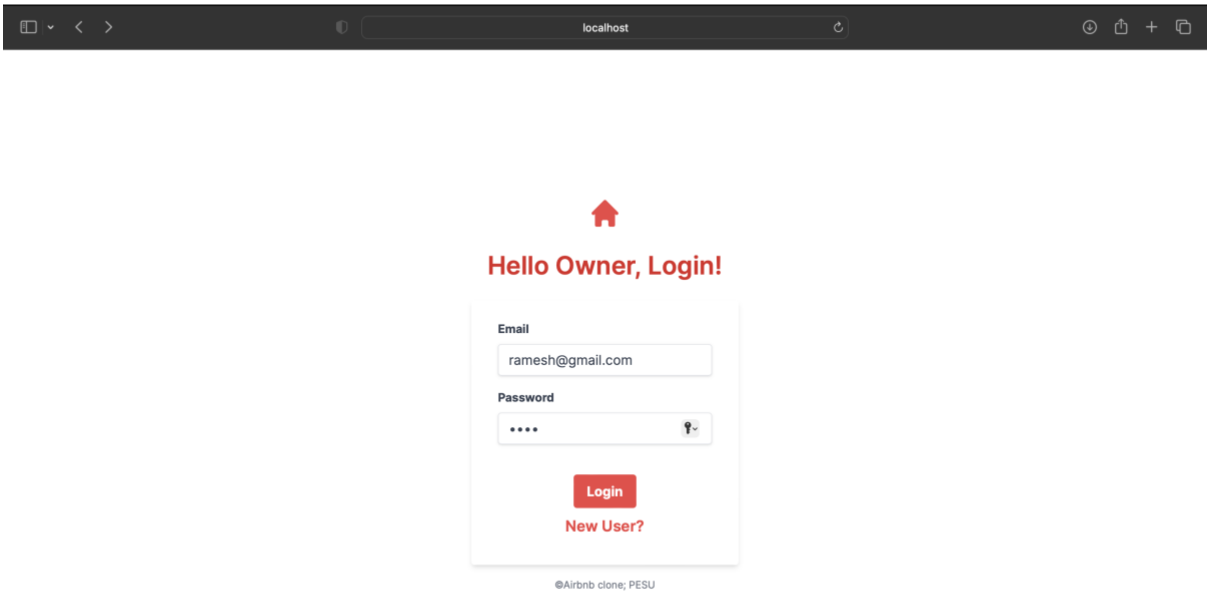
Last name

Email address

Phone Number

Password

SIGN UP



Hello Owner, Login!

Email

ramesh@gmail.com

Password

••••

Login

New User?

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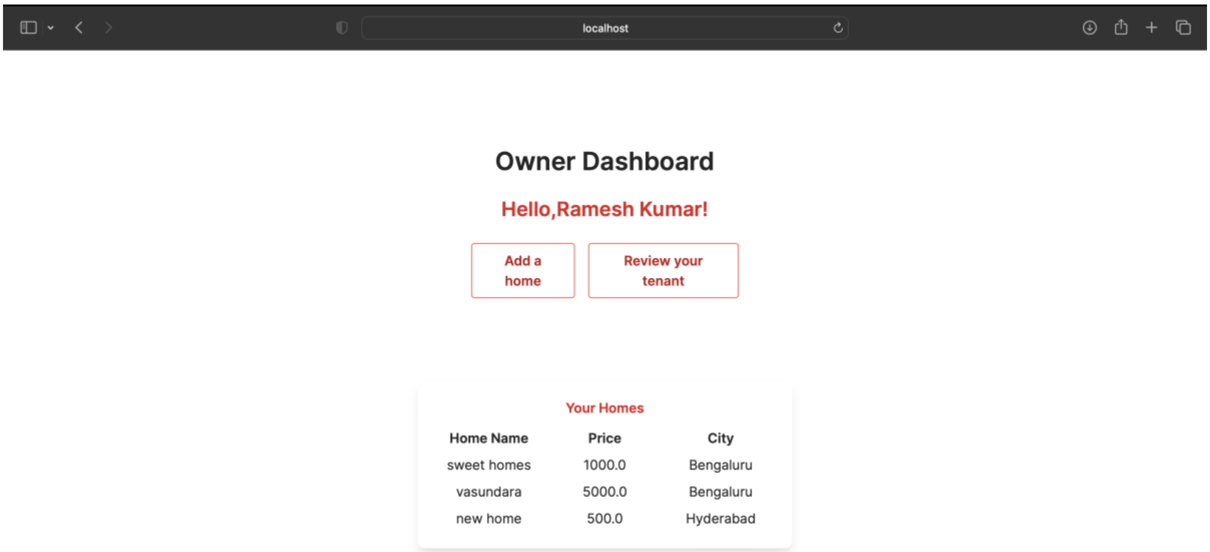
Owner dashboard after logging in:



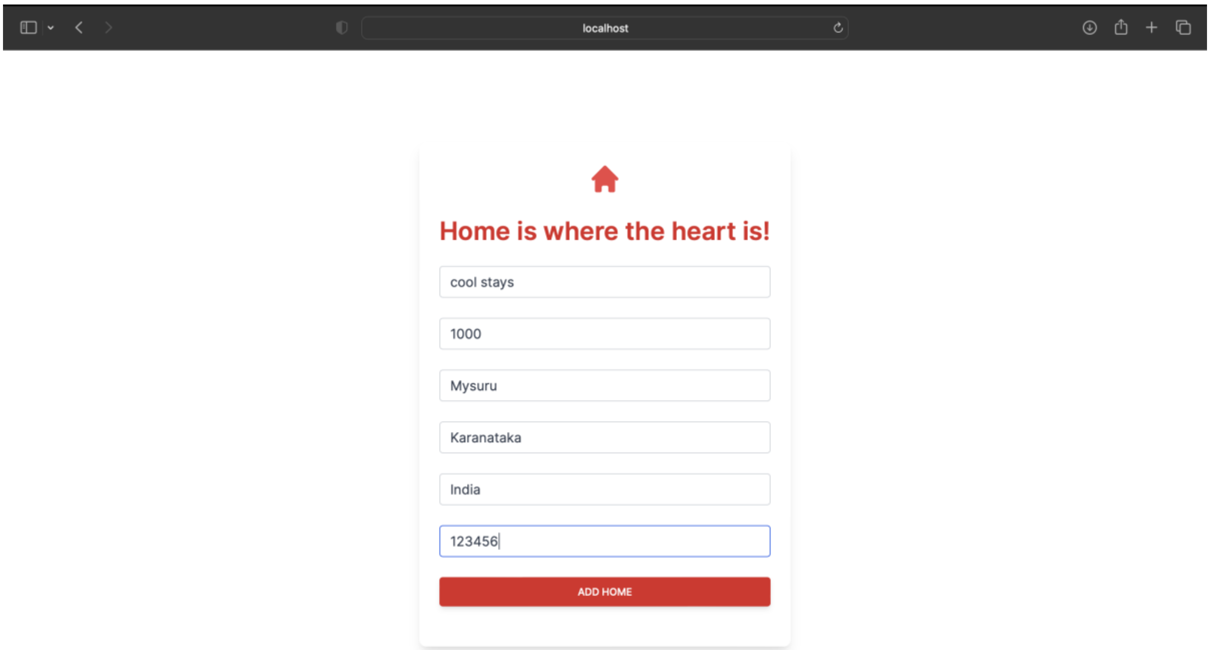
Owner Dashboard

Hello,Ramesh Kumar!

Your Homes

Home Name	Price	City
sweet homes	1000.0	Bengaluru
vasundara	5000.0	Bengaluru
new home	500.0	Hyderabad

Add home page:



Home is where the heart is!

cool stays

1000

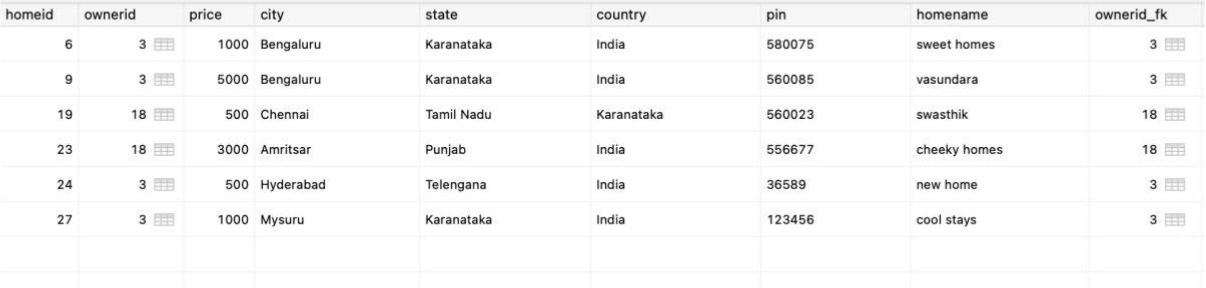
Mysuru

Karanataka

India

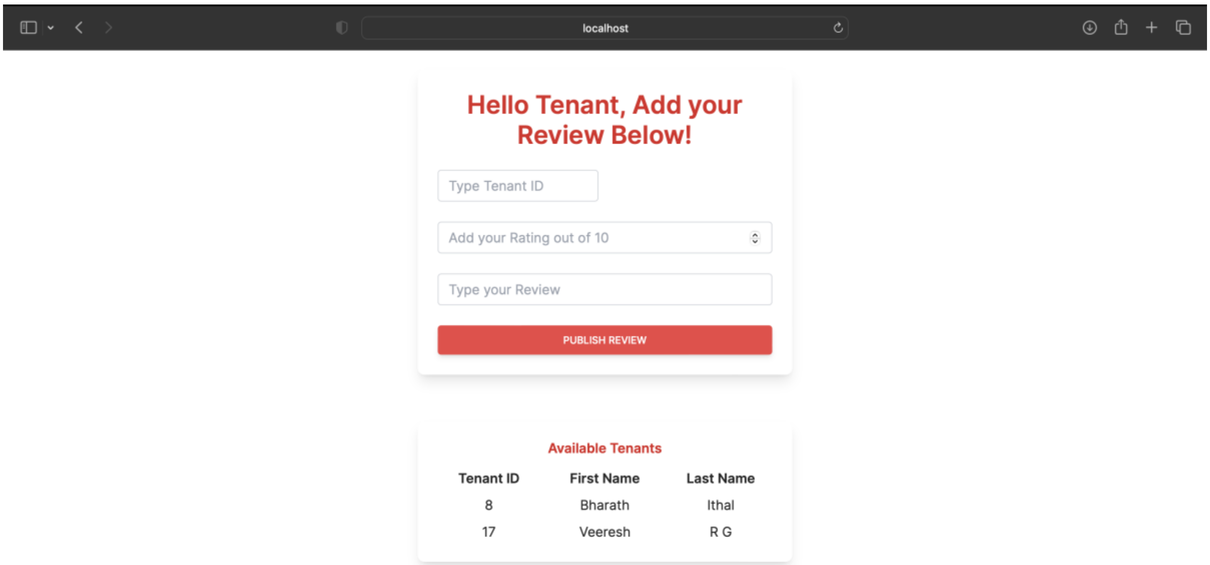
123456

Database after adding home:



homeid	ownerid	price	city	state	country	pin	homename	ownerid_fk
6	3	1000	Bengaluru	Karanataka	India	580075	sweet homes	3
9	3	5000	Bengaluru	Karanataka	India	560085	vasundara	3
19	18	500	Chennai	Tamil Nadu	Karanataka	560023	swasthik	18
23	18	3000	Amritsar	Punjab	India	556677	cheeky homes	18
24	3	500	Hyderabad	Telengana	India	36589	new home	3
27	3	1000	Mysuru	Karanataka	India	123456	cool stays	3

Tenant review page:



Hello Tenant, Add your Review Below!

Type Tenant ID

Add your Rating out of 10

Type your Review

Available Tenants

Tenant ID	First Name	Last Name
8	Bharath	Ithal
17	Veeresh	R G