

DEVELOPMENT OF REAL ESTATE LISTING PLATFORM WITH ADVANCED SEARCH AND MAP INTEGRATION

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OVERVIEW OF THE PROJECT

Purpose:

- Simplify real estate listings with advanced search and map integration.

Importance:

- Helps buyers, renters, and agents efficiently find properties.
- Enhances user experience with interactive maps and smart filtering.
- Bridges the gap between property seekers and sellers with a modern, tech-driven approach.



PROBLEM STATEMENT

- Traditional real estate platforms lack efficient filtering and interactive map-based searches
- Users struggle to find properties that match their exact requirements
- The need for a modern, user-friendly, and feature-rich platform



OBJECTIVES

- **Develop an intuitive real estate platform** with a seamless user experience.
- **Implement advanced search functionalities** to allow precise property filtering.
- **Integrate interactive maps** for location-based property discovery.
- **Enhance user engagement** with a modern, user-friendly interface.
- **Facilitate efficient property management** for buyers, renters, and agents.



FEATURES

- **Advanced Property Search** – Filter listings based on price, location, property type, and amenities.
- **Interactive Map Integration** – Search and explore properties using a dynamic map interface.
- **User Authentication & Profiles** – Secure login and personalized dashboards for buyers, renters, and agents.
- **Real-Time Listings Management** – Add, update, and manage property listings with ease.
- **Responsive & Modern UI** – User-friendly design optimized for all devices.



TECH STACK

Frontend:

- **Next.js (React)** – For a fast and dynamic user interface.
- **Tailwind CSS** – For a sleek, responsive, and modern design.
- **ShadCN** – For pre-built, accessible UI components.
- **Lucide Icons** – For modern and customizable icons.

Mapping & Search:

- **Google Maps API / Advance Search Map API** – For interactive map and Advance Searching integration.

Backend & Database:

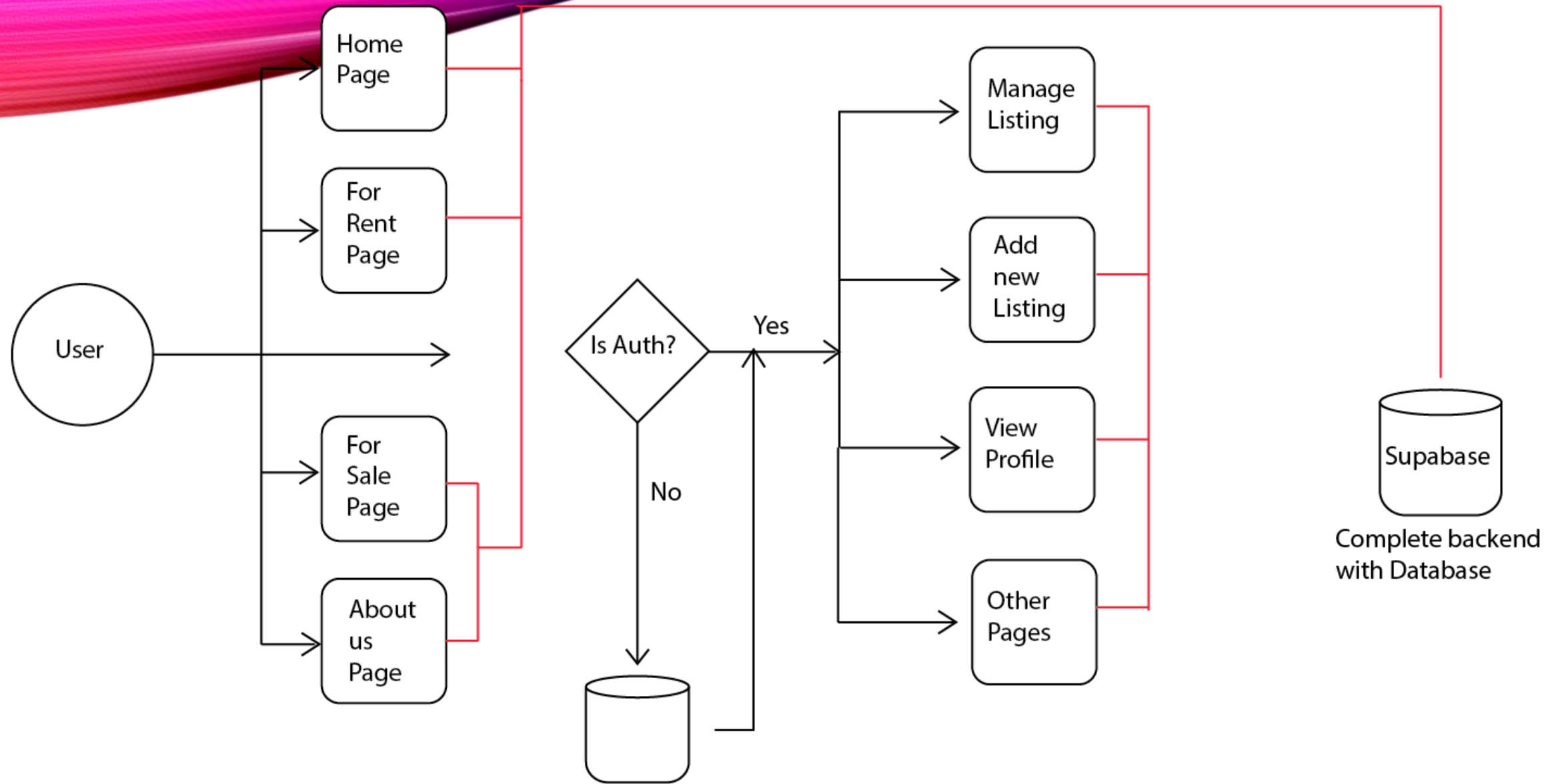
- **Supabase** – For database management and cloud-based backend services.
- **Database** – PostgreSQL for data storage provided by **Supabase**.

Authentication:

- **Clerk SDK** – For secure user authentication and management.

Hosting & Deployment:

- **Vercel** – For seamless deployment and performance optimization.
- **GitHub** – For version control and collaboration.

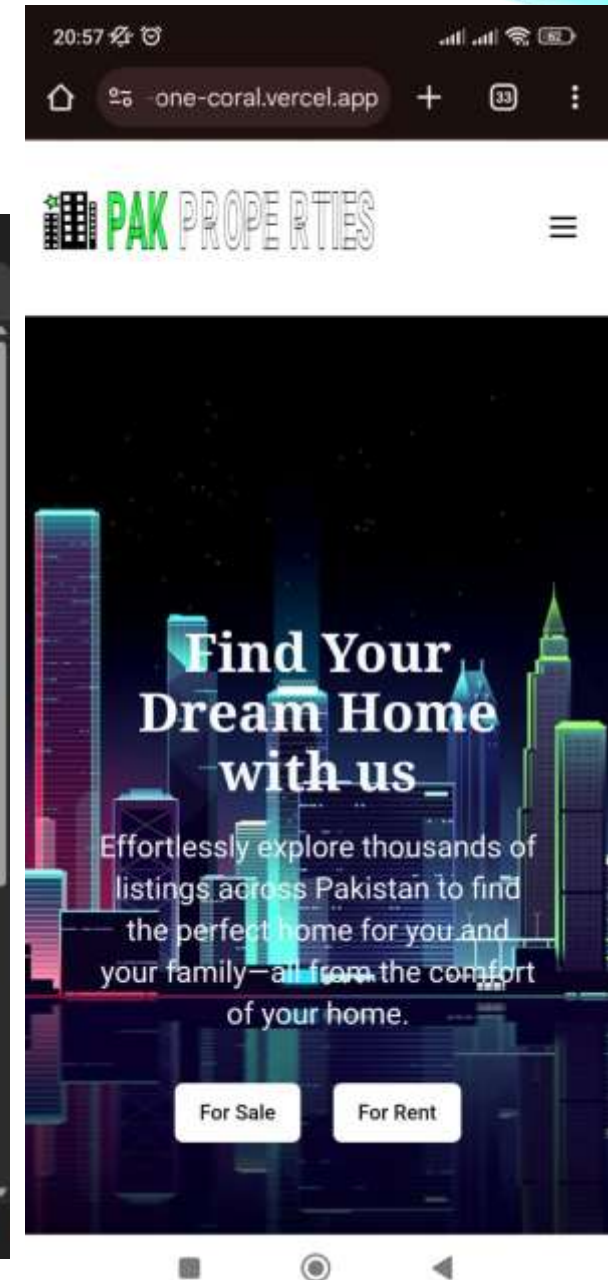
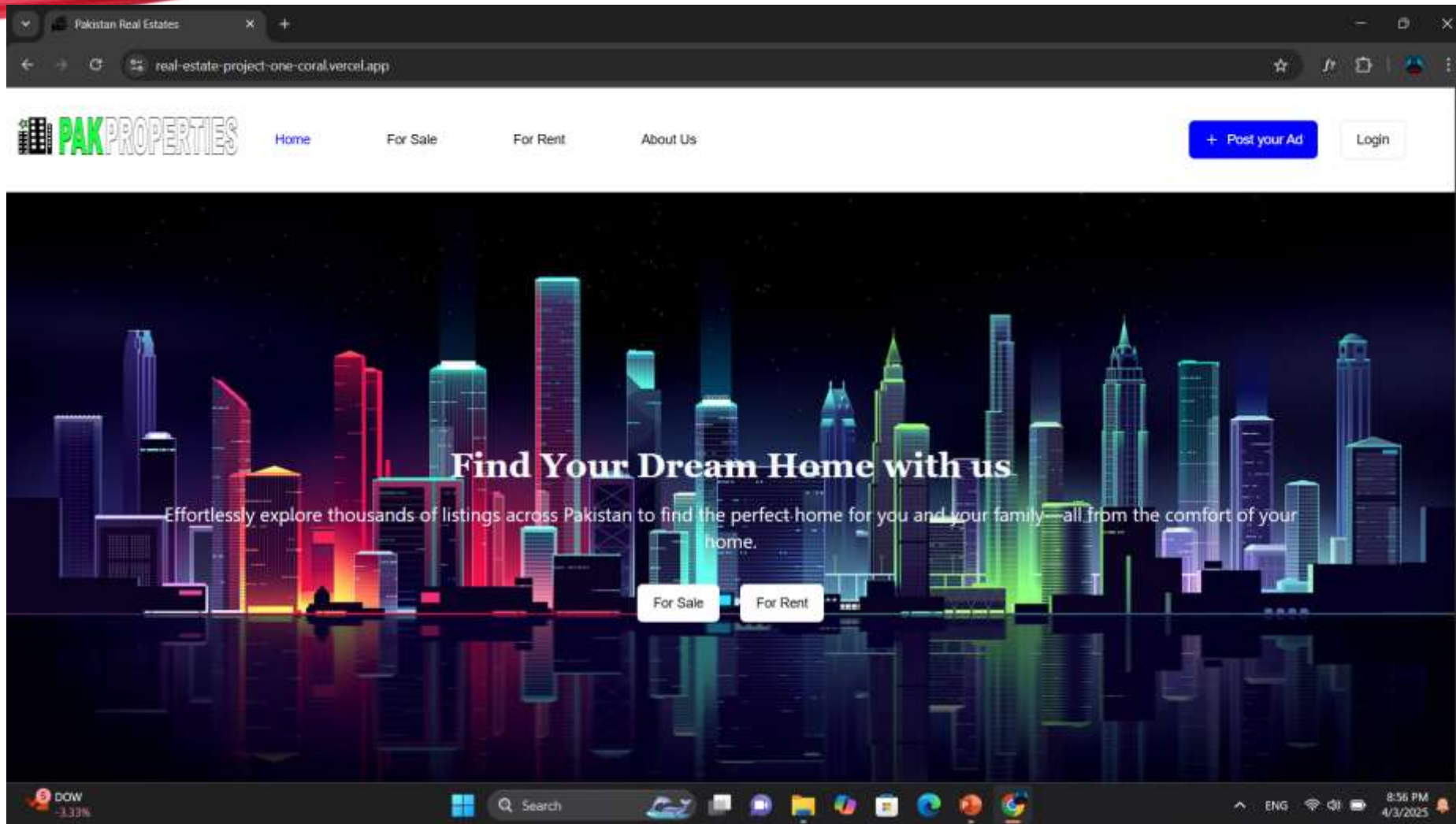


Shows interactions between users, frontend, backend, and external services

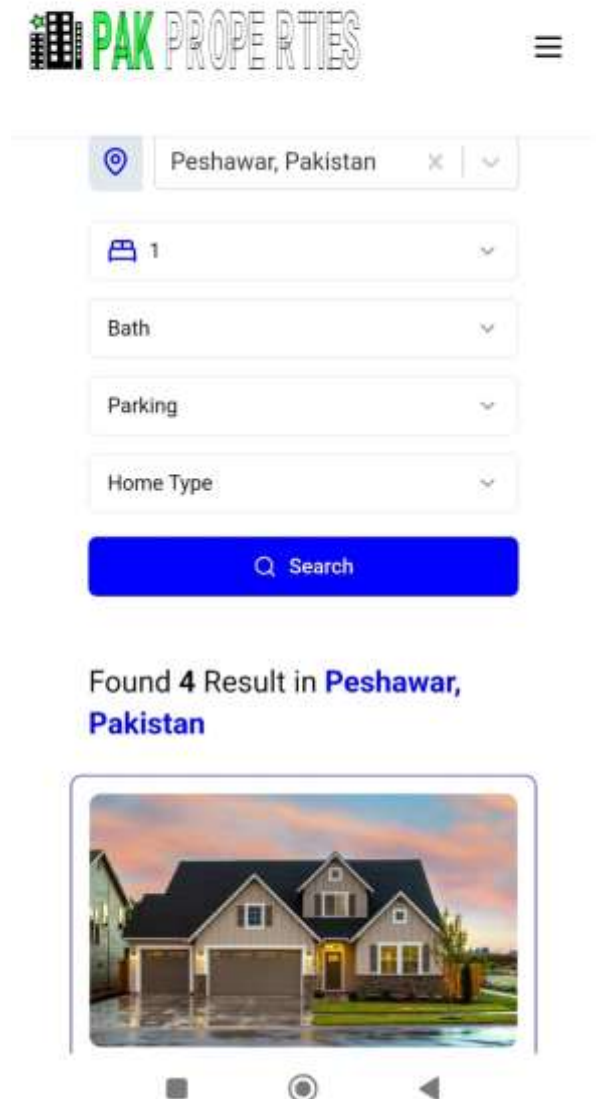
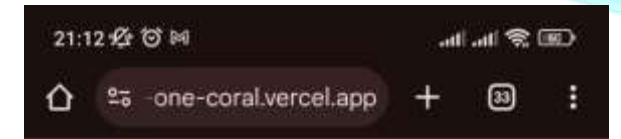
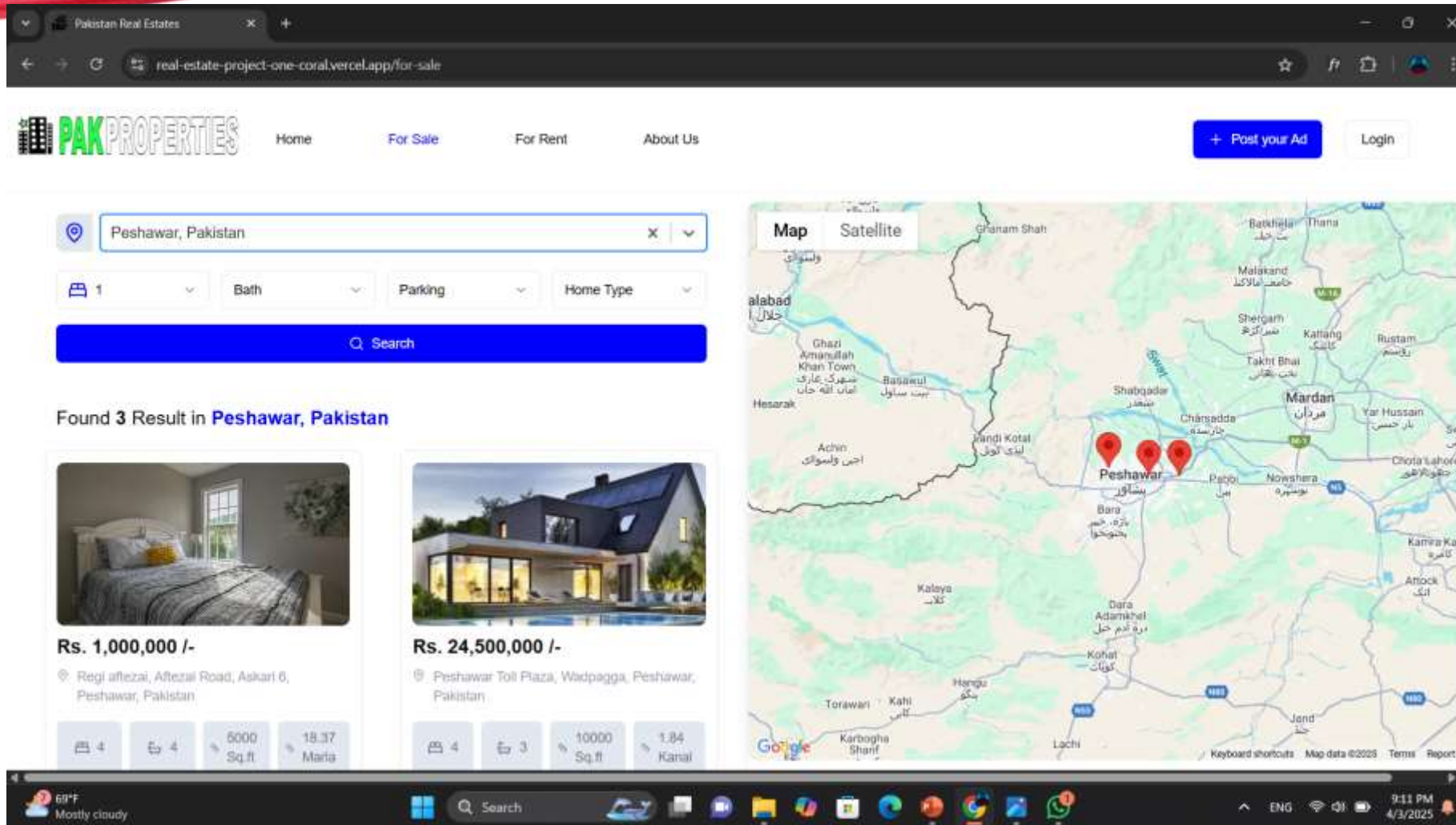
IMPLEMENTATION



Home Page (Desktop and Mobile view)



FOR SALE & FOR RENT PAGE (DESKTOP AND MOBILE VIEW)



ADVANCE SEARCH

Pakistan Real Estates

real-estate-project-one-coral.vercel.app/for-sale


PAK PROPERTIES Home For Sale For Rent About Us + Post your Ad Login

Peshawar, Pakistan

3+ 3+ 1 Single Family...

Search

Found 1 Result in Peshawar, Pakistan



Rs. 1,000,000 /-

Regi aftezal, Aftezal Road, Askari 6, Peshawar, Pakistan

4 4 5000 Sq.ft 18.37 Marla

Map Satellite

Peshawar

69°F Mostly cloudy

Search

ENG 9:16 PM 4/3/2025

21:18

one-coral.vercel.app

PAK PROPERTIES

Peshawar, Pakistan

2

2

1

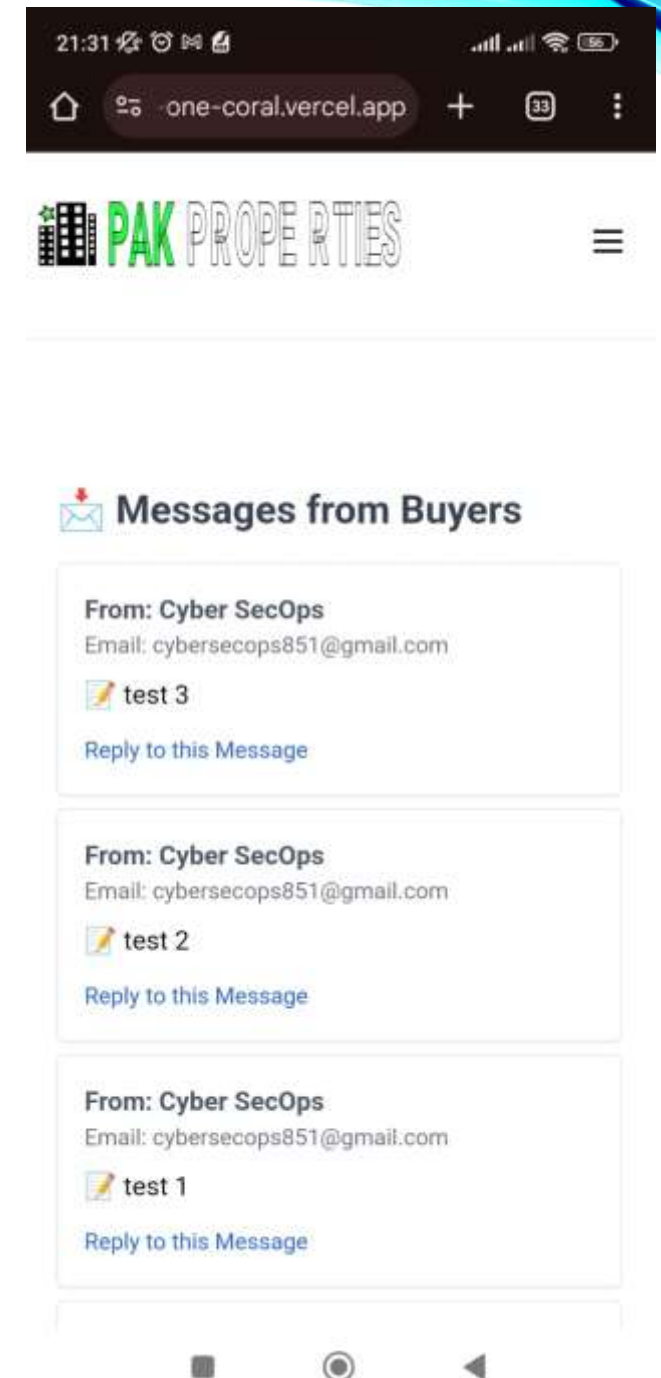
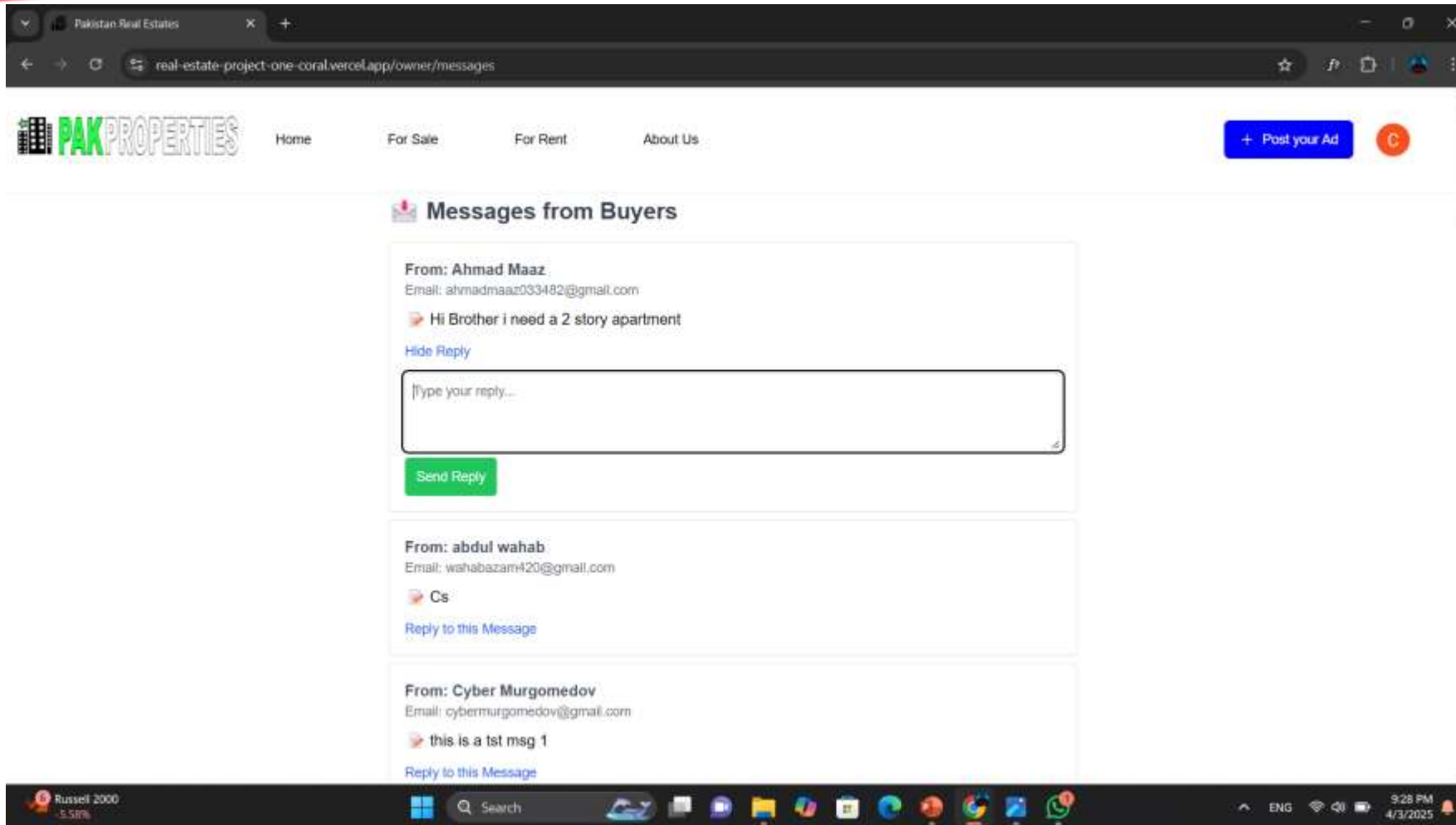
Town House

Search

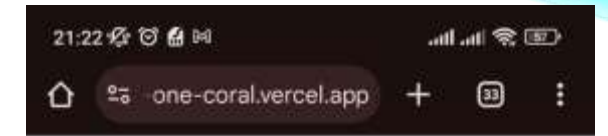
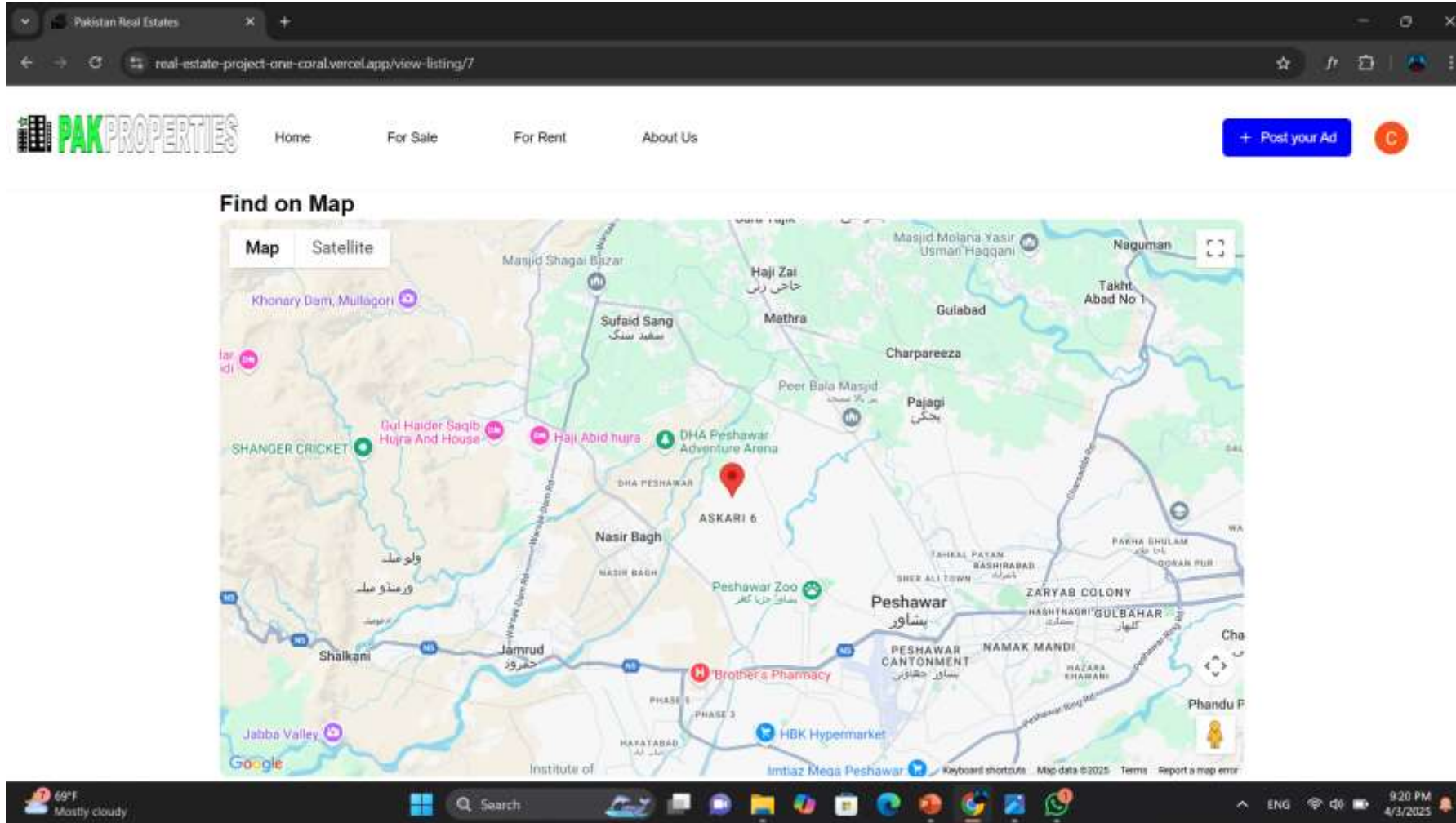
Found 1 Result in Peshawar, Pakistan



MESSAGING FUNCTIONALITY



MAP INTEGRATION (I)



Find on Map

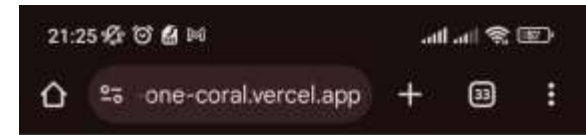


MAP INTEGRATION (II)

+ Post your Ad



PHASE 5
PHASE 3
HAYATABAD
Brother's Pharmacy
HBK Hypermarket
PESHAWAR CANTONMENT
HAZARA KHAWANI
Phandu Pa
CHAGANOO CHOWK
Chathroo Daga
Mastrano Kalay
Hayatabad, Peshawar, Pakistan
Peshawar International Airport, Airport Road, Peshawar Cantonment, Peshawar, Pakistan
\$50000
\$4000000
View Detail
View Detail



PAK PROPERTIES



Find on Map

Map Satellite
HBK Arena, Main Ring Road
Achini Rd
Peshawar, 25000
Pakistan
View on Google Maps
Hayatabad, Peshawar, Pakistan
\$50000
View Detail

CHALLENGES AND SOLUTIONS

1. Mobile Responsiveness & UI Consistency

- **Challenge:** Maintaining a user-friendly experience across different devices.
- **Solution:** Used Tailwind CSS for responsive design and tested layouts extensively.

2. Authentication & User Management

- **Challenge:** Securing user authentication and authorization with minimal friction.
- **Solution:** Integrated Clerk SDK for authentication, offering social logins and secure session management.

3. Implementing Advanced Search Functionality

- **Challenge:** Enabling users to filter listings efficiently based on multiple criteria (price, location, property type, etc.) while maintaining fast performance.
- **Solution:** Optimized **Supabase queries** with indexed search and implemented **dynamic filtering** in the frontend for a smooth user experience. Future enhancements could include **full-text search** or AI-based recommendations.

CHALLENGES AND SOLUTIONS (II)

4. Implementing Advanced Search Functionality

- **Challenge:** Enabling users to filter listings efficiently based on multiple criteria (price, location, property type, etc.) while maintaining fast performance.
- **Solution:** Optimized **Supabase queries** with indexed search and implemented **dynamic filtering** in the frontend for a smooth user experience. Future enhancements could include **full-text search** or AI-based recommendations.

5. Real-Time Messaging Without Web Sockets

- **Challenge:** Implementing a real-time messaging system without using Web Sockets or Supabase Realtime, leading to potential delays in message updates.
- **Solution:** Used **polling**, where the system fetches new messages from the database every 5 seconds. While this method ensures updates, it increases database queries. A future improvement could involve **Web Sockets** for instant message delivery and reduced server load.



FUTURE ENHANCEMENT

- Adding online rental payment integration
- AI-powered property recommendations
- Mobile application development
- More refined search filters (e.g., nearby schools, public transport)

CONCLUSION

- The **Real Estate Listing Platform** successfully provides an **efficient** and **user-friendly** way for buyers and sellers to connect.
- Implemented **advanced search, interactive maps, and messaging** to enhance the real estate browsing experience.
- Overcame challenges such as **real-time messaging without WebSockets, handling large data efficiently, and integrating location-based search.**
- Future improvements could include **WebSocket-based messaging, AI-driven property recommendations, and geospatial search optimizations.**
- This project demonstrates a **scalable, modern web application** using **Next.js, Supabase, Google Maps API, and Clerk SDK.**



Q & A

- "Thank You! Any Questions?"