

# ASKUN



# Our Team

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# Agenda

- Introduction
- Motivation
- Problem Statement
- Objectives
- Challenges
- Constraints
- Methodology
- Questionnaire

- Market Analysis & Business Model
- Related Work
- Proposed Model & System Analysis
- Implementation
- Testing
- System interface Prototype
- Conclusion & Future work



# Introduction

ASKUN



Askun is a real estate platform tailored for buyers, renters, and seller alike.

Whether you're searching for a new home,

Askun provides an intuitive experience designed to meet your needs.

Our platform integrates advanced technologies like blockchain and AI-driven chatbot to ensure secure transactions and personalized assistance.

Enjoy the convenience of 3D viewing options for detailed property exploration, empowering you to make informed decisions.

Join us at Askun and discover how we're transforming the real estate experience.



# Motivation

Welcome to the dawn of a new era in Egyptian real estate ownership. We're pioneering a revolutionary approach, one that leverages the power of blockchain technology and cryptocurrency to create a thriving new market.

Imagine:

- **Unprecedented Accessibility:** Invest in Egyptian properties from anywhere in the world using cryptocurrency, a globally recognized form of exchange. This opens doors for international investors and eliminates barriers for Egyptians abroad.
- **Fractional Ownership:** Blockchain allows you to own a fraction of a high-value property, making Egyptian real estate more attainable than ever before.
- **Enhanced Security & Transparency:** Blockchain's inherent security provides immutability and transparency throughout the transaction process. Transactions are secure, recorded permanently, and easily verifiable.
- **Streamlined Transactions:** Eliminate the complexities of traditional real estate transactions. Our platform offers a faster, more efficient way to buy and sell property.

By embracing tokenization and virtualization, we're not just selling properties, we're building the future of Egyptian real estate. Be a part of this exciting journey. Invest in a piece of Egypt's future, today.



# Problem Statement

**The Egyptian real estate market suffers from:**

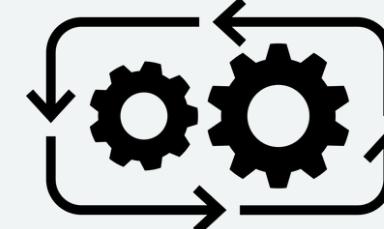
- **Limited accessibility:** Traditional investment methods restrict participation to those with significant capital and a physical presence in Egypt.
- **Opaque transactions:** The current system lacks transparency, leading to potential delays, fraud risks, and difficulty verifying ownership history.
- **Inefficient processes:** Paper-based transactions and bureaucratic hurdles slow down the buying and selling process.
- This hinders foreign investment, limits participation for Egyptians abroad, and creates an overall cumbersome experience.



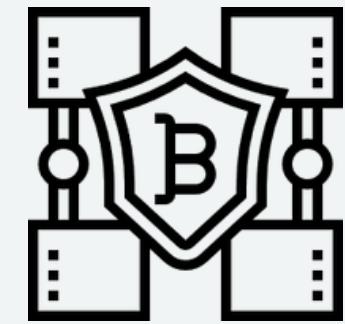
# Objectives



Revolutionize  
Property  
Exploration



Automate and  
Streamline  
Processes



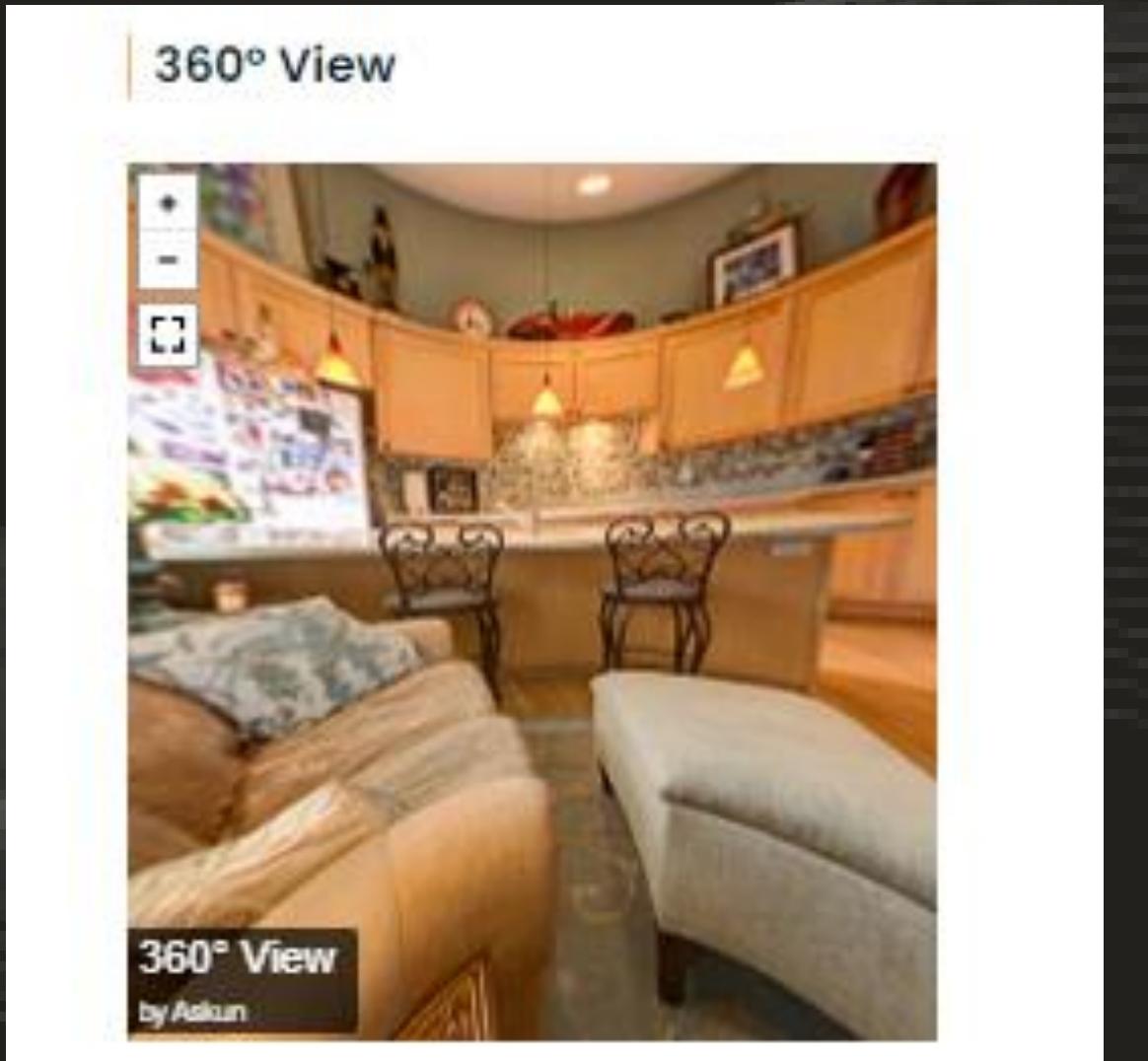
Ensure Security  
and  
Transparency

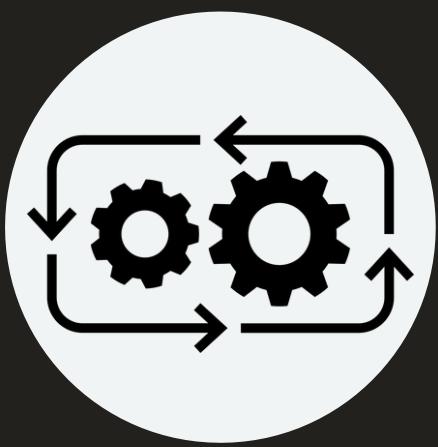


## Revolutionize Property Exploration

by offering an immersive experience that makes you explore properties in stunning detail with cutting-edge virtual reality (VR) technology. Walk through rooms, get a feel for the layout, and envision yourself living in the space. Additionally, our 360° view exploration lets you virtually tour the entire property, from every angle. Take a peek at the backyard, explore the neighborhood streets, and experience the surrounding area—all from the comfort of your own home. This level of detail allows you to make informed decisions without the need for multiple physical visits.

# Objectives





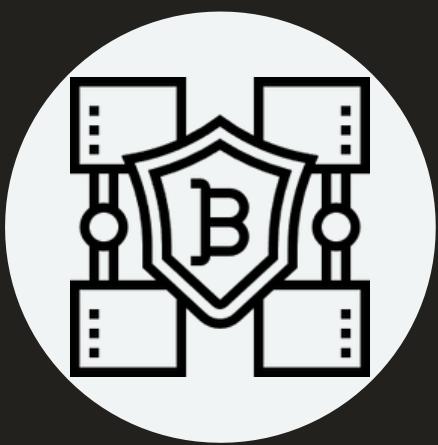
## Automate and Streamline Processes

Our platform eliminates the need for endless forms and physical visits to government offices. We've automated the entire buying process, allowing you to invest in Egyptian real estate entirely online. From property selection to secure transactions using cryptocurrency, everything can be done conveniently from your internet-connected device. This not only saves you valuable time and effort but also ensures a smoother, more efficient experience.

# Objectives

The screenshot shows a user interface for a real estate platform. On the left, a 'Payment Method' section offers 'Cash' and 'Crypto wallet' options, with 'Crypto wallet' selected. It includes a note to 'Pay through your crypto wallet' and a button to 'Pay with Crypto 4831998'. Below this, a small note states: 'Your personal data will be used to process your order, support your experience throughout this website, and for other purposes described in our privacy policy.' On the right, a 'Cart Totals' section displays two items: '2 Bedroom | Vacant Now | Open Bright Layout' at 2400 and 'Premium 2 BHK with Incredible View of Marina Waterfront' at 150. Each item has a small thumbnail image and a delete ('X') icon.

Item Description	Quantity	Price
2 Bedroom   Vacant Now   Open Bright Layout	1	2400
Premium 2 BHK with Incredible View of Marina Waterfront	1	150



## Ensure Security and Transparency

We leverage the industry-leading security of Coinbase and MetaMask as gateways for blockchain technology. This ensures an immutable record of ownership and transaction history. Every step of the process is verifiable and tamper-proof, minimizing the risk of fraud and providing complete peace of mind. Coinbase's robust security measures and MetaMask's user-friendly wallet environment empower you to make informed investment decisions with confidence.

# Objectives

Send	
Status	<a href="#">View on block explorer</a>
Confirmed	<a href="#">Copy transaction ID</a>
From	To
 0x21aAf...E8...	 0xA27A8....
Transaction	
Nonce	12
Amount	-0.01185817 BNB
Gas Limit (Units)	21000
Gas Used (Units)	21000
Base fee (GWEI)	0
Priority fee (GWEI)	3
Total gas fee	0.000063 BNB \$0.04 USD
Max fee per gas	0.000000003 BNB \$0.00 USD

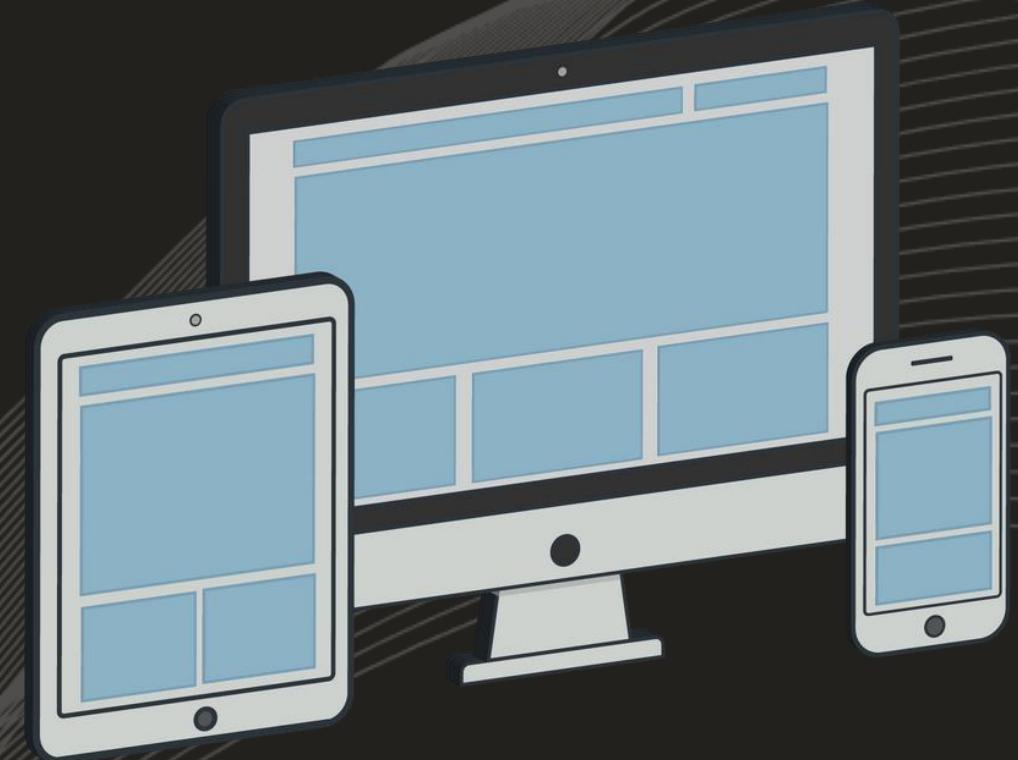
# Challenges



**Integrating Complex  
Blockchain Technology**



**Protecting User Data and  
Maintaining Privacy**



**Ensuring Compatibility with  
Various Devices and  
Browsers.**

# Constraints

## Technical Constraints:

- Hardware & software compatibility across diverse devices and browsers.

## Realistic Constraints:

- Ongoing maintenance, updates, and innovation to stay relevant.

## Financial Constraints:

- Adhere to a set budget for development, maintenance, marketing, and operations.

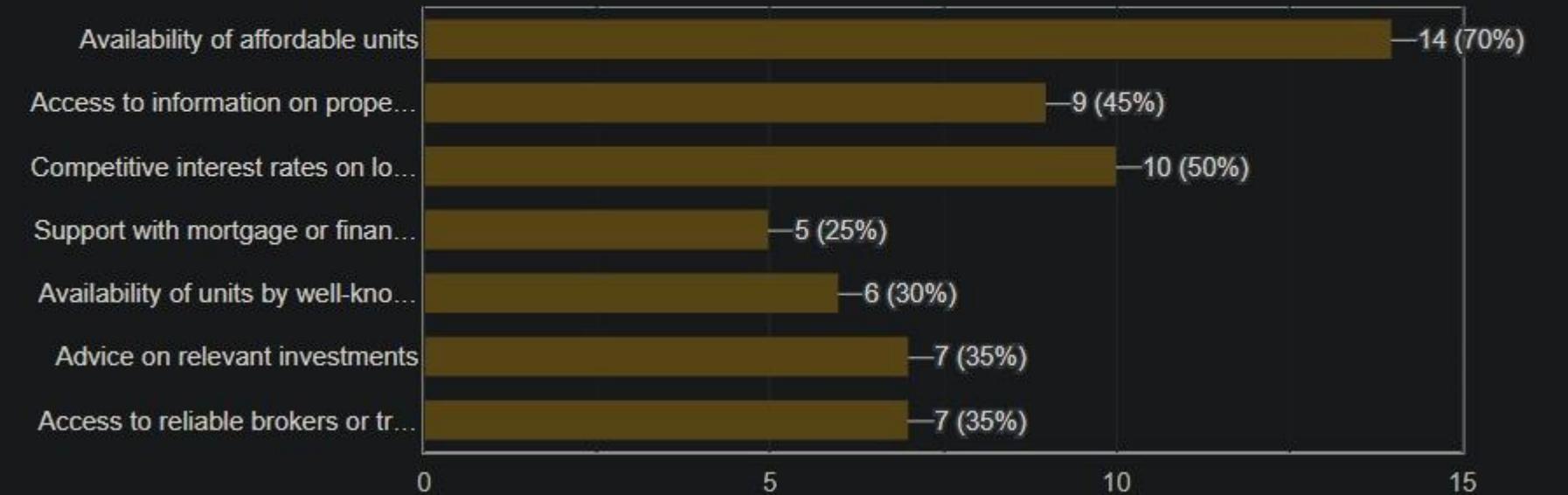
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# Questionnaire

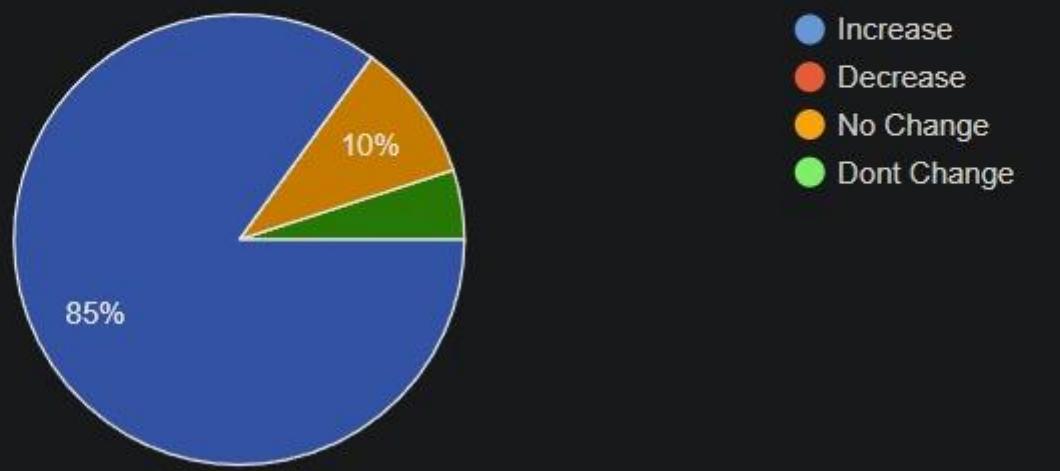
## What are most important factors encouraging consumers to invest in Egypt real estate market?

20 responses



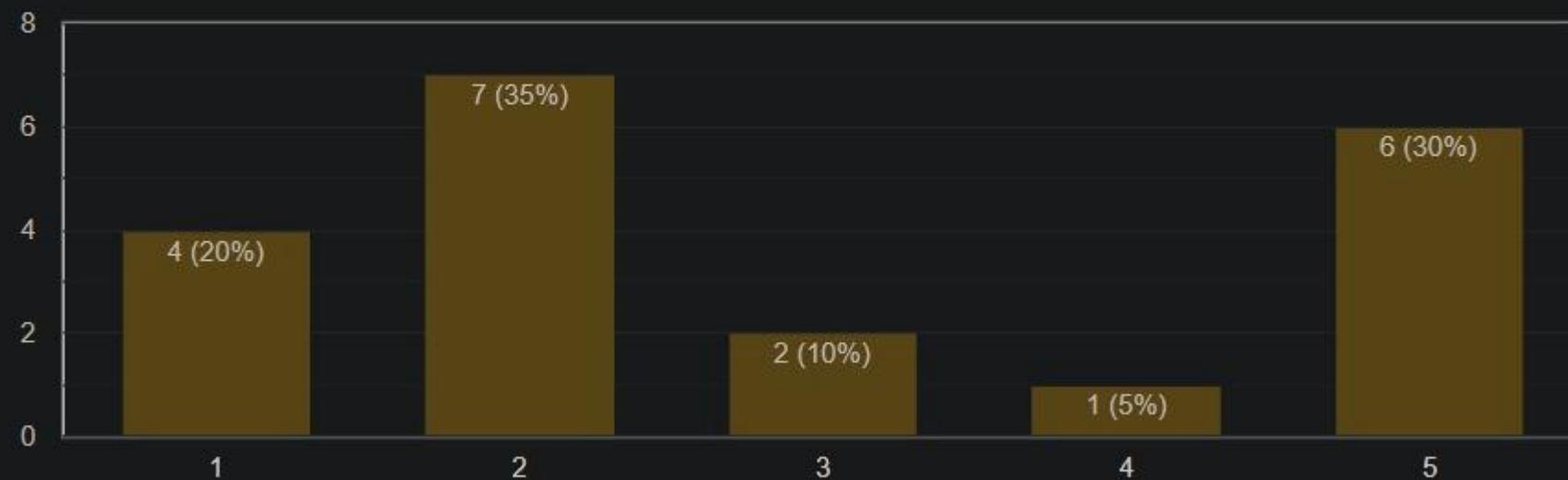
## What Well happen in sales and rental prices of residential properties In up Coming Year?

20 responses



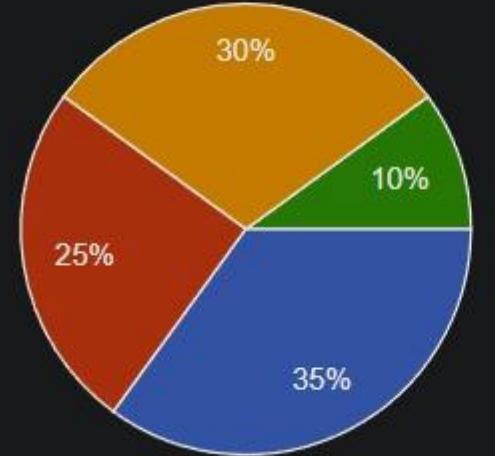
## How likely would you be to use a RealState app before your visite?

20 responses



### Which to importancs being in close proximity to ?

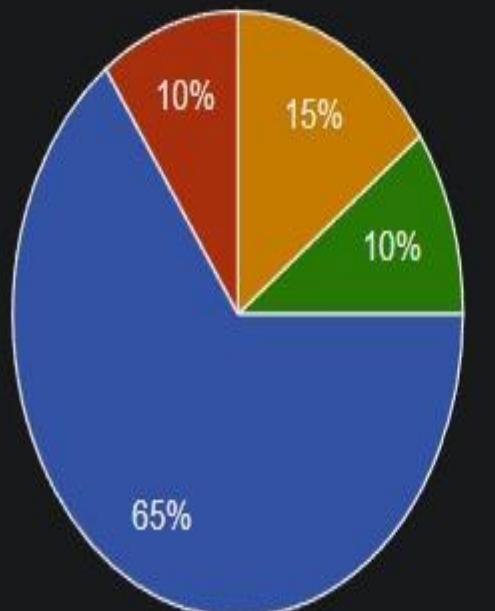
20 responses



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### How do expect the real state in Egypt to perform in the next 12 months ?

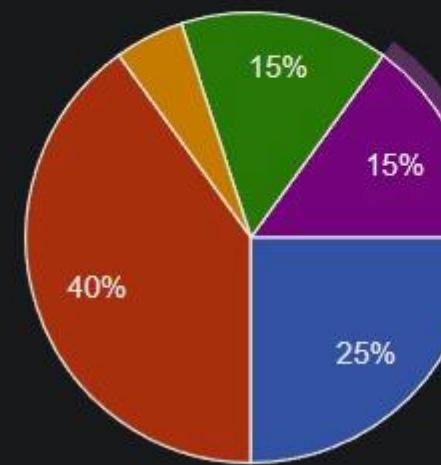
20 responses



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### What is your Top concerns whilst investing in Real Estate ?

20 responses

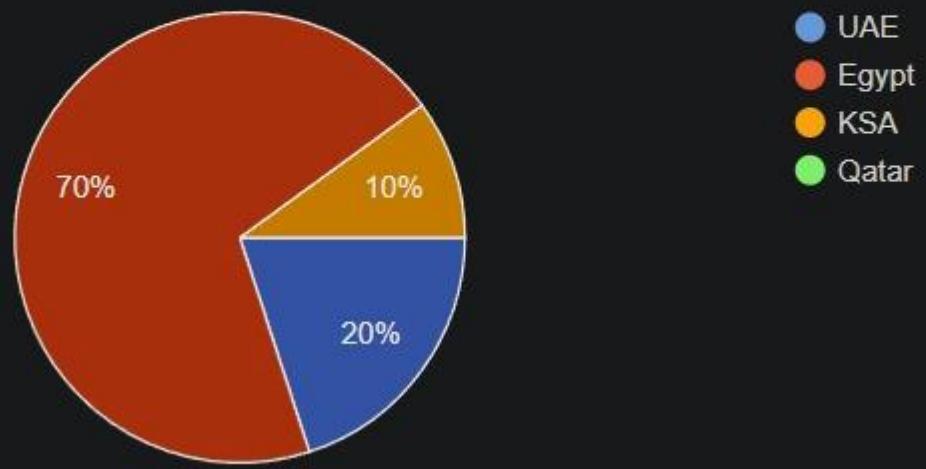


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- Currency Fluctuations
- Inflation
- State of local economy
- Lack of trust in brokers/developers
- Rising interest rates on mortgage or loans

## Where do you consider Egypt Rank in real estate investments in the Middle East?

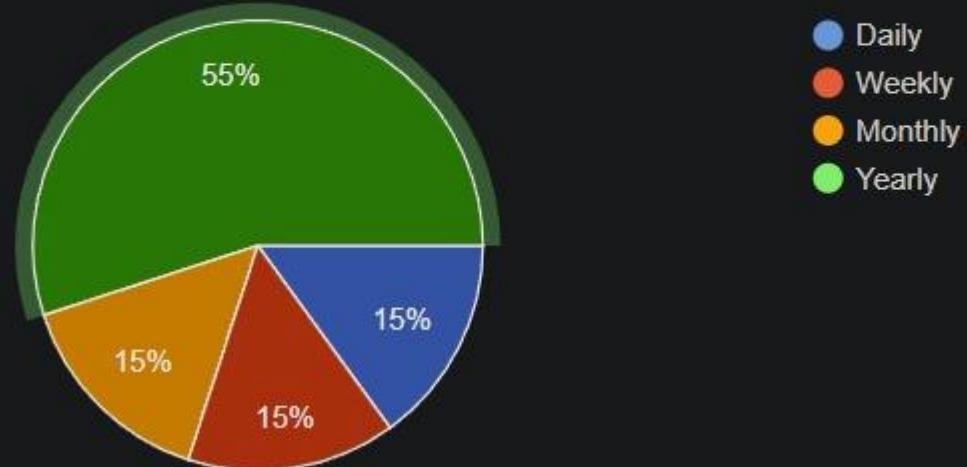
20 responses



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## How Often do you use RealState Apps

20 responses



[Copy](#)

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# Market Analysis & Business Model

# Market Analysis (SWOT)



## STRENGTH

- Enhanced user experience
- Market Power
- 

## Weaknesses

- Integration Challenges
- Adaption complexity

## Opportunities

- New Markets
- Emerging Technologies

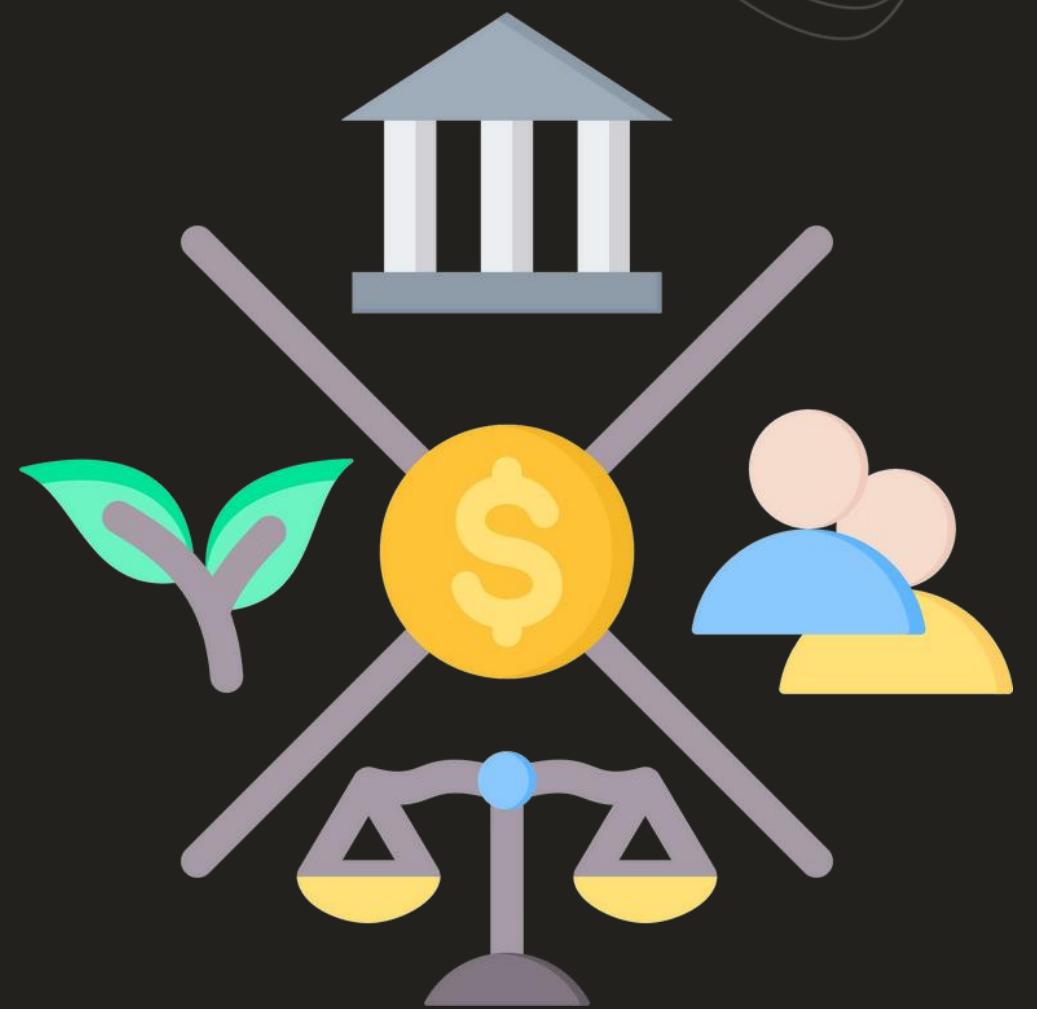
## Threats

- Competition
- Legal/Regulatory

# Market Analysis (PESTEL)

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Category	Subcategory
Political	Regulations
	Political Stability
Economic	Interest Rates
	Economic Indicators
Social	Demographics
	Lifestyle Changes
Technological	Virtual Reality
	Chatbot Technology
	Social Media
Environmental	Sustainability
	Climate Change
Legal	Data Protection Laws
	Environmental Laws



# ASKUN Business Model Canvas

<p><b>Key Partners</b></p> <ul style="list-style-type: none"><li>Real estate agencies and developers for property listings.</li><li>Blockchain technology providers for secure transactions.</li><li>Payment gateway providers for seamless financial transactions.</li><li>Real estate influencers for increased platform visibility.</li><li>Government authorities for legal compliance and regulatory support.</li></ul>	<p><b>Key Activities</b></p> <ul style="list-style-type: none"><li>Platform Development: Continuous improvement and updates to enhance user experience.</li><li>Marketing and Partnerships: Promoting the platform and establishing key collaborations.</li><li>Security Measures: Ensure the security and integrity of transactions through blockchain technology.</li></ul> <p><b>Key Resources</b></p> <ul style="list-style-type: none"><li>Technology Infrastructure: Robust online platform, 3D scanning technology, blockchain integration.</li><li>Human Resources: Development and customer support teams.</li><li>Strategic Partnerships: Collaborate with real estate agencies, developers, blockchain technology providers, and payment gateways.</li></ul>	<p><b>Value Propositions</b></p> <ul style="list-style-type: none"><li>Platform Convenience: Provide a user-friendly online platform for buying, selling, and renting properties in Egypt.</li><li>Immersive Experience: Offer 360-degree virtual tours for an immersive property exploration.</li><li>Security and Transparency: Utilize blockchain for secure and transparent transactions.</li><li>24/7 Support: Implement an AI-powered chatbot for instant and personalized assistance.</li></ul>	<p><b>Customer Relationship</b></p> <ul style="list-style-type: none"><li>Self-Service: User-friendly platform for independent transactions.</li><li>Customer Support: 24/7 chatbot assistance and responsive customer support.</li><li>Community Engagement: Foster a community through forums, webinars, and social media.</li></ul> <p><b>Channel</b></p> <ul style="list-style-type: none"><li>Online marketing through social media, search engines, and targeted advertising.</li><li>Partnerships with real estate influencers, agencies, and industry stakeholders.</li><li>Word-of-mouth referrals and customer testimonials.</li></ul>	<p><b>Customer Segments</b></p> <p><b>Real Estate Professionals:</b></p> <ul style="list-style-type: none"><li>Real Estate Agents</li><li>Developers</li></ul> <p><b>Homebuyers and Renters:</b></p> <ul style="list-style-type: none"><li>First-Time Homebuyers</li><li>Experienced Homebuyers</li><li>Renters</li></ul> <p><b>Property Investors:</b></p> <ul style="list-style-type: none"><li>Individual Investors</li><li>Institutional Investors</li></ul> <p><b>Technology Enthusiasts:</b></p> <ul style="list-style-type: none"><li>Innovators and Early Adopters</li><li>Tech Professionals</li></ul> <p><b>Government and Regulatory Bodies:</b></p> <ul style="list-style-type: none"><li>Local Government Authorities</li><li>Real Estate Regulatory Agencies</li></ul> <p><b>Non-Governmental Organizations (NGOs):</b></p> <ul style="list-style-type: none"><li>Housing Assistance NGOs</li></ul> <p><b>Educational Institutions:</b></p> <ul style="list-style-type: none"><li>Real Estate Students</li><li>Educators</li><li>Community and Neighborhood Associations</li><li>Community Leaders</li></ul>
<p><b>Cost Structure</b></p> <ul style="list-style-type: none"><li><b>Development:</b> Creating and maintaining the website.</li><li><b>Marketing:</b> Online promotion and influencer partnerships.</li><li><b>Support:</b> 24/7 chatbot and online support.</li><li><b>Partnerships:</b> Building and maintaining key online collaborations.</li><li><b>Compliance:</b> Legal requirements and industry regulations.</li><li><b>Personnel:</b> Salaries, benefits, and online training.</li><li><b>R&amp;D:</b> Investment in technology research online.</li><li><b>Security:</b> Implementing and maintaining robust online security.</li></ul>		<p><b>Revenue Stream</b></p> <ul style="list-style-type: none"><li><b>Transaction Fees:</b> Charge a percentage fee on property transactions facilitated through the platform.</li><li><b>Premium Services:</b> Offer premium features to real estate professionals for a subscription fee.</li><li><b>Advertising:</b> Generate revenue through targeted advertising on the platform.</li></ul>		

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# Related Work

# Papers



- **Residential Real Estate Market in Egypt (Mordor Intelligence):**

**Weakness:** The report may not provide real-time data updates, potentially limiting its relevance for current market conditions. It could also lack granularity in regional data or specific local market insights.

- **Population Growth in Egypt (The World Counts):**

**Weakness:** Data may not account for sudden demographic shifts or changes in migration patterns, which could affect the accuracy of long-term population projections.

- **Economic Insights and GDP Data (World Bank):**

**Weakness:** GDP data may not capture informal economic activities or accurately reflect regional disparities within Egypt. It might also lack detailed sector-specific insights relevant to real estate.



- **Market Trends and Insights (Property Finder Egypt):**

**Weakness:** Quarterly reports may not capture seasonal fluctuations or sudden market disruptions effectively. Additionally, data may be limited to certain urban areas, missing insights from rural or less developed regions.

- **Digital Transformation in Real Estate (NAR):**

**Weakness:** Case studies and examples may not cover all aspects of digital transformation or emerging technologies relevant to the diverse real estate landscape in Egypt. The focus could be predominantly on the US market, which may not fully translate to Egypt.

- **Real Estate Marketing Statistics (Fit Small Business):**

**Weakness:** Industry benchmarks and statistics may not consider niche markets or specialized real estate sectors unique to Egypt. Data may also lack insights into local marketing strategies and consumer behavior specific to the Egyptian context.



# Related Projects

# Related Projects



The screenshot shows the homepage of Property Finder, a real estate search platform. The top navigation bar includes links for Buy, Rent, Commercial, New projects, Our Clients, Explore (with a dropdown menu), Egypt (selected), a search icon, a heart icon, List with us, and Log in. The main banner features a scenic view of a city skyline with red balloons and the text "Find Every Home Here" with a play button icon. Below the banner is a search bar with options for Buy (selected) or Rent, a search input for "City or Town or District", dropdown menus for "Property type", "Beds & Baths", and "Price", a checkbox for "Show commercial properties only", and a "Show more search options" link. A red search button is also present. At the bottom, there's a section titled "Recommended properties in Egypt" showing two thumbnail images: one for "EXPERTS" and another for "IRTKAZ".

# Related Projects



This screenshot shows the Bayut Egypt mobile application. At the top, there's a header with the time (9:35), signal strength, and battery level. Below the header, the Bayut Egypt logo is displayed with a small silhouette of the Cairo skyline. There are two main buttons: "Rent" and "Buy". A "Select Locations" button is located below these. A search bar with a magnifying glass icon is positioned to the right. Below the search bar, there's a promotional section for "PALM HILLS DEVELOPMENTS" with a "Learn More" button. Further down, a section titled "Popular in Egypt" shows "Rent" and "Buy" options. At the bottom, there's a "Lookup Nearby Locations" section with icons for "Home", "Search", "Saved", and "More".

This screenshot shows the Bayut website. The top navigation bar includes links for "mybayut", "Find my Agent", "Floor Plans", "Guides", "Market Intelligence", and "Agent Portal". The main headline reads "Real homes live here" with the tagline "Real Prices. Real Photos. Real Properties". Below the headline is a large photograph of three people sitting at a dinner table outdoors under string lights. To the right of the photo are three search filters: "Property Search", "Dubai Transactions", and "BayutGPT BETA". Below these filters is a search bar with dropdown menus for "Rent", "Enter location", "Residential", "Beds & Baths", "Area (sqft)", and "Price (AED)". A green "Find" button is located next to the price filter. At the bottom of the search bar is a "Search 2.0" button with the text "Find homes by drive time" and a car icon.



# Methodology

# Methodology

## Planning and Design:

- **Requirement Analysis:** We start by thoroughly understanding the market and user needs through research, stakeholder engagement, and technology assessment. This ensures the platform addresses real-world problems and leverages the power of blockchain, chatbots, and 3D scanning effectively.
- **Defining Requirements:** We meticulously define both functional (features) and non-functional (performance, security) requirements for the web and mobile applications, ensuring a seamless and secure user experience.

## Development and Implementation:

- **Prototyping and Mockups:** Wireframes and prototypes are created to visualize the user interface and user journey for both platforms. User feedback is incorporated to refine the design before development begins.
- **Agile Development:** We adopt an Agile methodology for flexible development, allowing for continuous improvement and user feedback integration throughout the project lifecycle. Work is divided into sprints, ensuring focused development on specific features for both web and mobile platforms.

# Methodology

- Tech Stack Selection: We strategically selected a robust tech stack to ensure optimal performance, security, and scalability. This includes:
  - Frontend Development: ReactJS for a dynamic and interactive web experience, and React Native for a native-like feel on mobile devices.
  - Data Management: Firebase as our secure and scalable backend database for user information, property listings, and transaction data.
  - Core Functionality: HTML, CSS, and JavaScript to build a visually appealing and interactive user interface.
  - Blockchain Integration: Integration with Coinbase and MetaMask as secure gateways for blockchain technology, enabling secure tokenization, smart contracts, and overall transaction security.

# Methodology



## **Deployment and Monitoring:**

Deploy the real estate platform, comprising both web and mobile applications, in a controlled environment. Closely monitor the performance, security, and user feedback of both platforms. Implement monitoring tools to track user interactions, identify potential issues, and make data-driven improvements post-launch.

## **Continuous Improvement:**

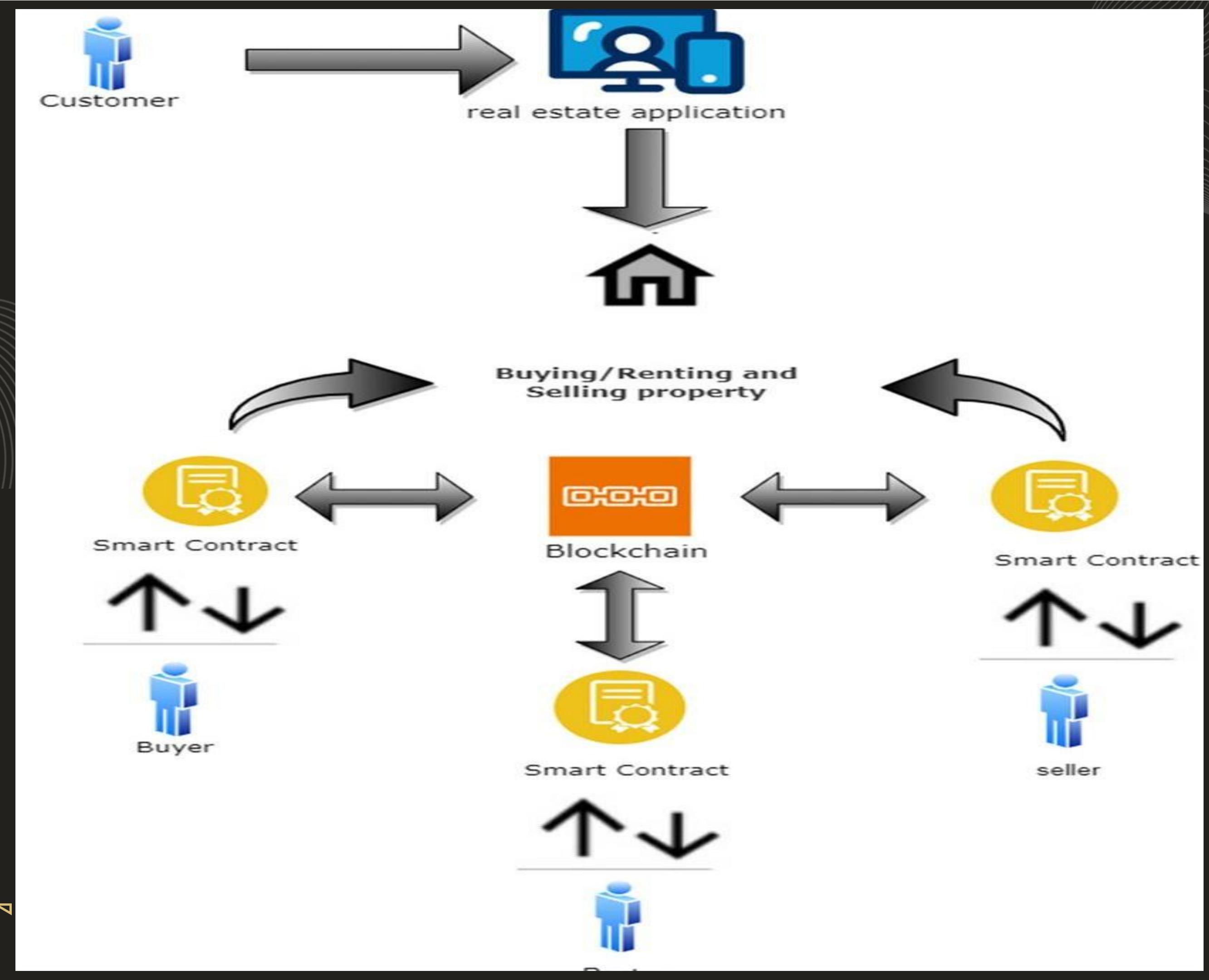
Collect user feedback and analyze platform analytics to identify areas for improvement. Iterate on both the web and mobile applications based on user insights, technological advancements, and emerging trends in the real estate industry. The development team aims to create a cutting-edge real estate platform that addresses the evolving needs of users in the digital era through this comprehensive methodology.

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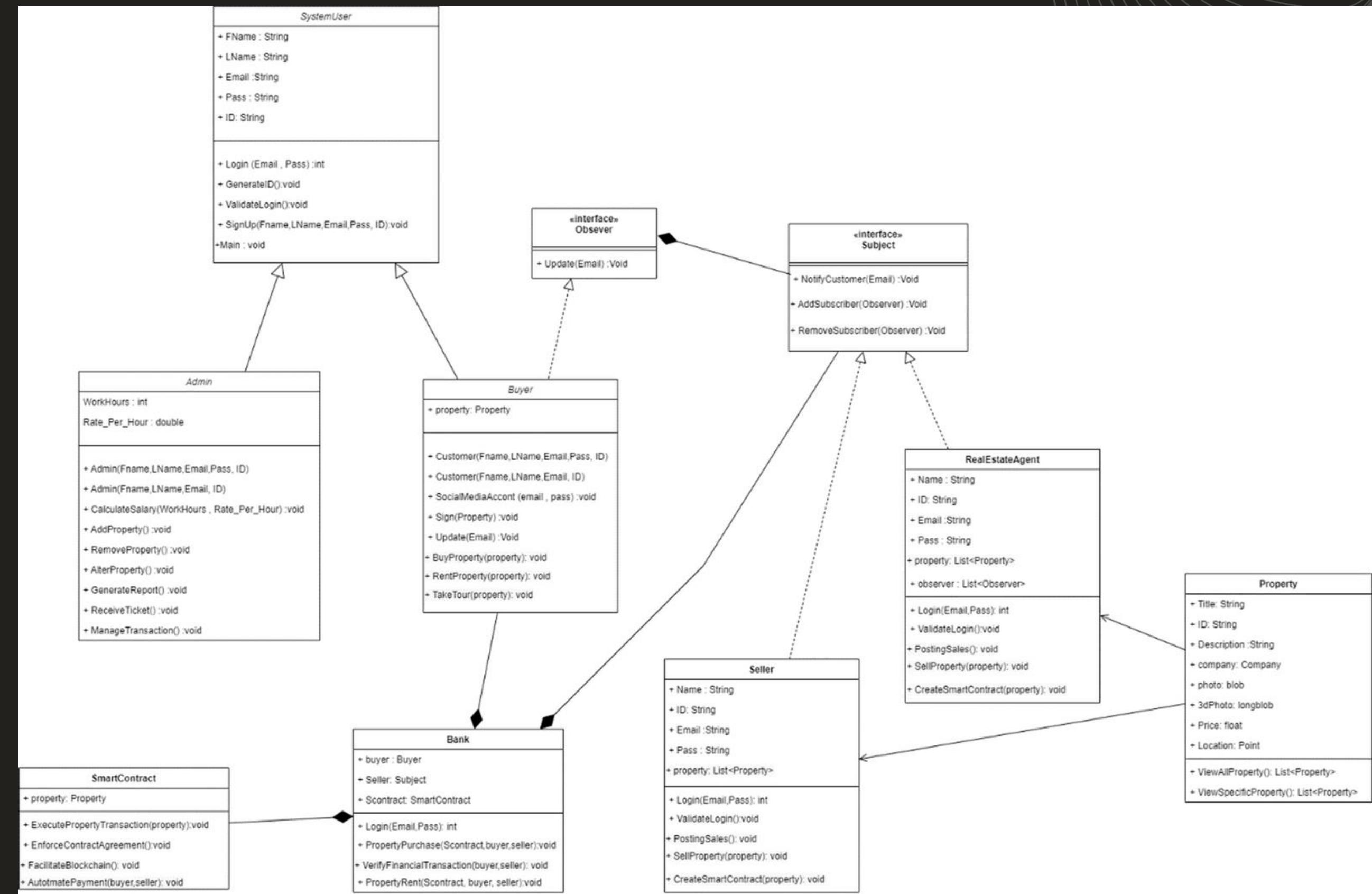
# Proposed Model & System Analysis

# Proposed Model

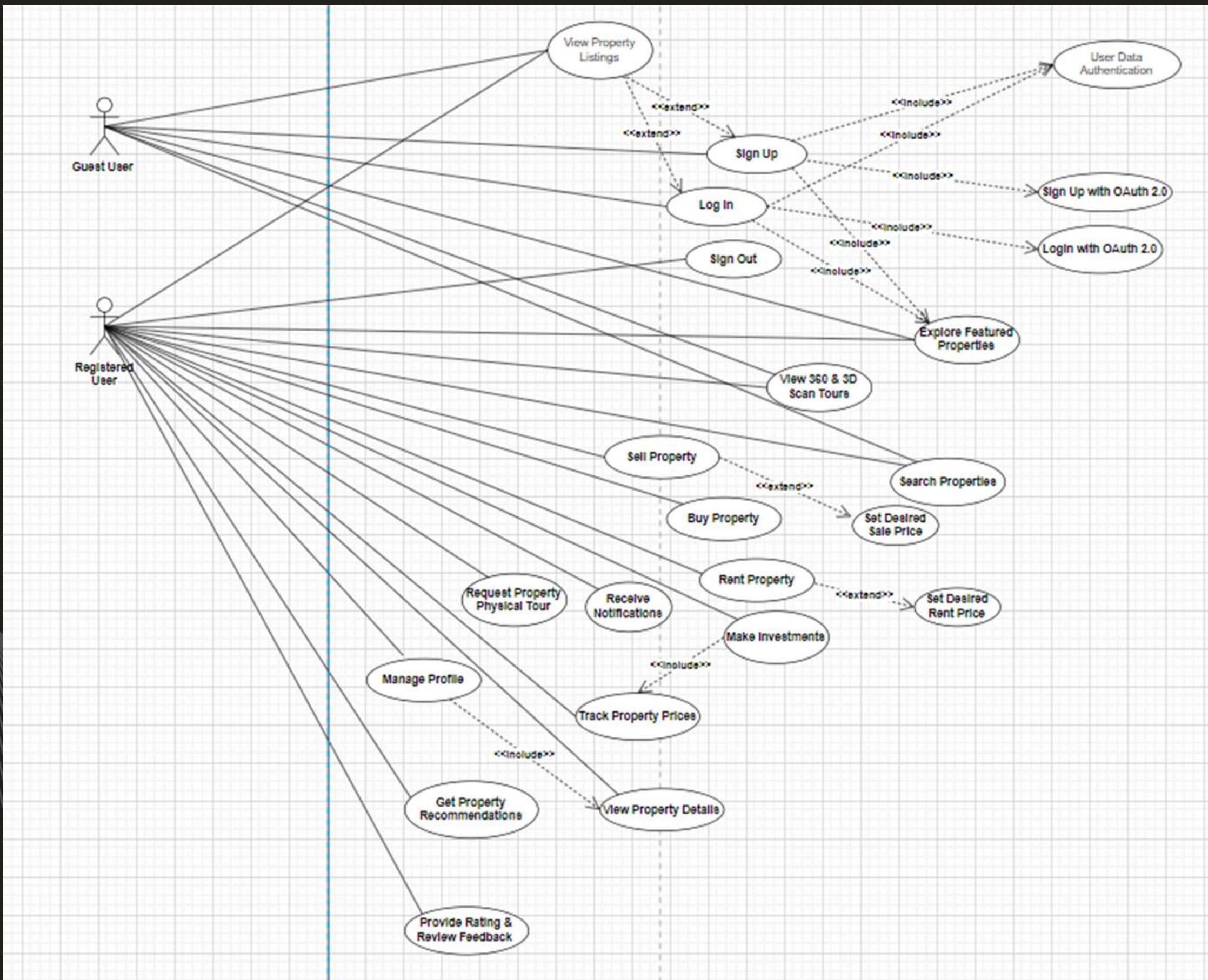


# Class Diagram

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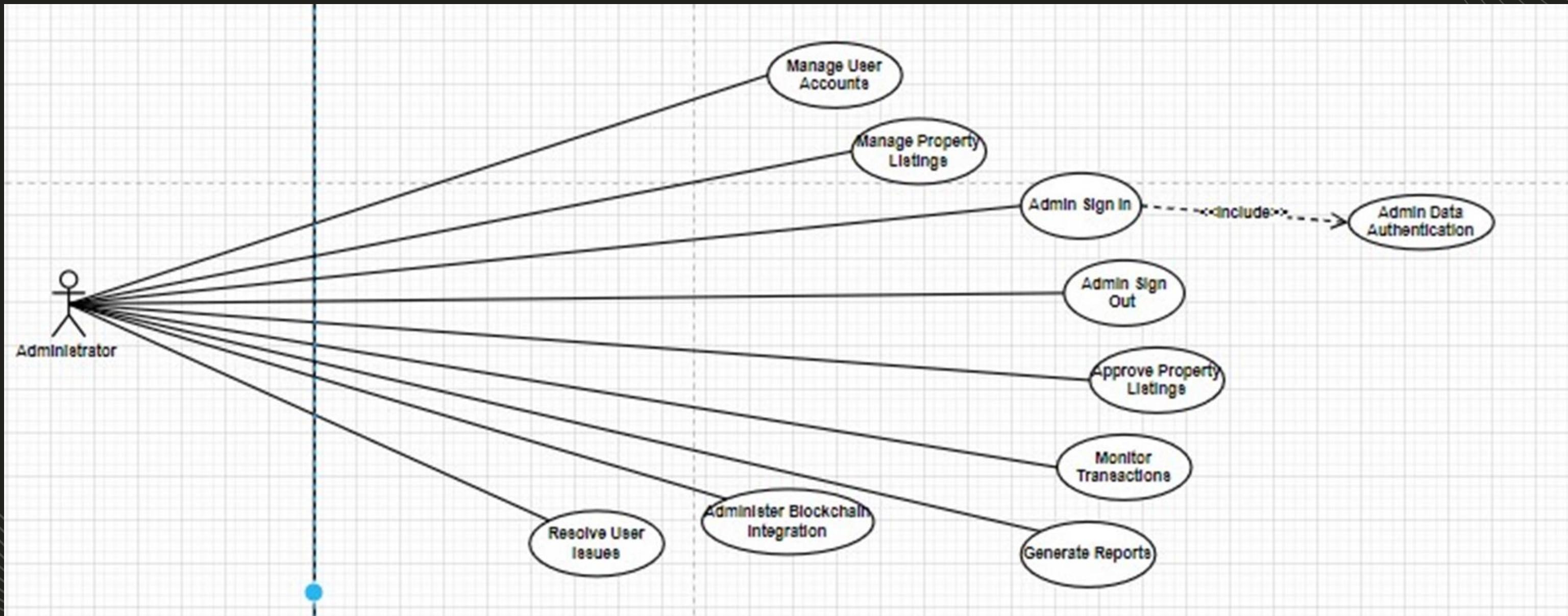
# User (Guest, Registered) Use Case



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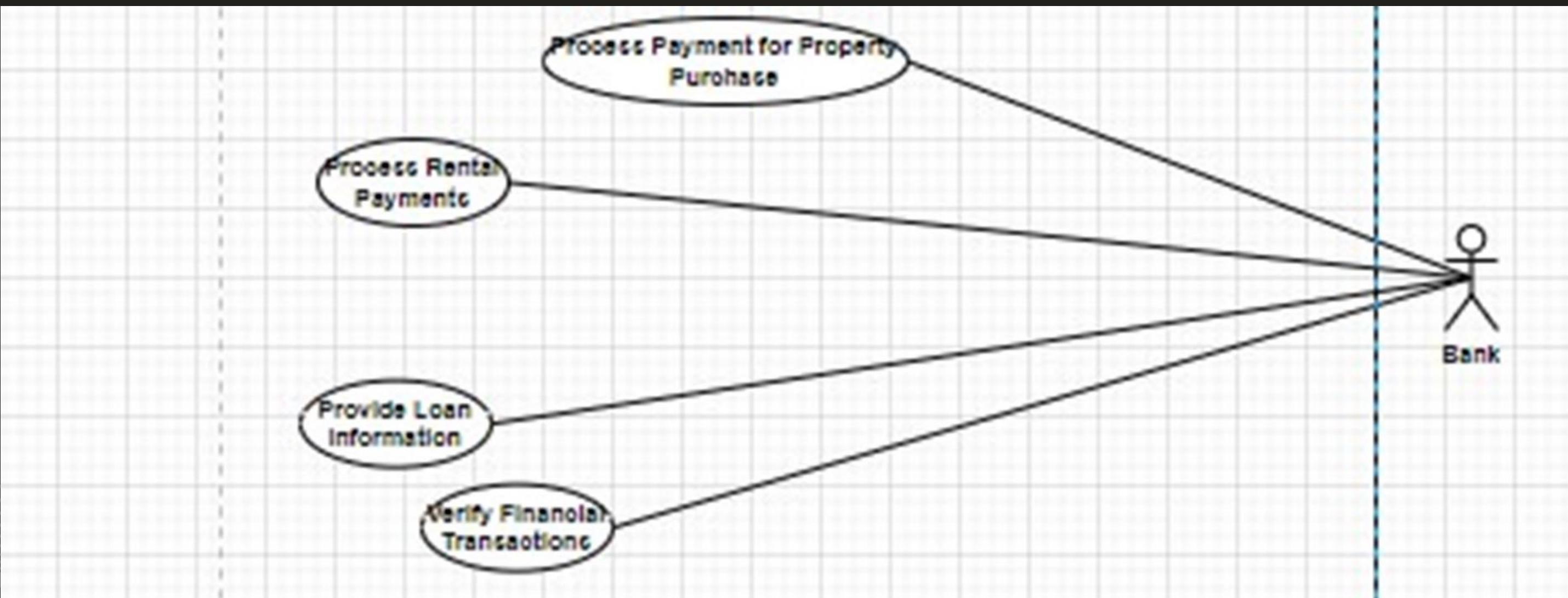
# Administrator Use Case

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# Bank Use Case

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# Detailed Use Case



Use Case	Sign Up with OAuth 2.0
Triggering Event	Guest User selects "Sign Up with (Facebook, Google, Apple)"
Description	Enables Guest User to sign up using OAuth 2.0 authentication.
Primary Actor(s)	Guest User
Objects Involved	Web App, Mobile App, Authentication Service, User Database
Stakeholders	Guest User, Real Estate Agent, Administrator.
Pre-condition	Web / Mobile App is operational, Authentication Service is connected.
Post-condition	Guest User has a registered account.
Flow of Activity	<ol style="list-style-type: none"><li>1. Guest User selects "Sign Up with (Facebook, Google, Apple)"</li><li>2. Web App /Mobile redirects to the Authentication Service.</li><li>3. Guest User authorizes with OAuth provider.</li><li>4. Authentication Service creates a new user account.</li></ol>
Alternate Flows	Guest User cancels OAuth authorization: Web /Mobile App notifies Guest User. OAuth provider denies authorization: Web App notifies Guest User.

# Detailed Use Case



Use Case	Buy Property
Triggering Event	Registered User Clicks "Buy Property"
Description	Allows Registered User to initiate the process of purchasing a property.
Primary Actor(s)	Registered User, Bank, Smart Contract
Objects Involved	Web App, Mobile App, Property Listing Database
Stakeholders	User (registered), Real Estate Agent, Administrator, Bank, Smart Contract.
Pre-condition	Web /Mobile App is operational Property Listing Database contains purchasable properties.
Post-condition	Registered User has initiated the purchase process, and the financial transaction is complete.
Flow of Activity	<ol style="list-style-type: none"><li>1. Registered User Clicks "Buy Property"</li><li>2. Web /Mobile App initiates a financial transaction with the Financial Institution.</li><li>3. Smart Contract is executed to facilitate the secure transaction.</li></ol>
Alternate Flows	Financial transaction fails: Web / Mobile App notifies Registered User.

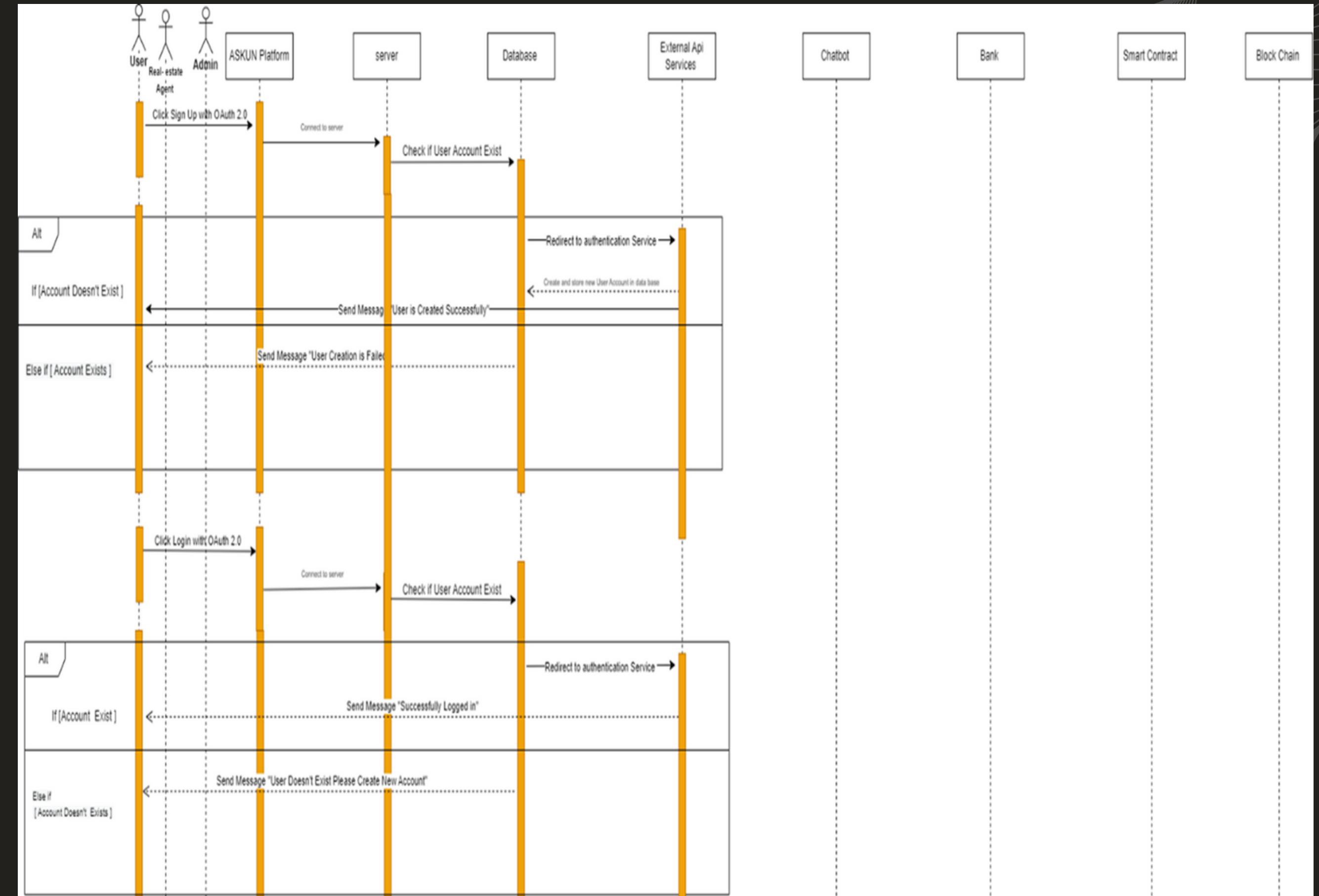
# Detailed Use Case



<b>Use Case</b>	Provide Automated Assistance
<b>Description</b>	Chat bot delivers automated assistance to users by answering queries, providing information, and guiding them through the platform.
<b>Triggering Event</b>	User initiates interaction with the chat bot.
<b>Primary Actor(s)</b>	User (Guest, Registered), Real Estate Agent, Chat Bot
<b>Objects Involved</b>	Chat Bot System, Knowledge Base, User Interface
<b>Stakeholders</b>	User, Chat Bot, Platform
<b>Pre-conditions</b>	User initiates chat, Chat Bot System is operational.
<b>Post-conditions</b>	User receives automated assistance; Chat Bot maintains conversation context.
<b>Flow of Activity</b>	<ol style="list-style-type: none"><li>1. User initiates chat interaction</li><li>2. Chat Bot System analyzes query using NLP.</li><li>3. Chat Bot System retrieves relevant information from Knowledge Base or generates dynamic responses.</li><li>4. Chat Bot presents response to user and maintains conversation context.</li></ol>
<b>Alternate Flows</b>	Query misinterpretation: Chat bot clarifies or offers options. Escalation to human support: Chat bot transfers to human agent for complex queries.

# Sequence diagram

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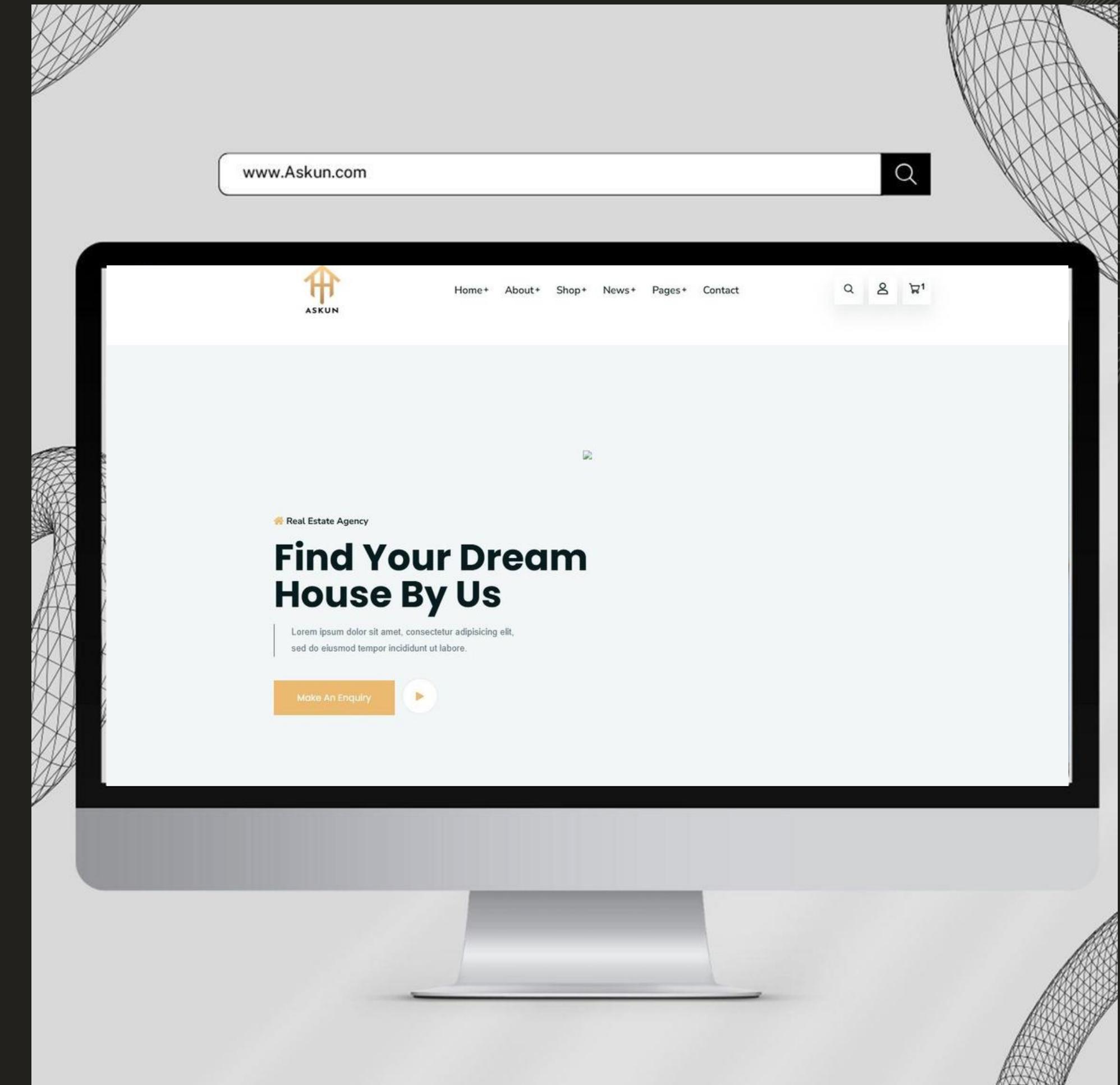
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# Implementation

# Interface (website)

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# Interface (website)

The screenshot shows a modern real estate website with a dark header and footer. The header includes contact information (info@Askun.com, 5 AAST Sheraton), social media links (Facebook, Twitter, Instagram, YouTube), and a 'Add Listing' button. The main navigation menu features Home, About, Shop, News, Pages, and Contact. Below the menu is a search bar and user icons for profile and cart. The main content area has a light gray background. It features a house icon and the text 'Real Estate Agency'. A large, bold title 'Find Your Dream House By Us' is displayed. Below the title is a short paragraph of placeholder text ('Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore.') and a yellow 'Make An Enquiry' button with a play icon. To the right is a large image of a modern multi-story apartment building with many balconies.

info@Askun.com 5 AAST Sheraton

f t i y Add Listing

ASKUN

Home About Shop News Pages Contact

Q

Real Estate Agency

## Find Your Dream House By Us

>Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore.

Make An Enquiry



ASKUN 

# Implementation



The Askun project was implemented using the following technologies:

Technology	Description	Usage
<b>Firebase Firestore</b>	NoSQL document database for scalable, high-performance app development.	Stores and retrieves property data, User data, receive messages from users, store feedback of each user, handling large amounts of data efficiently.
<b>Firebase Authentication</b>	Service for secure user authentication with various methods.	Manages user authentication and validation securely with methods like email/password login. And you can sign in using various platforms such as facebook.
<b>Google Generative AI (Gemini API)</b>	Customized chatbot to assist users with real estate queries.	Enhances customer support by providing real-time assistance and instant responses to user inquiries.
<b>360-Degree Virtual Tour</b>	Provides immersive online property exploration.	Enables virtual property navigation, improving the decision-making process using react-360-view.
<b>Smart Contracts</b>	Self-executing contracts with coded terms for secure, transparent transactions.	Facilitates secure property transactions, ensuring adherence to contract terms and reducing fraud risks.
<b>React Native</b>	Framework for building native mobile apps using JavaScript and React.	Develops cross-platform mobile apps for iOS and Android, providing a consistent user experience across devices.
<b>React</b>	A JavaScript library for building user interfaces.	Used for the web application to deliver a dynamic and interactive interface.
<b>Google Maps</b>	A service offering detailed maps and location-based services.	Integrated for precise location services and property mapping.

# Implementation



<b>SCSS</b>	A CSS preprocessor that adds advanced features like variables and nesting.	Enhances CSS to allow for more maintainable and scalable stylesheets.
<b>HTML</b>	The standard markup language for creating web pages.	Provides the foundational structure of the web application.
<b>JavaScript</b>	A programming language used to create interactive effects within web browsers.	Adds interactivity and dynamic functionality to the application.
<b>Firebase</b>	A platform developed by Google for creating mobile and web applications.	Manages data storage, authentication, and real-time database functionalities.
<b>Metamask</b>	A software cryptocurrency wallet used to interact with the Ethereum blockchain.	Facilitates smart contracts and cryptocurrency transactions.
<b>Netlify</b>	A platform for automating modern web projects.	Ensures smooth web deployment and hosting.
<b>Facebook social media API</b>	APIs that allow interaction with Facebook's social media platform.	Enables social media integrations and connectivity.
<b>Google API</b>	APIs provided by Google to integrate various Google services into applications.	Integrates various Google services for enhanced functionality.
<b>Apple API</b>	APIs provided by Apple to integrate with Apple's services and hardware.	Connects with Apple services for seamless user experiences.
<b>Node.js</b>	A JavaScript runtime built on Chrome's V8 JavaScript engine.	Provides a robust and scalable server-side environment.
<b>Babel</b>	A JavaScript compiler that allows you to use next generation JavaScript, today.	Transpiles modern JavaScript to ensure compatibility with all browsers.
<b>Blockchain</b>	A decentralized ledger technology that securely records and verifies transactions.	Ensures secure, transparent, and immutable property transactions through smart contracts.

# Interface (website)

The screenshot displays a real estate website with a clean, modern design. At the top, there is a navigation bar with links to Home, About, Shop, News, Pages, and Contact, along with search and user icons. The main content area features three property listings arranged horizontally.

- FOR-SALE**  
Large Layout | Terrace |  
Vacant | Furnished  
2 Bedrooms 3 Bathrooms
- FOR-SALE**  
Exquisite Canal Front 2BR +  
Maids, Panoramic Views &  
Top-Tier Comforts
- FOR-RENT**  
June 1st onwards ! Discover  
Tranquil Living: Stylish 1BHK  
Apartment in the Heart of  
Al Furjan, Discovery Garden

ASKUN 

# Interface (website)

**360° View**



**360° View**  
by Askun

📍 Belmont Gardens, Chicago

**Description**

Property ID:	7XhICKjPpMZESACUhe49
Home Area:	137.5002153216
Rooms:	2
Baths:	3
Property Status:	for-rent
Year built:	2021-11-23T07:27:38+00:00
Price:	15999USD

**Amenities**

- Broadband Internet
- Centrally Air-Conditioned

# Interface (website)

The screenshot shows a web page titled "Ask Askun". At the top left is a navigation bar with a house icon and the text "Home > Ask Askun". Below the navigation is a large, faint watermark of a person's face. The main content area has a title "Ask Askun" and a message input field containing "hello i want a duplex appartment". A scrollable message box displays a response from the AI: "Hello! 🌟 I'm Askun, your real estate guide in Egypt. To help you find the perfect duplex apartment, could you tell me your name first? 😊 Then, I'll need some more information from you: \* \*\*Where in Egypt are you looking?\*\* (Cairo, Alexandria, Giza, etc.) \* \*\*What's your budget?\*\* \* \*\*How many bedrooms and bathrooms do you need?\*\* \* \*\*Do you have any other preferences, like a balcony, rooftop terrace, or specific neighborhood?\*\* Once I have this information, I can start searching for duplex apartments that match your needs!" Below the message box is a text input field placeholder "Type your message here..." and a yellow "Send" button.

ASKUN

# Interface (website)

The screenshot displays the ASKUN website's checkout process. At the top, the ASKUN logo is visible next to a navigation bar with links to Home, About, Shop, News, Pages, Contact, and user icons for search, account, and cart.

**Billing Details**

This section contains fields for Personal Information (First name, Last name, email address, phone number), Company details (Company name, Company address), Country selection, Address input, and Town/City, State, Zip code fields. It also includes a checkbox for creating an account and an optional Order Notes text area.

**Payment Method**

Options for payment include Cash and Crypto wallet. The Crypto wallet option is selected, with a note to pay through a crypto wallet and a button to "Pay with Crypto 2415999". A small disclaimer at the bottom states: "Your personal data will be used to process your order, support your experience throughout this website, and for other purposes described in our privacy policy."

**Cart Totals**

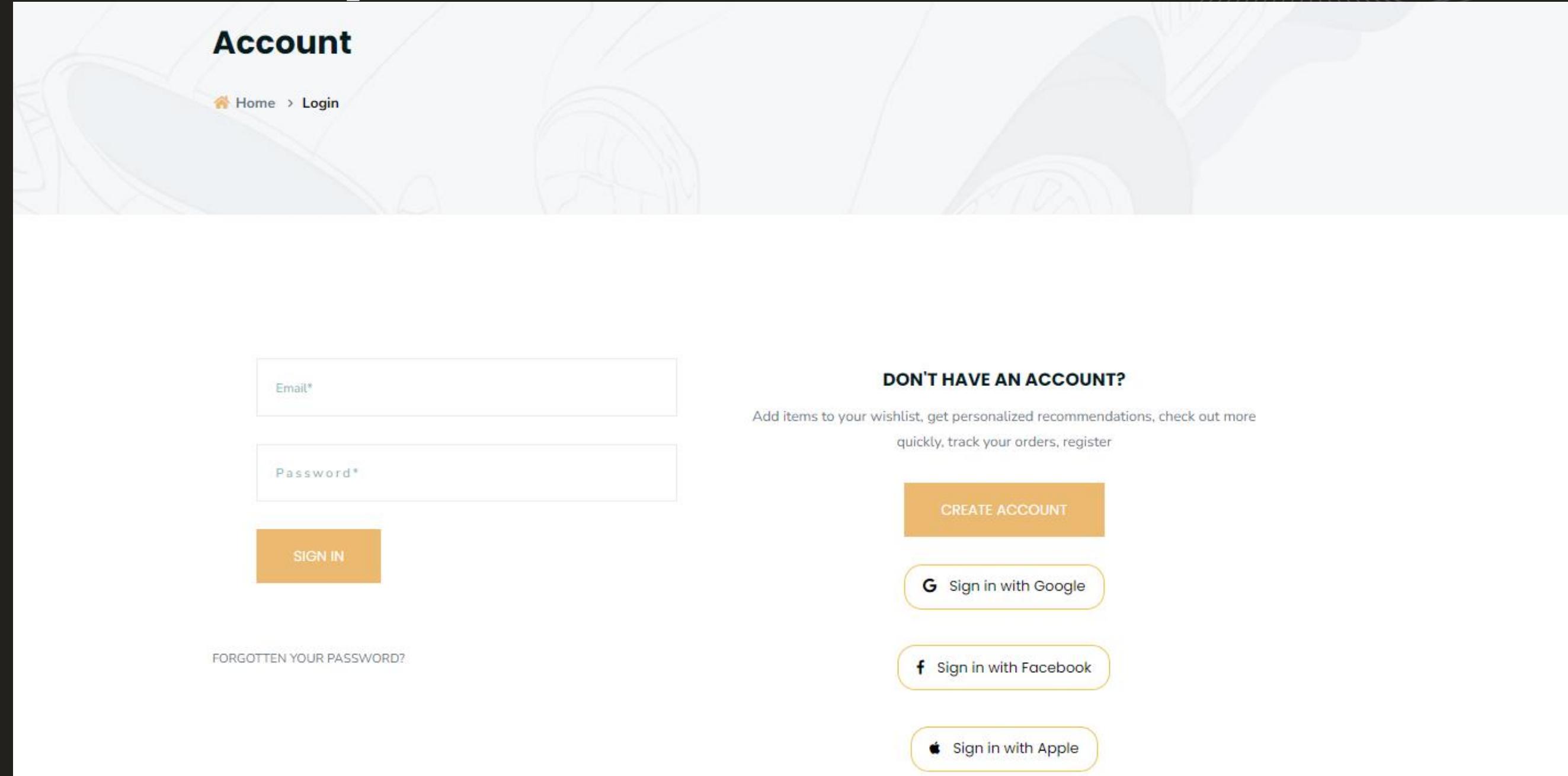
The cart summary shows two items:

- Premium 2 BHK with Incredible View of Marina Waterfront (Quantity: 1, Price: 150)
- 2 Bedroom | Vacant Now | Open Bright Layout (Quantity: 1, Price: 24000)

A navigation bar at the bottom includes back and forward arrows.

ASKUN

# Interface (website)



Home > Login

## Account

Email\*

Password\*

SIGN IN

FORGOTTEN YOUR PASSWORD?

DON'T HAVE AN ACCOUNT?

Add items to your wishlist, get personalized recommendations, check out more quickly, track your orders, register

CREATE ACCOUNT

G Sign in with Google

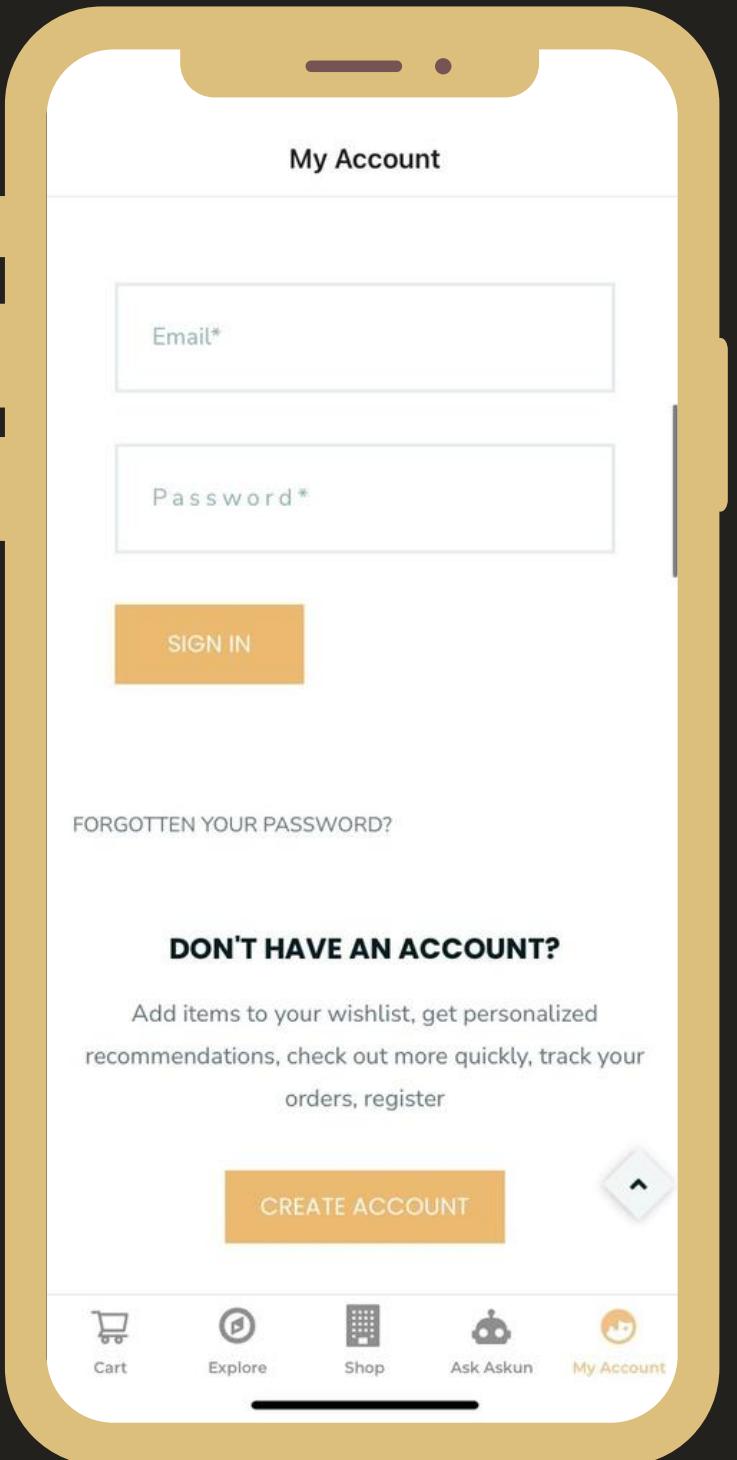
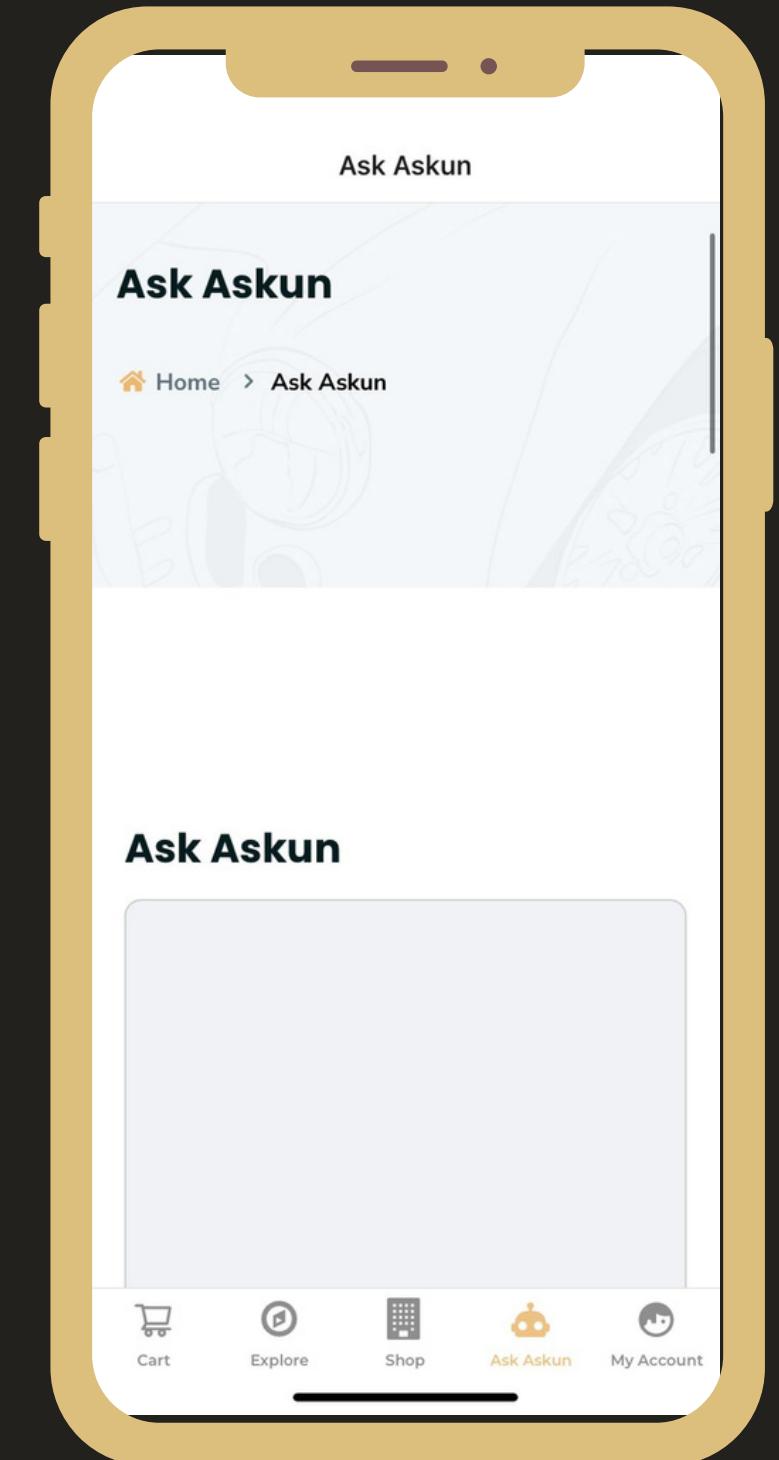
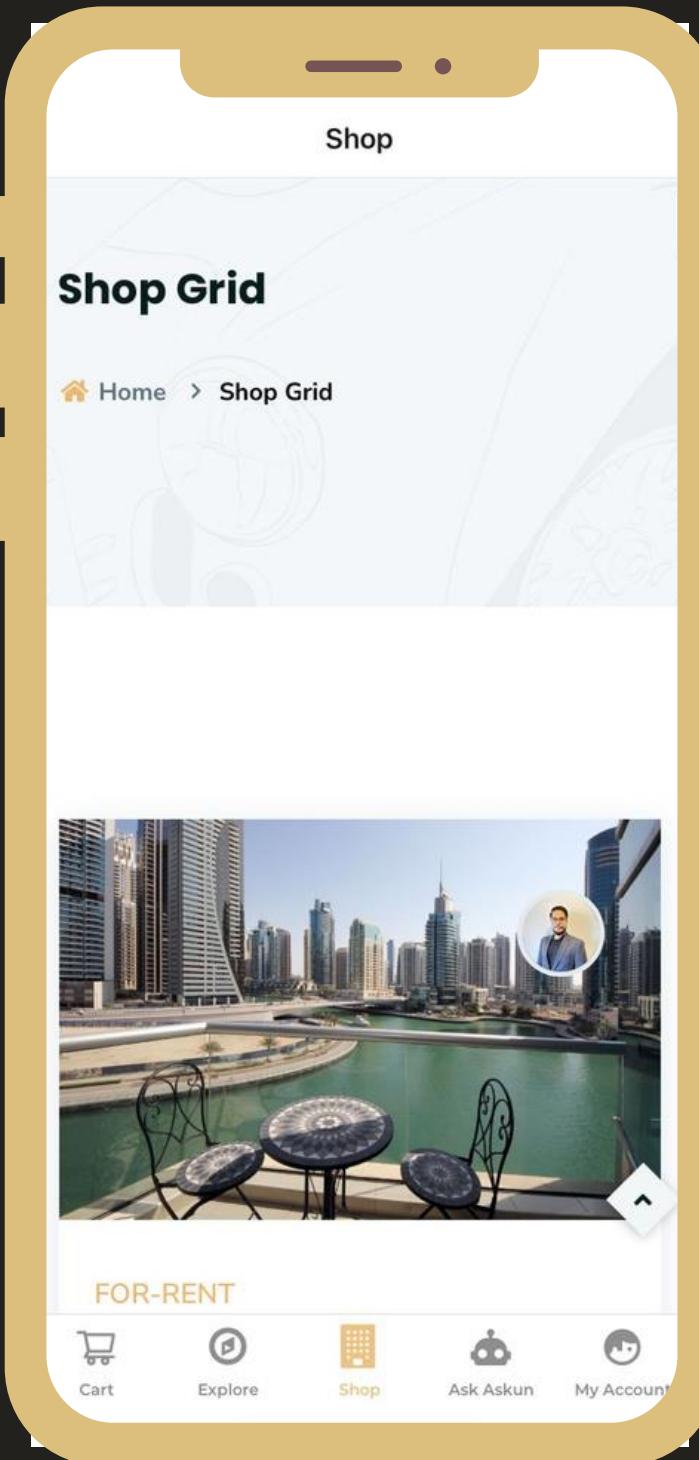
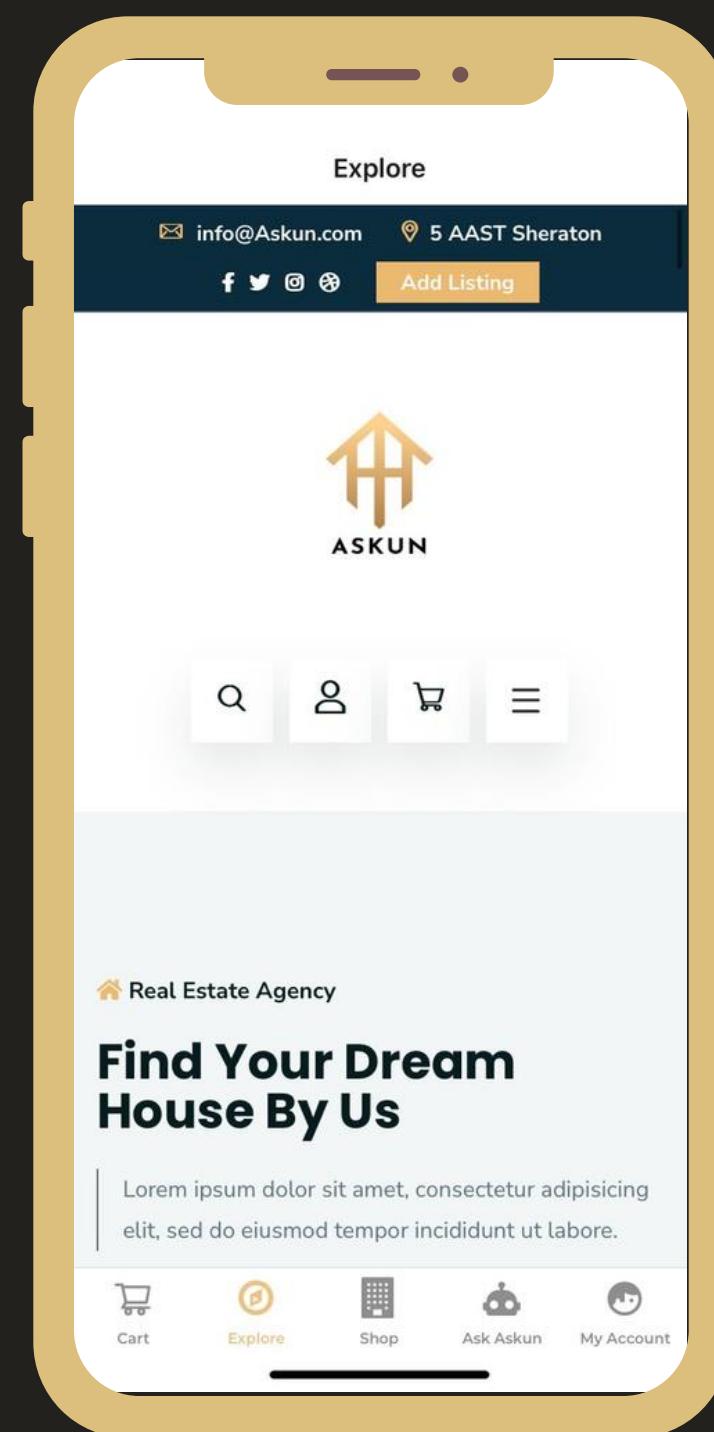
f Sign in with Facebook

apple Sign in with Apple

ASKUN 

# Interface (Mobile)

ASKUN 





# Testing



# Test Cases

Test Case ID	Title	Description	Preconditions	Steps
TC001	User Inquiry for Property Description	Validate chatbot's response when user expresses interest in property.	User has accessed the chatbot.	1. User greets the chatbot. 2. User expresses interest in buying property.
TC002.1	Inquiry about Property Type	Validate chatbot's ability to ask about property type.	User has greeted the chatbot.	User Input: "I want to buy a property."
TC002.2	Inquiry about Location	Validate chatbot's ability to ask about property location.	User has said or asked about property type.	User Input: "I want to buy a property."
TC002.3	Inquiry about Budget	Validate chatbot's ability to ask about budget for property.	User has given budget or asked by chatbot.	User Input: "I want to buy a property."
TC002.4	Inquiry about Preferences and Amenities	Validate chatbot's ability to ask about property features and amenities.	User has been asked by the chatbot.	User Input: "I want to buy a property."

Expected Result	Actual Result	Pass/Fail	Comments
The chatbot greets the user, requests more information about the property.	The chatbot greeted the user,	Pass	The chatbot provided a friendly and detailed response, guiding the user effectively.
"What type of property are you interested in (apartment, villa, land, etc.)?"	Chatbot prompts user for the type of property.	As expected.	Pass
"Where in Egypt are you hoping to find a property?"	Chatbot prompts user for the location.	As expected.	Pass
"What's your budget?"	Chatbot prompts user for their budget.	As expected.	Pass
"Do you have any specific features or amenities you're looking for (e.g., swimming pool, parking, etc.)?"	Chatbot prompts user for any specific requirements.	As expected.	Pass



# CRUD Functions Testing

The screenshot shows a login interface with the following elements:

- Email Input:** myasser126667@gmail.com
- Password Input:** (Placeholder text: Password\*)
- Sign In Button:** SIGN IN
- Account Creation Option:** CREATE ACCOUNT
- Google Sign-In Option:** G Sign in with Google
- Text:** DON'T HAVE AN ACCOUNT? Add items to your wishlist, get personalized recommendations, check out more quickly, track your orders, register



# CRUD Functions Testing

(default)	User	N4krLvzUTOazlN8xJudFlmw7YwR2
+ Start collection	+ Add document	+ Start collection
Agencies	4s9orG5vNrYLDNmGXA9T	Cart
Company	AZzilWWtN4dyVkJ5Pf8y2	Wishlist
Feedback	Ci7MsRK0aVzbFuMvlRon	mv_Properties
Messages	N4krLvzUTOazlN8xJudFlmw7YwR2 >	+ Add field
Properties	SbMSe2i8L8NFqYf6FWlan1YAD9c2	displayName: "Myasser Sharaf"
PurchasedProperties	UKmdgTbcwIgOCB100RMZ80o8dUX2	email: "myasser126667@gmail.com"
User	X550fmwgMDVzfIXv7i74db7pku72	firstName: "Mohamed"
Users	YQ42eRToGLC4WuMzUyVh	lastName: "Yasser"
services	qCTJHsjTJE7Y1wjQMtsO	photoURL: "https://lh3.googleusercontent.com/a/ACg8ocl-KEoI6ix9y5ee5xTQBj5QczRcgSPNwoXHdZtW2PD9Y_MTKQ=s96-c"
		uid: "N4krLvzUTOazlN8xJudFlmw7YwR2"

metrix Grade ?

Web Vitals ?

B

Performance ?

94%

Structure ?

62%

LCP ?

1.1s

TBT ?

118ms

CLS ?

0.06

Summary

Performance

Structure

Waterfall

Video

History

## Speed Visualization ?



## Top Issues

These audits are identified as the top issues impacting your performance.

All

FCP

LCP

TBT

CLS

## Page Details ?

Pages with smaller total sizes and fewer requests tend to load faster.

First Contentful Paint	Good - Nothing to do here <b>894ms</b>	Longer than recommended <b>3.9s</b>
Speed Index	OK, but consider improvement <b>1.3s</b>	Good - Nothing to do here <b>118ms</b>
Largest Contentful Paint	Good - Nothing to do here <b>1.1s</b>	Good - Nothing to do here <b>0.06</b>
Browser Timings	These timings are milestones reported by the browser.	

Redirect Duration ?	0ms	Connection Duration ?	70ms	Backend Duration ?	125ms
Time to First Byte (TTFB) ?	195ms	DOM Interactive Time ?	511ms	DOM Content Loaded Time ?	777ms
First Paint ?	894ms	Onload Time ?	1.5s	Fully Loaded Time ?	6.1s

IMPACT AUDIT

Show Audits Relevant to

All FCP LCP TBT CLS

High	Properly size images	Potential savings of 4.62MB
High	Avoid enormous network payloads <small>LCP</small>	Total size was 6.70MB
High	Efficiently encode images	Potential savings of 1.56MB
Med	Use explicit width and height on image elements <small>CLS</small>	43 images found
Med	Avoid an excessive DOM size <small>TBT</small>	1,527 elements
Med-Low	Serve static assets with an efficient cache policy	Potential savings of 125KB
Med-Low	Avoid CSS @import <small>FCP LCP</small>	1 resource found
Low	Reduce unused JavaScript <small>LCP</small>	Potential savings of 437KB
Low	Eliminate render-blocking resources <small>FCP LCP</small>	Potential savings of 131ms
Low	Avoid long main-thread tasks <small>TBT</small>	6 long tasks found

Low	Use passive listeners to improve scrolling performance	1 event listener not passive
Low	Allow back/forward cache restoration	1 failure reason
Low	Reduce unused CSS <small>FCP LCP</small>	Potential savings of 86.4KB
Low	Reduce JavaScript execution time <small>TBT</small>	756ms spent executing JavaScript
Low	Ensure text remains visible during webfont load <small>FCP LCP</small>	1 font found
Low	Preconnect to required origins <small>FCP LCP</small>	Potential savings of 79ms
Low	Avoid large layout shifts <small>CLS</small>	5 elements found
Low	Reduce initial server response time <small>FCP LCP</small>	Root document took 116ms
Low	Defer offscreen images	Potential savings of 4.77MB
Low	Minify CSS <small>FCP LCP</small>	Potential savings of 10.8KB
Low	Avoid non-composited animations <small>CLS</small>	100 animated elements found
Low	Minify JavaScript <small>FCP LCP</small>	Potential savings of 3.94KB



Protect your Cloud Firestore resources from abuse, such as billing fraud or phishing

Configure App Check

Panel view

Query builder

User &gt; Ci7MsRKOaVzb..

More in Google Cloud

default)

art collection

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mpany

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roperties

urchasedProperties

er

rvices

User



+ Add document

AZzilWWtN4dyVk5Pf8y2

Ci7MsRKOaVzbfuMvlRon

N4krLvzUT0az1N8xJudFImw7YwR2

SbMSe2i8L8NFqYf6FWlan1YAD9c2

Ci7MsRKOaVzbfuMvlRon

+ Start collection

+ Add field

email: "midosaber2002@gmail.com"

firstName: "Mohamed"

lastName: "Sarhan"

uid: "N4Wz8UoX6nRH74bAnGNbbMaoDAG3"

userName: "MoWaleed"



# Conclusion & Future Work

# Conclusion



- A proposed real estate management system aims to streamline processes and transform the industry by incorporating advanced technologies such as AI-driven tools, blockchain security, and augmented reality. It is a collaborative effort aimed at creating a sophisticated, user-friendly, and innovative solution for real estate, with user feedback guiding future improvements.

# Future Work

ASKUN 

- Integration of Drone Technology for Location Imaging.
- Augmented Reality (AR) for Property Viewing.
- Enhanced Investment Portfolio Management.
- Blockchain for Investment Transparency.
- Real-Time Stock Exchange Tracking.
- Machine Learning for Investment Recommendations.
- In-Platform Communication Enhancements.
- Expansion of Geographic Coverage.



ASKUN



Thank  
You!

