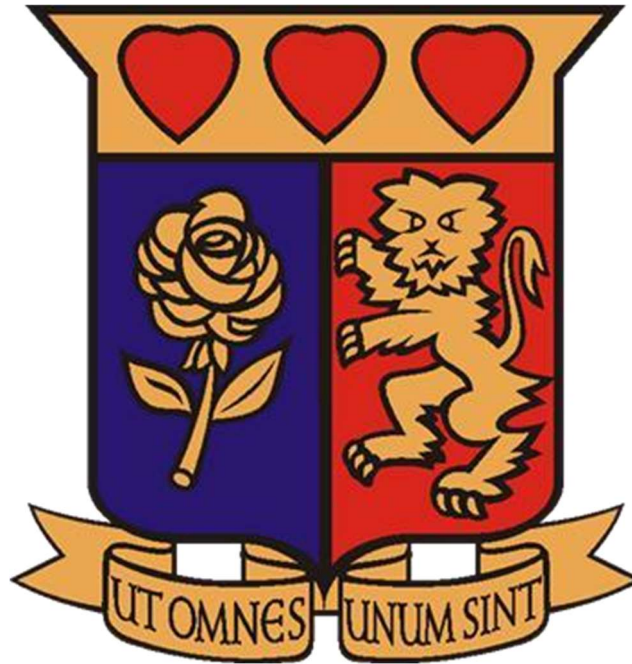


VIRTUAL HOUSE TOUR



ICS 2201: Software Engineering

ICS 2A

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ELEVATOR PITCH PROPOSAL

Problem Description.

Many people struggle significantly with finding a house for vacation or to live in due to the distance they may have to travel to reach a suitable property, the expenses incurred in locating the ideal place to stay, and the time required for individuals to set aside for traveling to these various destinations. This is a huge problem because it makes the entire process of finding a home very tedious and overwhelming, leading people to usually resort to giving up altogether or rather settle for houses below their liking. Consequently, this situation makes them more vulnerable to falling prey to scams and deceptive offers in the housing market.

Problem significance.

This is a significant problem because of the major possibility of having clashing timetables with potential landlords and the risk of being scammed online out of the people's hard-earned money. This innovative system will save both time and energy for clients, as one can conveniently search online for the house of their dreams in a reliable and secure manner. Additionally, it will make the whole process much easier to narrow down the options available for clients due to the use of an advanced filtering system that will be employed to enhance the search experience.

Solution idea

The Virtual Home Tour is designed for individuals who want to embark on their house-hunting journey but are unsure where or how to begin, as well as for those who lack the luxury of time. One of the key features is the **filtering system**, which allows users to apply specific filters to narrow down their search to find exactly what they are looking for. The app also facilitates connections between potential tenants and landlords, enabling landlords to leave their contact information on property listings. Additionally, a **rating system** that allows users to rate the properties they have viewed and leave comments for both other users and landlords. Finally, the app supports **property listings**, empowering users to act as landlords themselves by posting their properties for rent.

CHAPTER 1: INTRODUCTION

This project, the Virtual House Tour Platform, is designed to revolutionize the way clients explore potential real estate properties by providing a convenient and immersive virtual touring experience. The platform allows clients to view homes they are interested in from anywhere, eliminating the need for physical travel to each property location. With high-quality visuals, interactive controls, and intuitive navigation, users can gain a comprehensive understanding of the house layout, room sizes, and overall ambiance directly from their devices.

Purpose and Motivation

The idea behind this platform emerged from the growing need for efficient, remote solutions in real estate viewing. Traditional property tours can be time-consuming, costly, and challenging, especially for clients looking to explore multiple homes across different locations. This virtual touring solution aims to make house hunting more accessible, time-efficient, and user-friendly, particularly for clients who are relocating or have busy schedules.

Target Audience

The platform is tailored for potential homebuyers, renters, and real estate agents. It caters to:

Homebuyers and Renters: Those who want to explore a variety of properties before making decisions about on-site visits.

Real Estate Agents: Professionals who seek to broaden their reach by offering virtual tours to clients, making it easier to showcase properties to a wider audience.

Key Features

The Virtual House Tour Platform offers several core features designed to enhance the touring experience:

High-Quality Virtual Tours: Users can view detailed, high-resolution visuals of each property, with options for 360-degree views and zoom functionality.

Interactive Floor Plans: Each tour includes floor plans, enabling users to see the layout and spatial organization of the rooms.

Customizable Navigation: Clients can move freely within the virtual environment, with options to view different rooms and areas in any order.

Agent Assistance: Built-in tools for live agent interaction allow real estate agents to guide clients through the virtual tour, answer questions in real-time, and provide additional information as needed.

Goals

The primary goal of this platform is to streamline the real estate viewing process, making it more accessible and user-centric. By enabling clients to explore properties remotely, the platform minimizes the logistical and financial burdens of physical visits. Additionally, the platform helps real estate professionals reach a broader, more geographically diverse client base.

CHAPTER 2: REQUIREMENTS ANALYSIS

Functional Requirements

1. Landlord responsibilities

The system shall allow the lands to register their own account.

The system shall allow landlords to upload property listings.

The system shall allow landlords to edit property listings.

The system shall allow landlords to respond to comments on their properties.

The system shall allow landlords to communicate with registered users.

The system shall prevent landlords from rating their own properties.

The system shall allow landlords to display rental charges for each property.

2. Registered User responsibilities

The system shall allow registered users to view property details.

The system shall allow the registered users to filter out houses based on location.

The system shall allow the registered users to filter out houses based on desired size.

The system shall allow registered users to leave comments on properties.

The system shall allow registered users to rate properties.

The system shall allow registered users to communicate with landlords.

The system shall allow registered users to book properties for rent.

3. Guest Visitor Permissions

The system shall allow guest visitors to view available property listings.

The system shall allow guest visitors to view comments on properties.

The system shall allow guest visitors to view ratings on properties.

The system shall allow the guest visitors to create an account to become a registered user.

The system shall restrict guest visitors from posting comments.

The system shall restrict guest visitors from giving ratings.

The system shall restrict guest visitors from booking properties.

The system shall restrict guest visitors from communicating with landlords.

Actors and Goals

Actors

1. **Landlord** - An individual listing property on the platform for rent.
2. **Registered User** - A user with an account on the platform who seeks to view, comment on, rate, and book properties for rent.
3. **Guest** - A user who browses the platform without an account.

Goals

1. Landlord Goals

To upload and manage property listings.

To interact with registered users who show interest in their properties.

To respond to feedback on listed properties.

To display accurate rental charges for properties.

2. Registered User Goals

To browse and explore property details and virtual tours.

To comment on and rate properties.

To book properties for rent.

To communicate with landlords regarding specific properties.

3. Guest Visitor Goals

To browse available properties.

To view comments and ratings on properties.

To explore the platform's offerings without interacting or contributing content.

Nonfunctional requirements

Overall requirements

The system shall be available to all its users.

The system shall run on any browser

The system shall be available to all its users whenever they access it

The system shall acquire authentication for its registered users

The system shall require authentication for its registered landlords.

System Requirements

The system shall display the number of bookings received for each property listed by the landlord every month.

The system shall calculate and display the total amount earned by the landlord for each property per month.

The system shall display to the landlord the number of views each property has received.

The system shall display average ratings and feedback summaries for each property to the landlord.

To the stakeholders

The system shall provide a monthly summary of all bookings, including dates, user details, and booking status.

The system shall offer a detailed transaction history for each property, including payment dates, amounts, and any applicable fees.

USE CASE DIAGRAMS

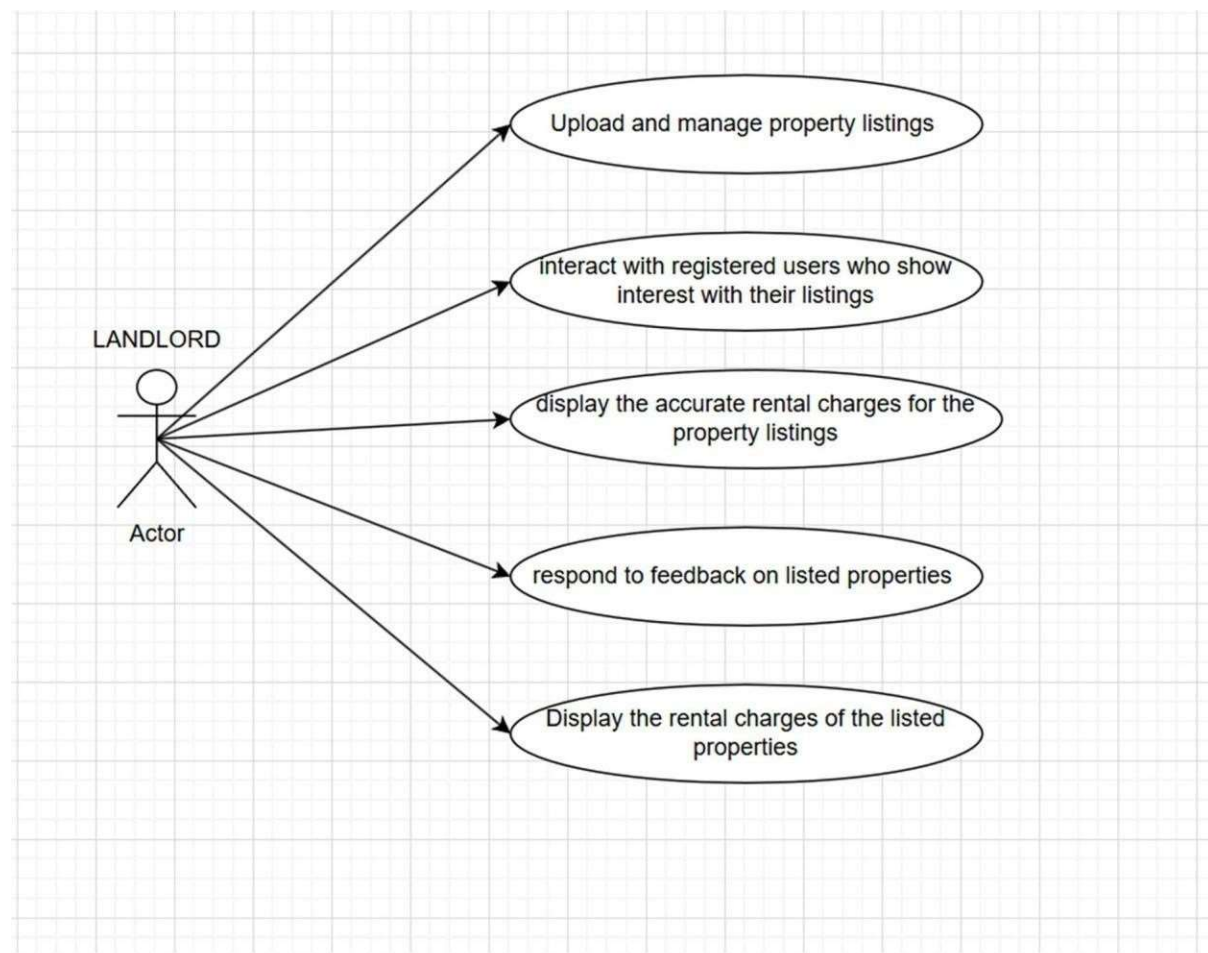


Figure 1: Landlord use case diagram

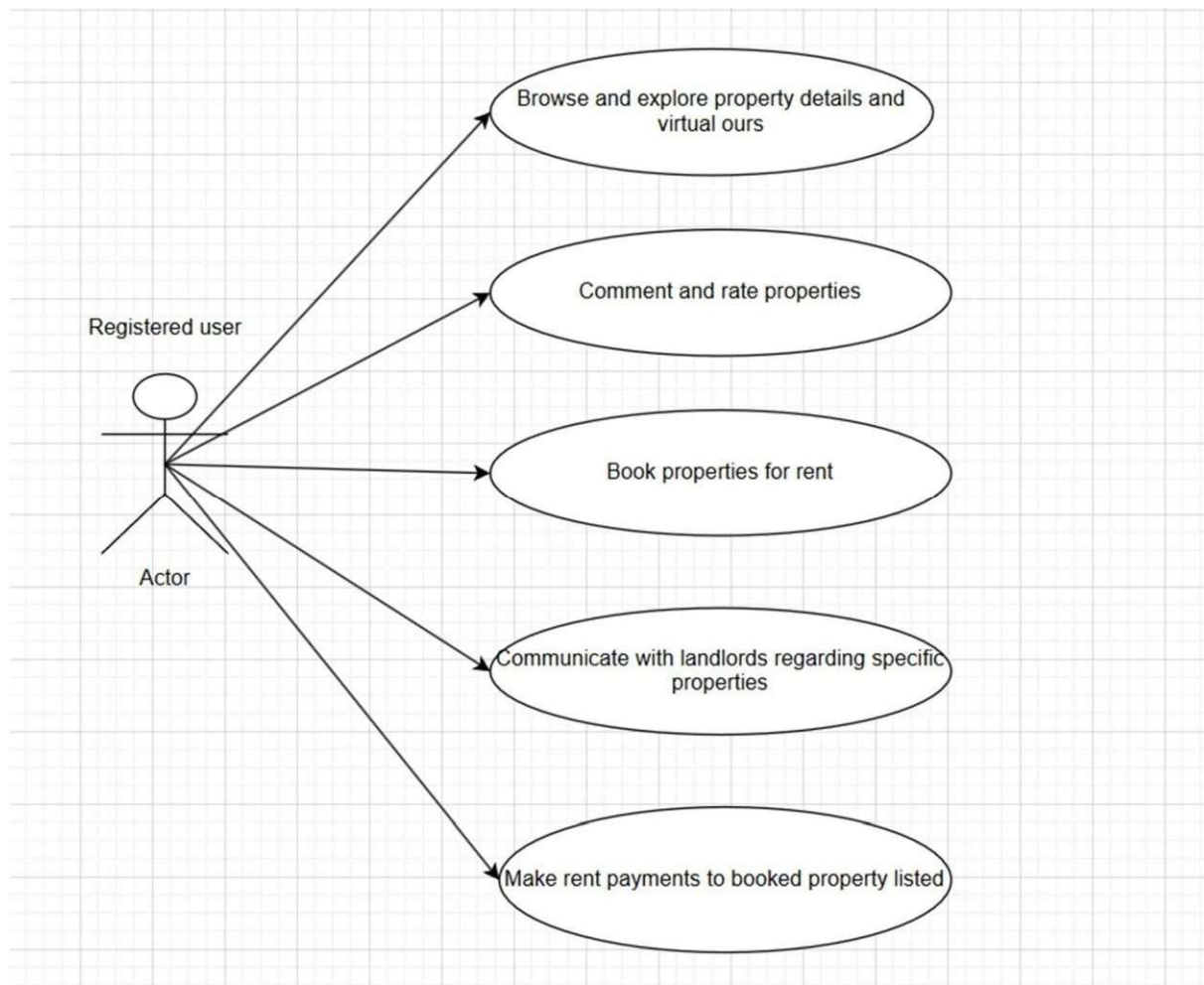


Figure 2: Registered users use case Diagram

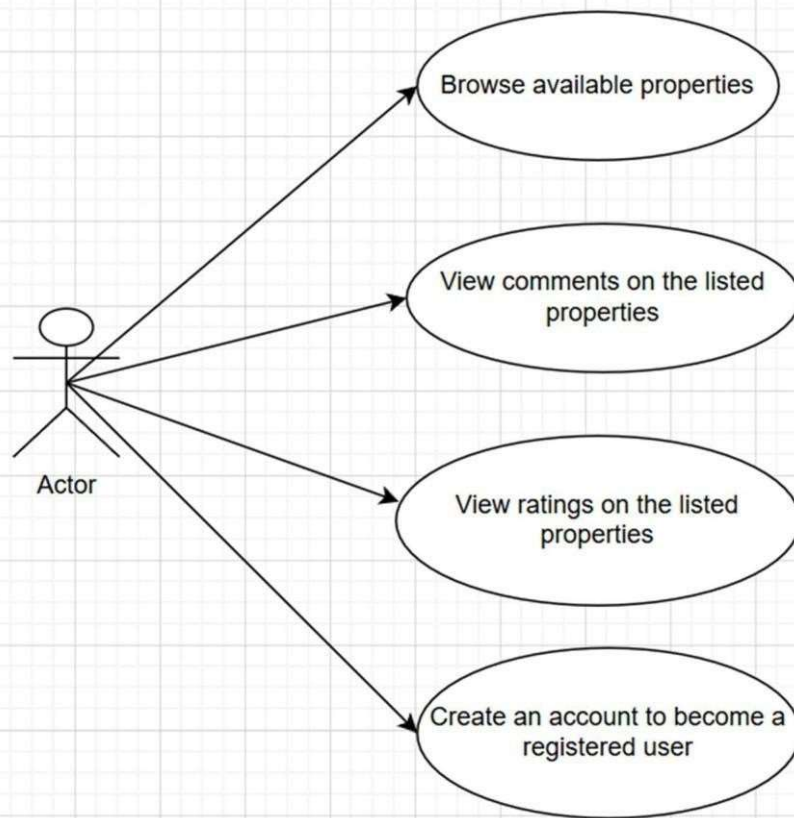


Figure 3: Guest visitor use case diagram

REQUIREMENTS ELICITATION AND ANALYSIS PROCESS

Requirements discovery

The requirement discovery process was done by conducting an interview that was shared to the class group where issues regarding their current method of house hunting were recorded and their openness to switch to a virtual touring website. The questionnaire created was also keen to take down what key features they would like to have implemented on the website if they were to use a virtual touring website for house hunting.

To ensure the users taking the questionnaire were as transparent as possible, we made anonymity an option to the users. In case a user wanted their questions/ concerns tackled, they were free to add their names to the questionnaire.

QUESTIONNAIRE

Virtual House Tour

What do you need from a virtual house tour app?

amy.mugeni@strathmore.edu [Switch account](#)

Not shared

* Indicates required question

You may give your name for a follow up.

Your answer_____.

1. What is your living status?*

- ☐ With parents and/or guardians
- ☐ At a student hostel
- ☐ Renting an appartement
- ☐ Other:

1.a. If you chose 'other' above, please, give a short description.

Your answer_____.

2. How easy is it to find accommodation?*

Easy

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5

Hard

2.a. What would ease the process?

Your answer_____.

Figure 4: questionnaire

2.b. What would you like to keep in the process?

Your answer_____.

3. Would you prefer to view potential houses virtually than physically?*

- ☐ Yes
- ☐ No
 - ☐ Maybe(I would like both options available)

4. What features would you like in the app?*

Your answer_____.

5. What concerns do you have that one may face using this app?*

Your answer_____.

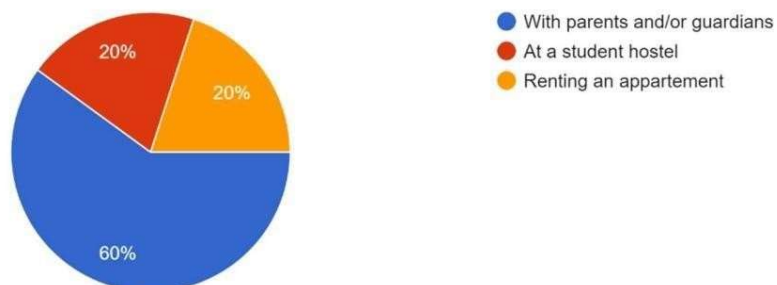
Figure 5: questionnaire

Submit

QUESTIONNAIRE RESPONSES

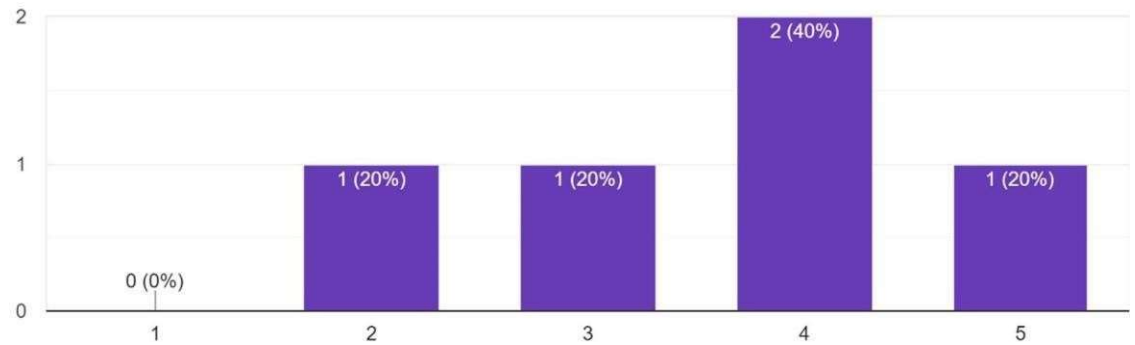
1. What is your living status?

5 responses



2. How easy is it to find accommodation?

5 responses



2.a. What would ease the process? responses

A website or app I can find everything I need to look for a house (the potential houses, costs, amenities, follow up contacts, etc)

1. Having many options to choose from Looking at the layouts of these options before touring 2

Information on available houses and people to contact about them.

Better deals

by not having to physically go to desired apartments and remotely get into contact with the landlord

2. b. What would you like to keep in the process? responses

How easy it is to move in once you find the house like there should be no extra steps or documentation needed after a suitable house has been found

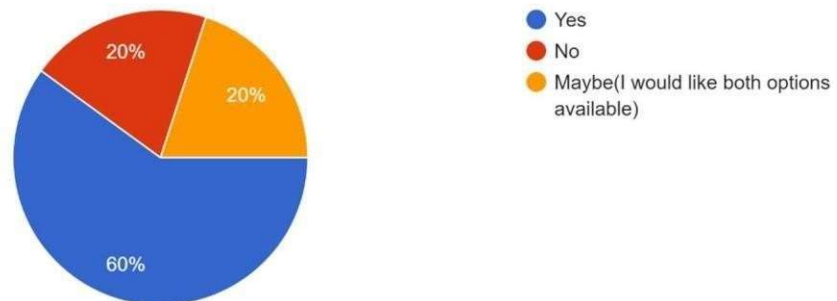
Being able to see the house before hand and communicate directly with the owner and not agents.

security

Figure 6: response

3. Would you prefer to view potential houses virtually than physically?

5 responses



4. What features would you like in the app? responses

Saving houses I like

More realistic If there can be buttons /options to click to a specific room

Booking.

Filters based on locations, prices etc

I want to be able to interact with the interested house virtually

5. What concerns do you have that one may face using this app? responses

Accuracy of viewings and my ensured safety

Safety

No updates concerning houses that have already been occupied.

False advertising

that may not reflect frequent changes

Figure 7: responses

POST INTERVIEW ANALYSIS

Above are the responses we got from the questionnaire that was sent out for data collection. Based on the responses received, A greater number of people find difficulties looking for houses physically due to various challenges like cost and distances. Furthermore, majority of them are open to trying to ease the process of house hunting through our proposed solution virtual tours.

Common themes and interests

What would ease the process of house hunting?

For this question most people answered that having a platform where they can access all of these features like contacting the landlord, cruising through different houses with different layouts and more affordable housing deals would ease the problem of house hunting all of each the system shall address.

They were also able to point out some key features that they would like the system to implement such as a filtering options to make the whole house hunting process easier and faster and options to save houses they'd like to rent in future both of which our system has taken into account and integrated.

However, there were also concerns about embracing the virtual tours website like security, Accuracy and false advertising. These concerns are tackled with our system as follows:

In terms of false advertising, the landlords who want to upload their houses for listings would contact us and we are the ones to come with our camera and do the virtual tours therefore reducing false advertising on the listed houses.

In terms of accuracy, updating the virtual tours every 3 months on the site would help reduce wrong representation of the actual house. We have also employed the use of a comment/review section that would enable the users to leave comments on the houses they have rented so as to reflect the true nature of the house to other users.

CHAPTER 3: HIGH-LEVEL SYSTEM DESIGN

The Virtual House Tour Website provides users with the ability to view property listings, take virtual tours, contact agents, and manage their preferences. Administrators have the capability to manage property listings, user accounts, and website analytics. The system integrates with external services such as mapping APIs and payment gateways.

Components

- **User Interface (UI).** The interface that users interact with, allowing them to search for properties, view details, and take virtual tours.
- **Admin Interface.** The interface for administrators to manage the website's content, including adding, editing, or deleting property listings, managing user accounts, and tracking website analytics.
- **Backend System.** The behind-the-scenes part of the website that handles property data, user information, and virtual tour management.
- **External Services.** Services that the website uses to function, such as mapping APIs for displaying property locations, payment gateways for processing payments, and email services for sending notifications to users.

Component Identification

The Virtual House Tour website comprises several key components, categorized into frontend, backend, and external services:

2.1 Front-end Components

- **Search Interface.** Enables users to input search criteria to find relevant properties.
- **Property Details Page.** Displays comprehensive information about a specific property, including images, descriptions, and virtual tour options.
- **Virtual Tour Viewer.** Provides an immersive 360-degree view of the property's interior and exterior.
- **Admin Dashboard.** A web-based interface for administrators to manage property listings, user accounts, and website analytics.

2.2 Back-end Components

- **User Management System.** Handles user registration, login, profile management, and password recovery.
- **Property Management System.** Manages property data, including listings, images, virtual tours, and agent information.
- **Notification System.** Sends email and SMS notifications to users for various purposes, such as booking confirmations, property updates, and password resets.

2.3 External Components

- **Mapping API.** Leverages a mapping service (e.g., Google Maps) to display property locations on an interactive map.
- **Email Service.** Utilizes an email service provider (e.g., Gmail) to send email notifications to users.

Component Interaction

The Virtual House Tour website's components interact to provide a seamless user experience and efficient backend management. Key interactions are summarized below:

3.1 User-System Interactions

- **Search and View Properties:** Users can search for properties based on various criteria (location, price, property type, etc.) and view detailed information about each property.
- **Virtual Tours:** Users can access interactive virtual tours of properties, exploring rooms and exteriors in 360-degree views.
- **Contact Agents:** Users can directly contact real estate agents associated with properties through integrated contact forms or email.
- **User Preferences:** Users can save properties to favorites, set property alerts, and manage their account preferences.

3.2 Admin-System Interactions

- **Property Management:** Admins can add, edit, or delete property listings, including uploading images, videos, and 3D models.
- **User Management:** Admins can create, modify, and delete user accounts, as well as manage user roles and permissions.
- **Analytics and Reporting:** Admins can access website analytics to track user behaviour, popular properties, and overall website performance.

3.3 System-External Services Interactions

- **Mapping Integration:** The system integrates with mapping APIs to display property locations on interactive maps and provide directions.
- **Email Service Integration:** The system sends automated email notifications to users for property updates, account activity, or marketing purposes.

4. UML Diagrams

UML diagrams are used to visualize the system's structure and behaviour.

4.1. Use Case Diagram

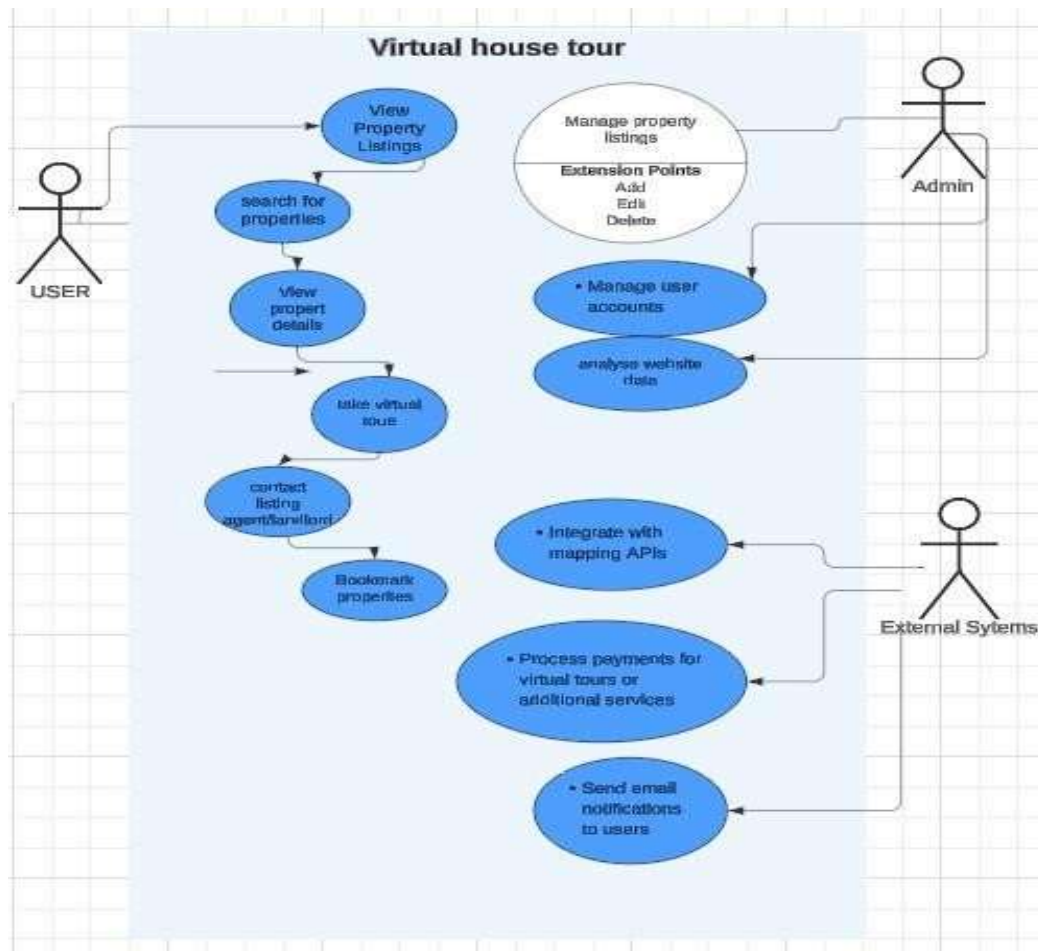


Figure 1 Use Case Diagram- are prioritized based on user needs and business objectives.

The Use Case Diagram illustrates the interactions between the system and its actors (users, admin, and external systems). It shows the primary use cases, such as:

- **User:**
 - a) View property listings
 - b) Search for properties
 - c) Take virtual tours
 - d) Contact agents
 - e) Manage preferences
- **Admin:**
 - a) Manage property listings
 - b) Manage user accounts

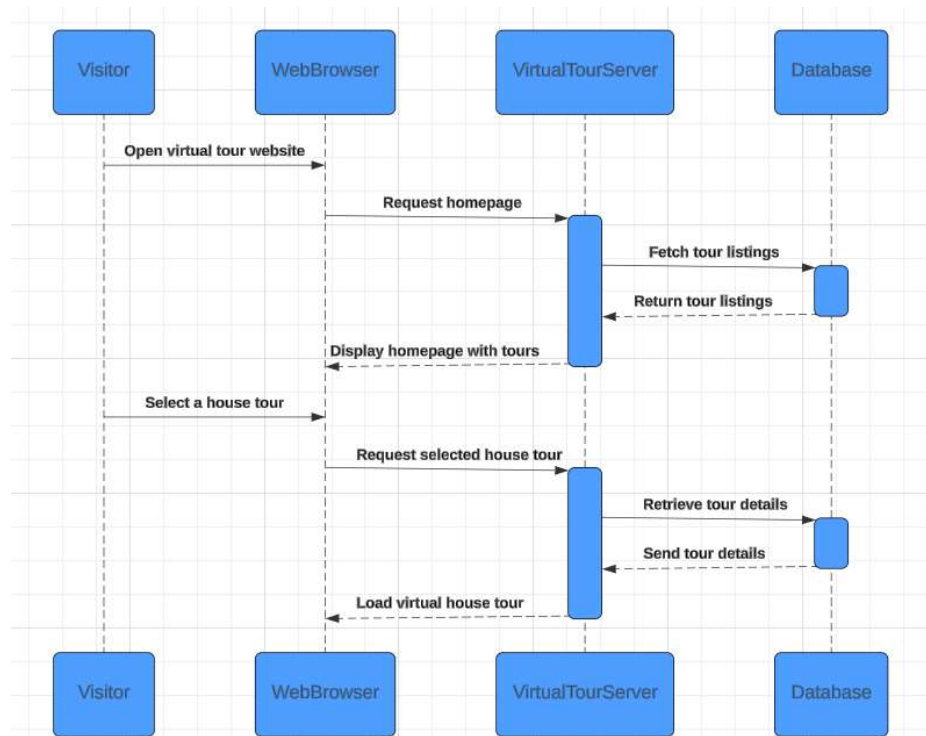
c) Analyse website analytics

- **External Systems:**

a) Mapping API

b) Email service

4.2. Sequence Diagram



- *Figure 2 Sequence Diagram- focus on critical interactions and error handling.*

The Sequence Diagram provides a detailed view of the interactions between the system and its components for a specific use case, such as a user booking a virtual tour. It shows the sequence of messages exchanged between the user, the system, and external components.

5. Wireframes and Sketching

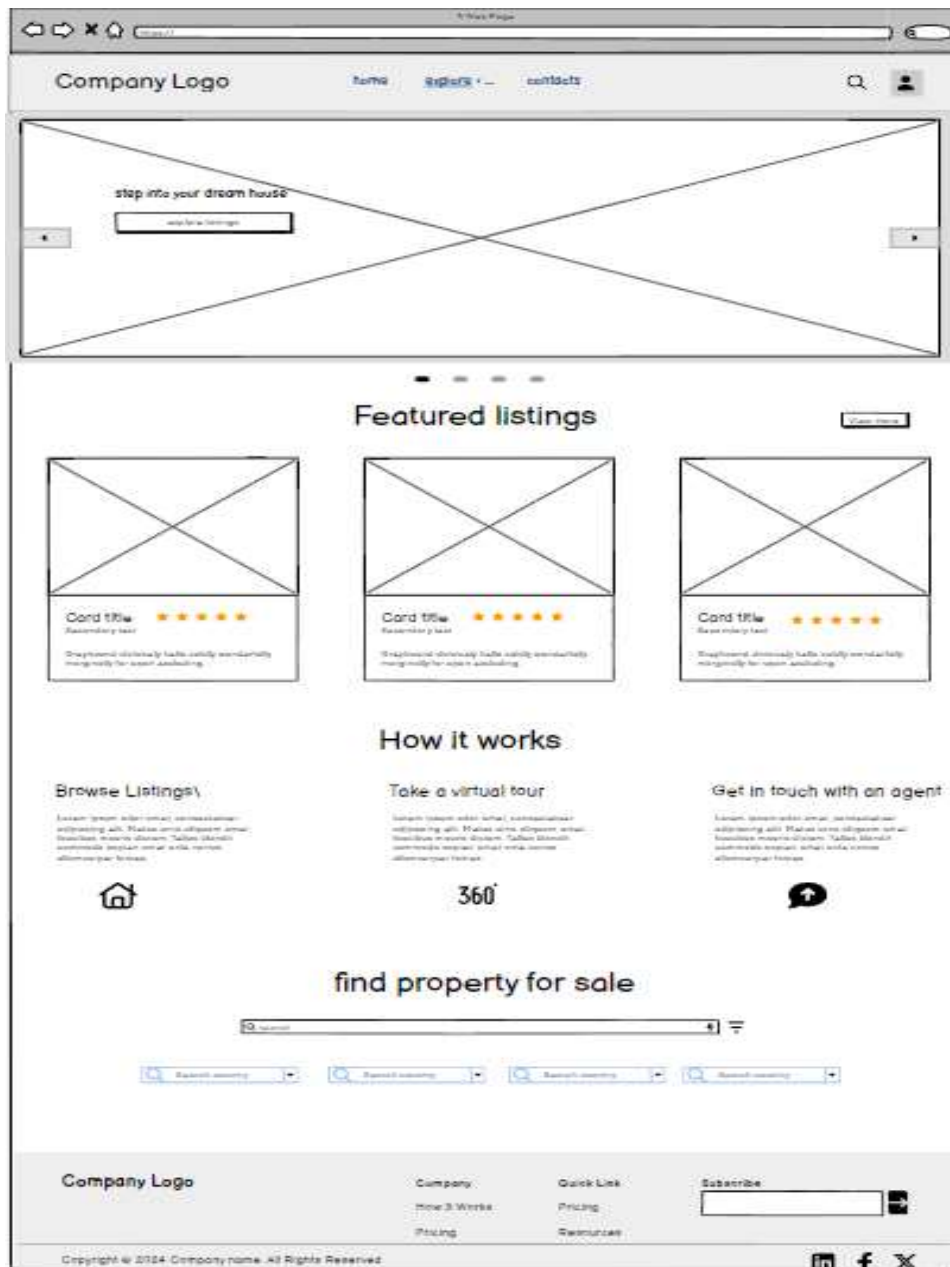


Figure 3.1 Home page

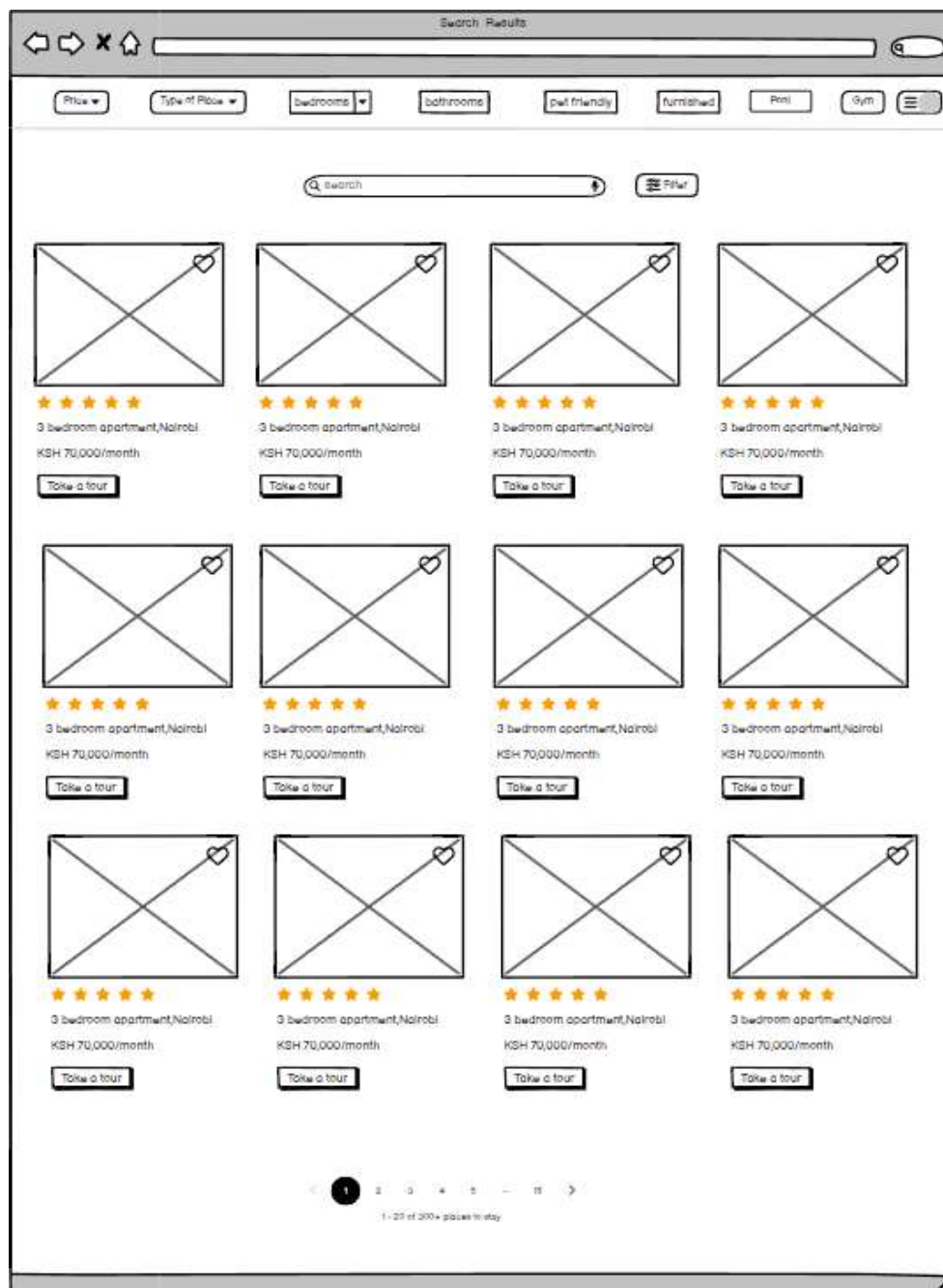
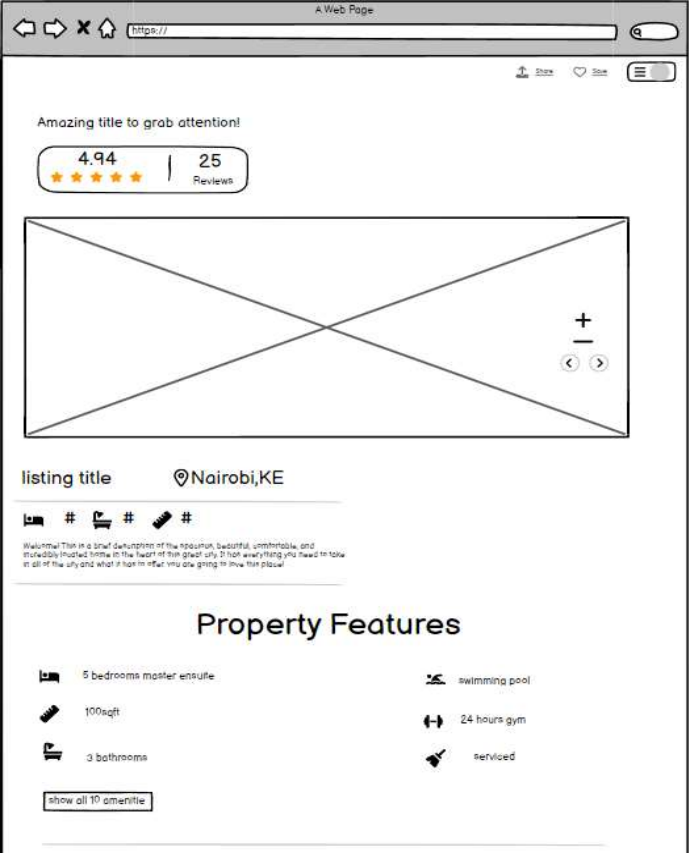


Figure 4 Listings Page



A Web Page

https://

Contact information

Firstnam

last name

phone number

email address

Property details

title

bedrooms

price

amenities

type

bathrooms

map pin

square foot

furnished ☐

add your virtual house tour

or drag and drop them here

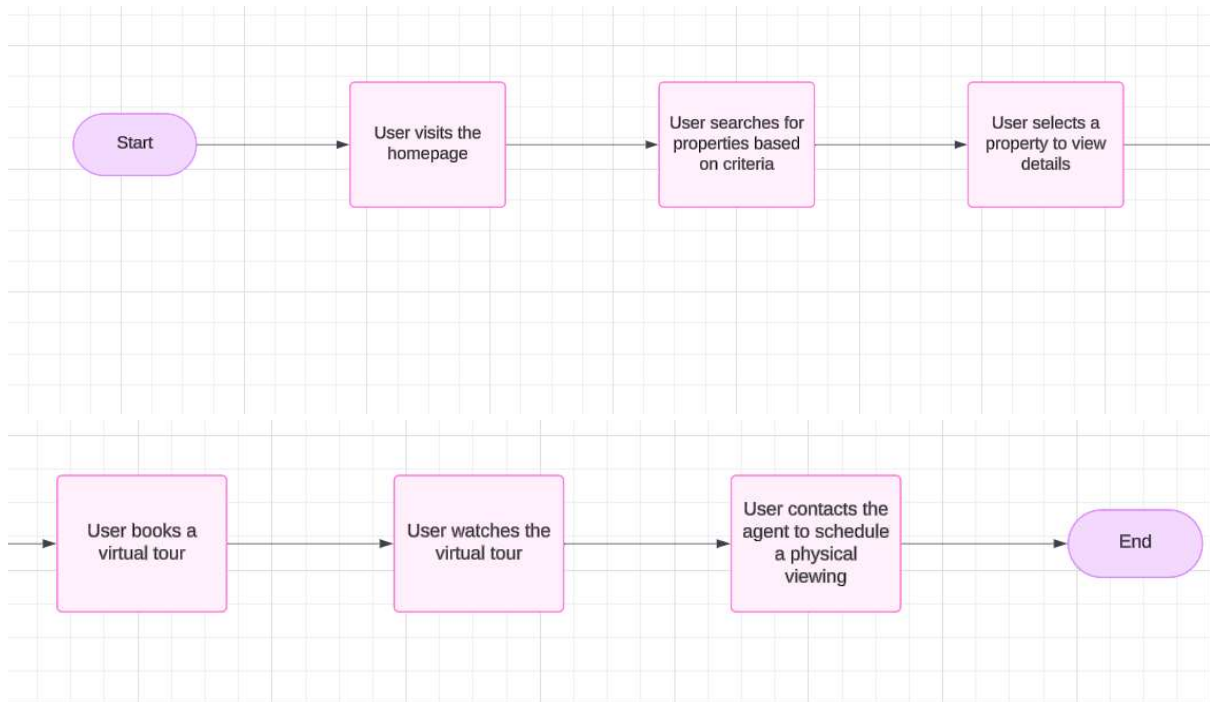
☒ terms and conditions

Figure 6 Submissions Page

Wireframes provide a visual representation of the user interface, including:

- **Homepage:** Displays featured listings, search bar, and main navigation.
- **Property Detail Page:** Shows property details, virtual tour, and contact information.

6. User Flow



- *Figure 7 User Flow Diagram- help identify potential pain points and optimize the user journey.*

The User Flow outlines the steps a user takes to achieve a specific goal, such as booking a virtual tour:

- 1) User visits the homepage.
- 2) User searches for properties based on criteria.
- 3) User selects a property to view details.
- 4) User books a virtual tour.
- 5) User watches the virtual tour.
- 6) User contacts the agent to schedule a physical viewing.

Implementation Documentation and Code Documentation

Implementation Documentation

1. Project Overview

- **App Name:** Virtual House Tour
- **Objective:** To provide users with an immersive virtual tour experience of properties from their devices.
- **Key Features:**
 - 3D tour navigation
 - Interactive hotspots for room details and features
 - Information overlay for property descriptions
 - Augmented reality (AR) features for furniture and decor visualization
 - Backend management for adding/updating property tours

2. System Architecture

- **Frontend:** Built with React for the web application and Unity for 3D/AR rendering.
- **Backend:** RESTful API built with Node.js and Express, with Firebase for user authentication and property data storage.
- **Database:** Firebase Realtime Database for storing property details, images, and tour metadata.
- **Cloud Storage:** Firebase Cloud Storage for 3D models, images, and assets.

3. Installation and Setup

- **Prerequisites:**
 - Node.js and npm
 - Unity 2021 or later
 - Firebase account and project set up
- **Setup Steps:**
 - Clone the repository and navigate to the project directory.
 - Run npm install for backend and frontend dependencies.
 - Set up Firebase keys in .env file.
 - Configure Unity for AR by enabling ARCore/ARKit packages.
 - Start the development servers with npm run dev.

4. Core Functionalities

Property Listing and Search

- **Description:** Displays a list of properties with options to filter by location, price, and number of rooms.
- **Backend Logic:**
 - Endpoint: /properties (GET) - retrieves property data.
 - Database Query: Fetches properties with filters applied.
- **Frontend Components:**
 - PropertyList.js – Renders the list view of properties.
 - SearchFilter.js – Allows users to filter the property list.

Virtual Tour Navigation

- **Description:** Users can navigate between rooms in a 3D environment.
- **3D Rendering Logic:**
 - TourManager.cs (Unity C# Script) – Handles room-to-room navigation.
 - Loads and unloads 3D models based on user interactions.
- **Frontend Integration:**
 - TourScreen.js – Embeds the Unity WebGL component within React.

Interactive Hotspots

- **Description:** Users can click on hotspots to get more information about room features.
- **Implementation Details:**
 - Hotspot.cs (Unity C# Script) – Detects user clicks and opens information panels.
 - Data Source: Fetches room details from Firebase when hotspot is activated.

Code Documentation

1. Backend API Documentation (Node.js, Express)

File: routes/propertyRoutes.js

javascript

Copy code

```
/**
 * @route GET /properties
 * @desc Fetches a list of properties with optional filters for location, price, and rooms.
 * @query {string} location - City or neighborhood to filter properties.
 * @query {number} price - Maximum price filter.
 * @query {number} rooms - Minimum number of rooms filter.
 * @access Public
```

```

*/

router.get('/properties', async (req, res) => {
  const { location, price, rooms } = req.query;
  try {
    const query = createQuery({ location, price, rooms });
    const properties = await db.collection('properties').find(query).toArray();
    res.json(properties);
  } catch (error) {
    res.status(500).json({ message: "Error fetching properties" });
  }
});

```

2. Frontend Components (React)

File: src/components/PropertyList.js

javascript

Copy code

```

/**
 * Renders a list of property cards based on the search filters.
 *
 * @component
 * @example
 * return (
 *   <PropertyList properties={propertyData} />
 * )
 *
 * @param {Array} properties - Array of property objects fetched from the backend.
 * @returns {JSX.Element} - Rendered component displaying a list of properties.
 */

export default function PropertyList({ properties }) {
  return (
    <div className="property-list">
      {properties.map((property) => (
        <PropertyCard key={property.id} property={property} />

```

```

    )})
</div>

);
}

```

3. Unity Scripts (C#)

File: Assets/Scripts/TourManager.cs

csharp

Copy code

```

using UnityEngine;

/**
 * Manages the virtual tour navigation within the property.
 *
 * Loads different room scenes when the user clicks on a hotspot,
 * and displays information panels for each room.
 */
public class TourManager : MonoBehaviour
{
    /**
     * Loads the specified room by name.
     *
     * @param roomName The name of the room to load.
     */
    public void LoadRoom(string roomName)
    {
        SceneManager.LoadScene(roomName);
    }

    /**
     * Displays information about the selected room feature.
     *
     * Called when the user clicks on a hotspot.
     */
}

```

```
* @param featureName The name of the feature to display information about.
*/

public void ShowFeatureInfo(string featureName)
{
    // Logic to display feature information on UI
}
}
```

4. Database Schema (Firebase)

□ **Properties Collection:**

- `propertyId`: Unique identifier for the property.
- `name`: String – name of the property.
- `location`: Object – { city, state, zip }.
- `price`: Integer – price of the property.
- `rooms`: Integer – total number of rooms.
- `3DModelURL`: URL to the 3D model of the property.

5. Testing

- **Unit Testing:** Each component and backend route is tested using Jest for the frontend and Mocha/Chai for the backend.
- **Integration Testing:** Verify API integration with Firebase to ensure that data is retrieved and stored correctly.

CHAPTER 4: TESTING AND QUALITY ASSURANCE STRATEGY

Unit Testing

Component Testing: Individual components such as UI elements, navigation features, interactive hotspots, image rendering, and user input processing are tested in isolation to ensure they function correctly. This focused testing helps identify and fix bugs early in the development process.

Integration Testing

Component Interaction: Different components, such as the tour rendering engine, user navigation, and backend systems, are tested to verify seamless integration and data flow between them.

System Testing

End-to-End Testing: The entire virtual tour experience is tested, including user interface, navigation, rendering, and backend interactions. This ensures overall system functionality and user experience.

Usability Testing

User Interaction: The ease of navigation and interaction with features like hotspots and 360-degree views is evaluated. Usability issues are identified and addressed to improve the user experience.

Performance Testing

Load Testing: The system's performance under various load conditions is assessed. **Stress Testing:** The system is pushed to its limits to identify breaking points. **Response Time Testing:** The system's response time to user actions is measured. These tests help optimize system performance for a smooth user experience.

Expected Outcomes

- ❑ **Interactive Navigation:** Users can easily navigate through rooms and view 360-degree panoramas.
- ❑ **High-Quality Visuals:** Fast-loading, high-resolution images are displayed across all screen sizes.
- ❑ **Immersive Experience:** Realistic features like zooming, varied viewpoints, and room transitions are provided.
- ❑ **Engaging Multimedia:** Background audio, voice guides, and feature annotations enhance the user experience.
- ❑ **Responsive Design:** The tour adapts seamlessly to different devices and screen sizes.
- ❑ **Accessibility:** Keyboard navigation and text descriptions are provided for users with disabilities.
- ❑ **User Analytics:** User engagement metrics like time spent and popular rooms are tracked.
- ❑ **External Integrations:** Seamless integration with external services like contact forms, scheduling tools, and real estate platforms.

CHAPTER 5: RISK MANAGEMENT

While implementing our ideas into project, there were some major challenges that we faced that slowed down the design and implementation process.

Some of the major risks we faced are categorized as follows:

- Technical Risks: We experienced various challenges such as system bugs, rendering issues, VR glitches, and difficulties with general error detection and correction.
- User Experience Risks: The rendering of the virtual tours was not as smooth as required, which degraded the overall user interface. Additionally, latency issues caused the website content to load slowly.
- Operational Risks: We faced server downtime and device incompatibility, which hindered accessibility for users.
- Compliance Risks: There were concerns regarding potential privacy or accessibility violations that needed to be addressed.

Risk Monitoring:

In an effort to combat some of the risks we faced, here are some of the steps we took to curb the challenges.

- ✓ We established real-time monitoring of system health and performance to quickly identify issues.
- ✓ We logged system errors on the console to maintain a record of problems for troubleshooting.
- ✓ We actively interacted with the system to enhance user engagement and improve interactions.
- ✓ We collected and analyzed user feedback through questionnaires to implement valuable suggestions.
- ✓ Finally, we conducted security monitoring to identify and address threats and vulnerabilities effectively

Risk Analysis and Prioritization:

In the risk analysis of the project, a thorough risk assessment was conducted by evaluating both the likelihood of potential risks and their anticipated impacts to the project. This evaluation helped in identifying and prioritizing critical risks that require immediate attention and mitigation strategies. By focusing on the most significant risks, we can ensure the project delivered offers a more effective and efficient approach to risk management.

Risk Tracking and Reporting:

To prevent such errors from reoccurring, we implemented several proactive steps to ensure that future risks are minimized.

First, we maintain a comprehensive risk log to track mitigation efforts effectively, allowing us to monitor progress over time. Additionally, we set up automated alerts for critical issues, ensuring that any significant problems are promptly addressed. Finally, we generate detailed reports on risk status and trends, providing valuable insights that help us refine our risk management strategies moving forward.

Mitigation Strategies:

- ☐ Regular software updates and security patches.
- ☐ Robust incident response procedures.
- ☐ Backup and recovery systems.
- ☐ User testing and feedback incorporation.
- ☐ Compliance with industry standards and regulations.

Agile Project Management

Content

Sprint Planning and Product Backlog

Sprint Planning

Sprint	Duration	Objective	Deliverables
Sprint 1	1 week	<ul style="list-style-type: none">• First project meeting .• Assigned team members to createthe elevator pitch.• Brainstormed ideas for the proposal.	Elevator Pitch proposal for the new idea.
Sprint 2	1 week	<ul style="list-style-type: none">• Review analysis for elevator pitch	Plan for handling concerns: Legitimacy of listed propertyand availability of equipment and tour accessibility.
Sprint 3	2 weeks	<ul style="list-style-type: none">• Planning of wireframe format.• Assigning roles for documentation and coding responsibilities.	How to go through house viewing; Unity and hostv360 videos on YouTube for prototype.
Sprint 4	1 week	<ul style="list-style-type: none">• Assigned team members to conduct interviewsand analysis of the interview.• Review of work given from last week: code• Research on code implementation.	Prepare questionnaires(Google Forms,).Carry out interviews. Submission of wireframes Homepage Testing concept with You Tube AR Database schema and User management
Sprint 5	1 week	<ul style="list-style-type: none">• Review of work given from last week: documentation	Introduction and Overview Requirements & Specification System Architecture & Design

			Implementation & Code Documentation Testing Deployment & Maintenance
Sprint 6	1 week	<ul style="list-style-type: none"> Recording of video on project so far Finalising of terms in terms of code and documentation Assigning the coders components to build. 	<p>Video was recorded</p> <p>Combining separate parts of the documentation and separate parts of the code to come up with final presentation.</p>

Scrum Meetings

Meeting One: Group Leader- Jamie

Kibanya

Meeting Two: Group Leader- Sharon

Kariuki Mugure

Meeting Three: Group Leader-Anab Kassim

Meeting Four: Group Leader- Shawn Yego

Meeting Five: Group Leader- Ryan Onkoba

Meeting Six: Group Leader- Amy Mugeni

SUMMARY

In summary,

The Virtual Home Tour project aims to assist individuals in their house-hunting journey, especially those unsure where to start or lacking time. Key features implemented in the system include a filtering system that allows users to narrow their search effectively, the ability for landlords to share contact information, a rating system for users to review properties, and an option for users to post their own rental listings.

This was established by undertaking the requirements elicitation process where we got various potential users to voice their needs on house hunting and how they think the process would be made easier and better. The clients were able to fill out a questionnaire sent to them and as a group, we analysed the feedback received and tailored our system to serve their needs. There were also some major concerns raised about the safety and accuracy of our system which were later discussed and addressed.

After a thorough process of requirement discovery, we moved on to the system design to visually create an idea of how the system shall work with the given requirements and later moved on to testing of the system's functionalities.

However, the project faced significant challenges during implementation. Major risks included technical issues such as system bugs and VR glitches, user experience problems like latency and rendering of virtual tours, operational risks including server downtime, and compliance risks related to privacy. To address these challenges, we established a robust risk monitoring strategy that includes real-time system health checks, error logging, and proactive user interaction to enhance the overall user experience. Additionally, we implemented security monitoring to safeguard against potential threats. These measures aim to improve the overall functionality and reliability of the app, ensuring a smoother experience for users and landlords alike.