GUJARAT TECHNOLOGICAL UNIVERSITY

Chandkheda, Ahmedabad Affiliated

SAL INSTITUTE OF TECHNOLOGY & ENGINEERING RESEARCH

A Report on:

"Real Estate Web Application"

UNDER THE SUBJECT OF

DESIGN ENGINEERING II-B (3160001)

B. E. SEMESTER – VI (ICT)

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2	220670132028	Makwana Harsh Ajitsinh
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(Internal Guide)

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Academic Year
(2024 – 2025)

SAL INSTITUTE OF TECHNOLOGY & ENGINEERING RESEARCH

CERTIFICATE

This is to certify that the project report on "**Real Estate Web Application**"
Submitted by:

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As fulfilment of the requirement for the award B.E. in Information and Communication Technology Sem- 6 at Sal Institute of Technology Engineering & Research is the record of work that has been successfully and satisfactorily completed under supervision and guidance during the academic year 2024-25.

Ms. Hetal Shah	**Ms. Hetal Shah**	**Dr. Nimisha Patel**
Internal Guide	**I/C Section Head ICT**	**HOD-CE/CSE/ICT**

ACKNOWLEDGEMENT

When we reach the compliment of the project giving credit becomes a must, as without the support of the other so many people's help and guidance this project could not be completed successfully.

We would like to thank **Ms. Hetal Shah** for guiding us and showing their views on the project for framing the realistic picture of the requirement and involved needed in this project. They were always there with their great ideas and suggestions whenever we needed. They took a great deal of interest in our work and encouraged us to outperform ourselves. They believed in us and were a pillar of strength for us.

We would like to thank to help us prepare this project. We would also appreciate their guidance and technical knowledge they gave us regarding this project.

Thanking All.

Your's Truly:

Korat Ren Ghanshyambhai

Makwana Harsh Ajitsinh

Patel Jay Ramsingh

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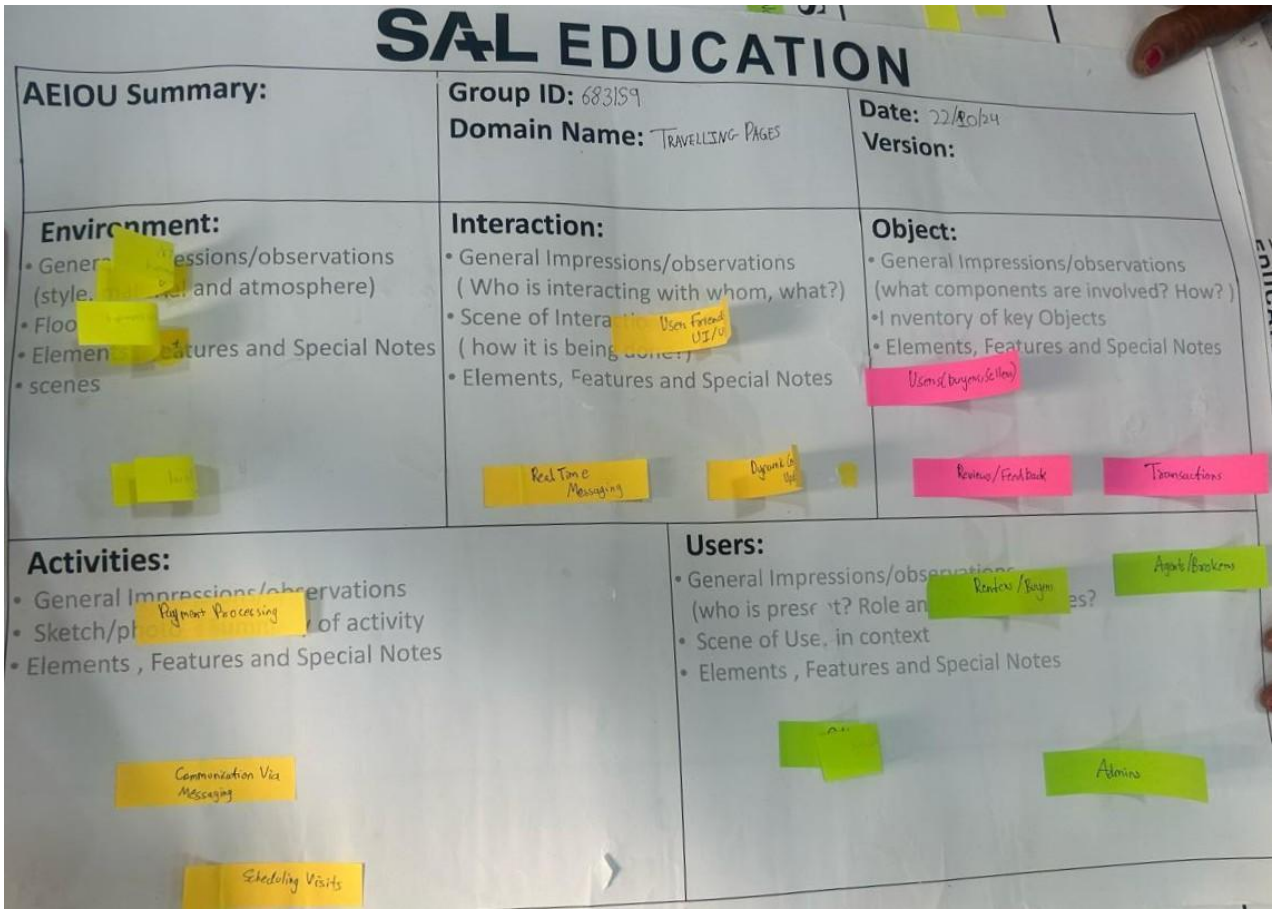
INTRODUCTION

This website is online real estate website through which user can access its information and manage all the updating, deleting the assets and some of its tasks. The admin user can change the update the information regarding property selling and buying and cancellation. The system is very useful for the companies who develop apartments, villa, residential Properties the assets and some of its tasks. The Admin user can change the update the information regarding property selling and buying and cancellation. The system is very useful for the companies who develop apartments, hotels, villa, residential properties and commercial properties.

Observation through AEIOU Framework:



ACTIVITIES:

- Payment Processing
- Communication via messaging
- Scheduling visit

Real Estate Web Application typically involves several activities:

1. **Payment Processing:** Rent payments are made monthly, while security deposits and booking fees help secure properties and viewings. Down payments, agent commissions, and full purchase payments facilitate property transactions, with earnest money deposits demonstrating buyer commitment.

2. **Communication via messaging:** A real estate web application can facilitate direct communication between buyers, renters, agents, and property owners through a messaging system where conversations are linked to specific property listings. For real-time messaging, technologies like WebSockets (e.g., Socket.IO) or Firebase can enable instant updates and a seamless chat experience.

3. **Scheduling visit** A visit scheduling system for real estate allows properties to have an availability calendar where agents or landlords manage time slots. Users can then select a property, choose a date and time from available options, and provide their contact details through a booking form.

USERS:

- Rental/Buyers
- Agents/Broker
- Admin

The main users of Real Estate Web Application can vary depending on the context and implementation. However, typically, the main users include:

1. **Buyers:** A property search and discovery system allows users to filter listings based on criteria like location, price range, number of bedrooms, and property type, with additional features such as map integration through Google Maps or Mapbox. Users can save searches, receive alerts for new matching listings, and bookmark properties in a favorites or wishlist section for easy access.

2. **Agents:** An agent dashboard provides an overview of active listings, upcoming visits, and new messages, along with performance metrics such as property views and inquiries. Property listing management allows agents to add, edit, or remove properties, upload photos, set availability, and track engagement metrics.

3. **Admin:** A dashboard overview provides key metrics such as the number of listings, active users, scheduled visits, and transactions, along with recent activity insights like new listings, flagged messages, and user sign-ups. The user management system allows administrators to view, add, edit, or deactivate users, assign roles (e.g., upgrading a user to an agent), and handle reports or abuse complaints.

OBJECT:

- User (Buyer/Saler)
- Reviews/Feedbacks
- Transaction

The primary objectives of Real Estate Web Application are:

1. **Users:** A user registration and authentication system enables sign-up via email, phone, or social logins, with optional two-factor authentication for enhanced security and role selection during registration (e.g., buyer, agent). The user dashboard allows users to view saved properties, track messages and communications, manage scheduled visits, and access submitted applications or offers.

2. **Review:** A review system in a real estate platform allows buyers and renters to rate agents based on professionalism and responsiveness, as well as landlords and properties for accuracy, condition, and communication. The review components typically include a 1 to 5-star rating, a text review for detailed feedback, and an optional date of interaction for better context.

3. **Transaction:** A real estate transaction system supports various types of payments, including one-time or recurring rent payments, security deposits, booking fees for visits, offer/down payments, agent commissions, and full property payments, which are typically handled via escrow or offline methods. The transaction flow begins with initiation, where a user starts a payment or offer, ensuring a structured and secure process.

INTERACTION:

- User friendly (UI & UX)
- Real Time messages

The interaction within Real Estate Web Application involves various components working together to facilitate comfortable travelling. Here's how the site typically interacts:

1. **User friendly (UI & UX):** A clean and simple layout in a real estate web application ensures an uncluttered interface that highlights essential elements like property listings, filters, and call-to-action buttons, with ample white space to enhance readability and user experience. Consistent branding and visuals involve using a cohesive color scheme that reflects trust, growth, or elegance, along with modern and easily readable Sans-serif fonts like Helvetica, Arial, or Roboto for clarity on screens.

2. **Real Time messages:** A real-time messaging system in a real estate app should ensure instant communication, allowing users to send and receive messages without needing a page refresh. It should also support two-way messaging between buyers, agents, landlords, and tenants, maintain message history for reference, and provide notifications through in-app alerts and push notifications via SMS or email.

ENVIRONMENT:

- Development Environment
- Testing Environment
- Staging Environment

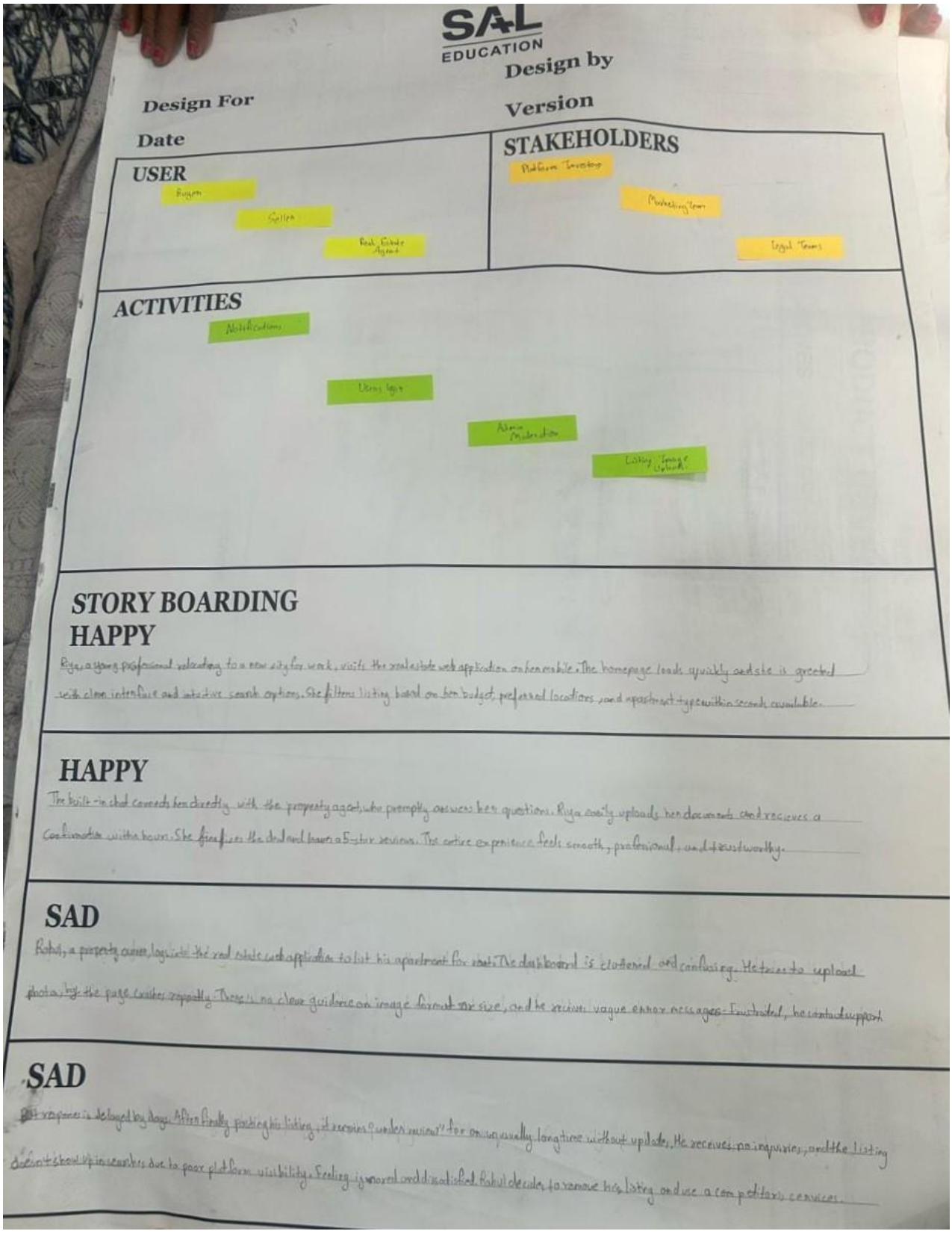
The environment of Real Estate Web Application encompasses both the physical and digital components necessary for its operation. Here's an overview of the environment.

1. **Development Environment:** The development environment is a local setup where developers write and test application code before deploying it to staging or production. It includes essential tools like code editors (VS Code, PyCharm), version control (Git), local databases (SQLite, PostgreSQL, MySQL), frameworks like Flask/Django, Stripe test keys, and Firebase Emulator.

2. **Testing Environment:** The testing environment is essential for quality assurance (QA), providing a controlled space to evaluate new code or features before deployment. It closely mirrors the production environment to ensure functionality remains intact, utilizing tools such as pytest for testing frameworks, Selenium for end-to-end validation, and CI tools like Jenkins or GitHub Actions for automated integration and deployment checks.

3. **Staging Environment:** The staging environment functions as a replica of the production setup, enabling developers and QA teams to test the application with realistic data before deployment. It utilizes the same tools as production, such as AWS, Heroku, and Docker, while incorporating staging-specific configurations like separate Stripe keys for testing.

Empathy Making Canvas:



USERS:

- Rental/Buyers
- Agents/Broker
- Admin

ACTIVITIES:

- Payment Processing
- Communication via messaging
- Scheduling visit

STAKEHOLDERS:

- Platform Investor
- Marketing Team
- Legel Team

Stakeholders of Real Estate Web Application include individuals and groups who have a vested interest or involvement in the site's implementation, operation, or outcomes. Here are the main stakeholders:

1. **Platform Investor:** Platform investors play a crucial role in both funding and guiding the growth of a business. They provide initial seed funding or venture capital to cover development, marketing, infrastructure, and operations, while also participating in subsequent funding rounds to help scale the platform, expand its market presence, and improve features.

2. **Marketing Team:** A strong brand strategy in a real estate platform involves defining its identity through elements like logos, color schemes, tone of voice, and visual design, ensuring recognition and trust among users. The value proposition highlights unique features such as ease of use, better deals, virtual tours, and instant property alerts to

differentiate the platform from competitors.

3. **Legal Team:** The legal team plays a crucial role in drafting and reviewing contracts, including user agreements, Terms of Service, and Privacy Policies, ensuring compliance with platform rules, user obligations, and liability limitations. They also oversee contracts for agents, brokers, landlords, and tenants to ensure legal soundness and adherence to industry regulations.

STORY BOARDING:

HAPPY STORY:

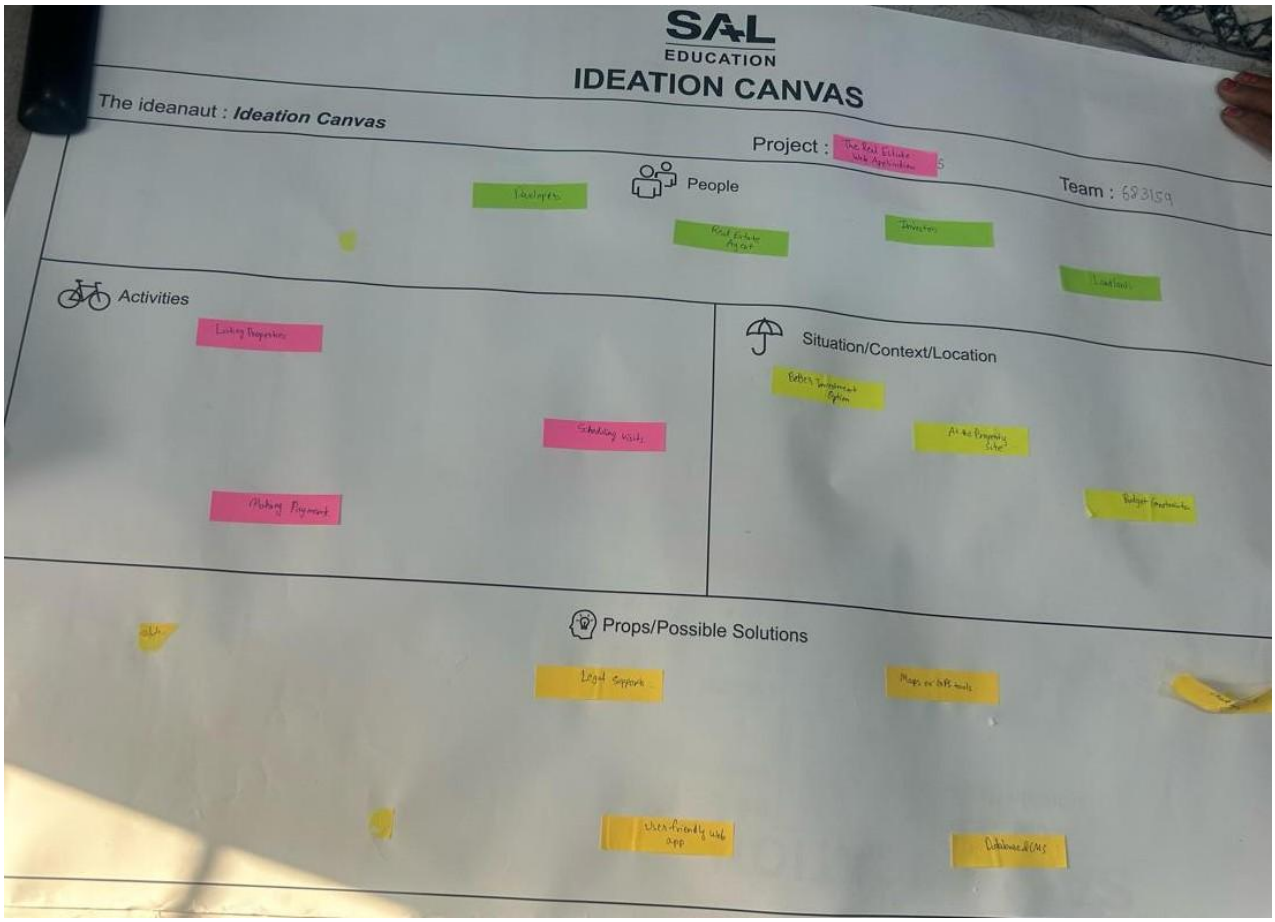
Riya, a young professional relocating to a new city for work, visits the real estate web application on her mobile. The homepage loads quickly and she is greeted with a clean interface and intuitive search options. She filters listings based on her budget, preferred location, and apartment type. Within seconds, she finds several properties with high-resolution images, virtual tours, and detailed descriptions. She clicks on a property she likes and schedules a virtual tour using the in-app calendar. The built-in chat connects her directly with the property agent, who promptly answers her questions. Riya easily uploads her documents and receives a confirmation within hours. She finalizes the deal and leaves a 5-star review. The entire experience feels smooth, professional, and trustworthy.

SAD STORY:

Rahul, a property owner, logs in to the real estate web application to list his apartment for rent. The dashboard is cluttered and confusing. He tries to upload photos, but the page crashes repeatedly. There's no clear guidance on image format or size, and he receives vague error messages. Frustrated, he contacts support, but the response is delayed by days. After finally posting his listing, it remains "under review" for an unusually long time without updates.

Meanwhile, he receives no inquiries, and the listing doesn't show up in searches due to poor platform visibility. Feeling ignored and dissatisfied, Rahul decides to remove his listing and use a competitor's service. His trust in the platform is broken due to a poor and disjointed experience.

Ideation Canvas:



PEOPLE:

- Investors
- Real Estate Agent
- Landlords
- Developers

ACTIVITIES:

- Scheduling Visits
- Listing Properties
- Making Payments

SITUATION/CONTEXT/LOCATION:

- Budget Constraints
- Better Investment Option
- At the Property Site

Sure, let's break down the situation, content, and location of Real Estate Web Application:

1. **Budget Constraints**: Limit property choices based on available financial resources.
2. **Better Investment Option**: Evaluate properties for higher returns and lower risks.
3. **At the Property Site**: Inspect the physical condition and surroundings of the property.

Props/Possible Solutions:

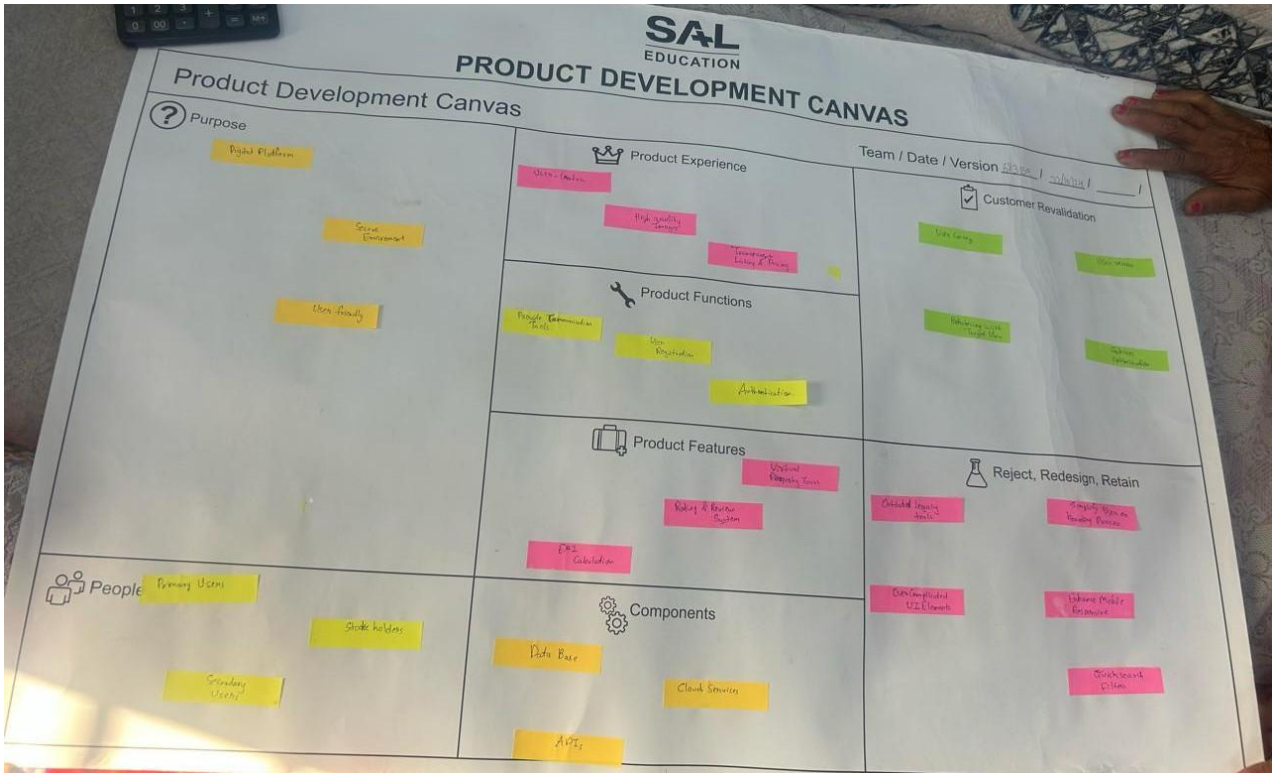
- Transparent Pricing
- Map and GPS Tools
- Legal Support
- Database & CMS
- Secure Payment System Booking
- User-Friendly Web App

Here are some potential scenarios or situations Real Estate Web Application could be beneficial and the props involved:

1. **Transparent Pricing**: Provides clear, upfront property costs to build trust.
2. **Map and GPS Tools**: Helps users locate and navigate to properties easily.
3. **Legal Support**: Assists with contracts, documentation, and compliance.

4. **Database & CMS**: Manages property listings, user data, and content efficiently.
5. **Secure Payment System**: Ensures safe and encrypted financial transactions.
6. **User-Friendly Web App**: Enhances user experience with easy navigation and functionality.

PRODUCT DEVELOPMENT CANVAS:



Purpose:

The purpose of this Website is:

- Digital Platform
- Promote Farmers
- Save Wastage

The purpose of Real Estate Web Application is multifaceted, aimed at addressing various needs and objectives within Travelling world. Here are the primary purposes of such a system:

1. **Digital Platform:** Allows users to find properties quickly and easily.
2. **Navigation Bar:** Helps users move through site sections efficiently.
3. **Property Photos:** Displays visuals of listed properties for better engagement.

PEOPLE:

- Farmers
- Young Users
- Society
- Local Users

Product experience:

Some of experience of this Website are:

- User Friendly
- Quick Access

Here's a concise breakdown of product experiences for Real Estate Web Application:

1. **User Friendly:** Simple and intuitive interface for everyone.

2. **Quick Access**: Fast, smooth navigation to product/services.

Product functions:

The primary function of Real Estate Web Application is to automate the process of making your travel good, friendly and comfortable. Here's a breakdown of its key functions:

1. **Register Complaints:** Allow users to report issues.

2. **Map for Customers:** Show nearby farmer/product locations.

3. **Auto Feedback:** Generate responses automatically for user input.

Product features:

Some of the features of the web-app are:

1. **Real Time Info:** Live data about products/services.
2. **Track Product:** Follow item journey from farm to user.
3. **Direct Purchase**: Instant buying option from app/site
4. **Feedback System**: Collect and display user opinions.
5. **Chat Feature**: Instant messaging between buyer and seller.

Components:

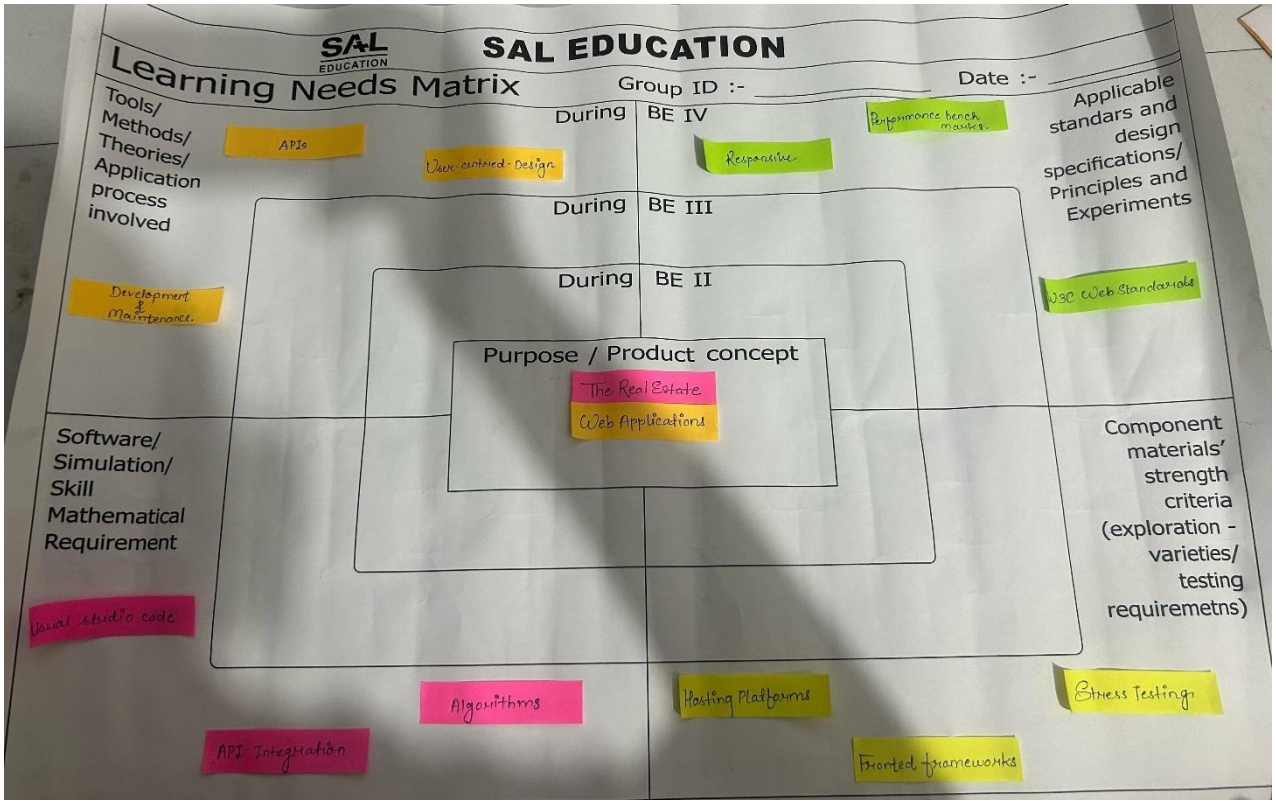
Components Used in this web-app are:

- Chat System
- Database
- Map

Here the brief expiation:

1. **Chat System:** Built-in communication tool for convenience.
2. **Database:** Stores all platform and user information.
3. **Map:** Visual representation of seller locations.

Learning Needs Matrix:



Tools/Methods/Theories/Application Process Involved:

- Visual Studio Code:
- API Integration:
- Algorithms
- Hosting Platforms
- Frontend Frameworks
- Stress Testing

Here's a brief overview of tools, methods, theories, and application processes involved in developing and implementing Real Estate Web Application:

1. **Visual Studio Code**: The primary code editor for development.
2. **API Integration**: Connects backend services or third-party tools (e.g., Google Maps, payment gateways).
3. **Algorithms**: Logic and decision-making flows for search, filters, matching listings, etc.
4. **Hosting Platforms:** Cloud or local hosting services (e.g., Firebase, AWS).
5. **Frontend Frameworks:** Tools like React, Angular, or Vue.js for UI development.
6. **Stress Testing:** Tools like Tableau or Microsoft Power BI are employed to visualize data stored in the database, helping developers analyses user behaviour, review trends, and optimize the recommendation engine for better user engagement.

These components work together to create a comprehensive platform that enhances travel experiences through personalized recommendations, efficient planning, and easy navigation.

Software/Simulation/Skill Mathematical Requirement:

- HTML
- Python
- CSS

The primary objectives of Real Estate Web Application are:

1. **Python: P**ython can be used for both backend development (e.g., using Django or Flask) and scripting essential tools like data scrapers or automation scripts.

2. **HTML:** Structures the content of the website, providing the foundation for text, images, and links.

3. **CSS:** Styles the layout, ensuring the website is visually appealing and responsive across different devices.

Component Material' Strength Criteria (exploration-varieties/testing requirements):

- Frontend (UI Layer)
- Backend (Python Layer)

Here's a concise breakdown of the strength criteria and testing requirements for the components of the system:

1. **Frontend (UI Layer)**: HTML, CSS, JavaScript, or frameworks like React (can be served via Django or Flask templates).

2. **Backend (Python Layer):** Django provides a powerful admin dashboard to manage listings, users, etc.

These criteria guide the development and implementation processes, ensuring that Real Estate Web Application delivers a high-quality user experience and meets the needs of its travellers.

Principles and experiments:

- Personalisation
- Simplicity
- Periodic update
- Data Privacy

Here's a concise summary:

1. **Personalization**: Explore Hub is built on the principle of personalization, using algorithms to analyses user preferences, travel history, and behaviours. Experiments in this area focus on refining the recommendation engine to provide tailored suggestions for destinations,

activities, and dining options, ensuring a unique experience for each user.

2. **Simplicity**: The design and functionality of Explore Hub emphasize simplicity to enhance user experience. Usability tests and user feedback are continuously gathered to streamline navigation, reduce complexity, and ensure that features are easily accessible, allowing users to plan their travels without unnecessary confusion.

3. **Periodic Updates**: Explore Hub incorporates real-time updates for various functionalities, such as location tracking, availability of services, and event notifications. Experiments involve testing the accuracy and timeliness of these updates to enhance user engagement and ensure that travellers receive the most current information to inform their decisions.

These principles guide the development of the Explore Hub, driving a focus on user-centric design and continuous improvement in functionality.

Purpose:

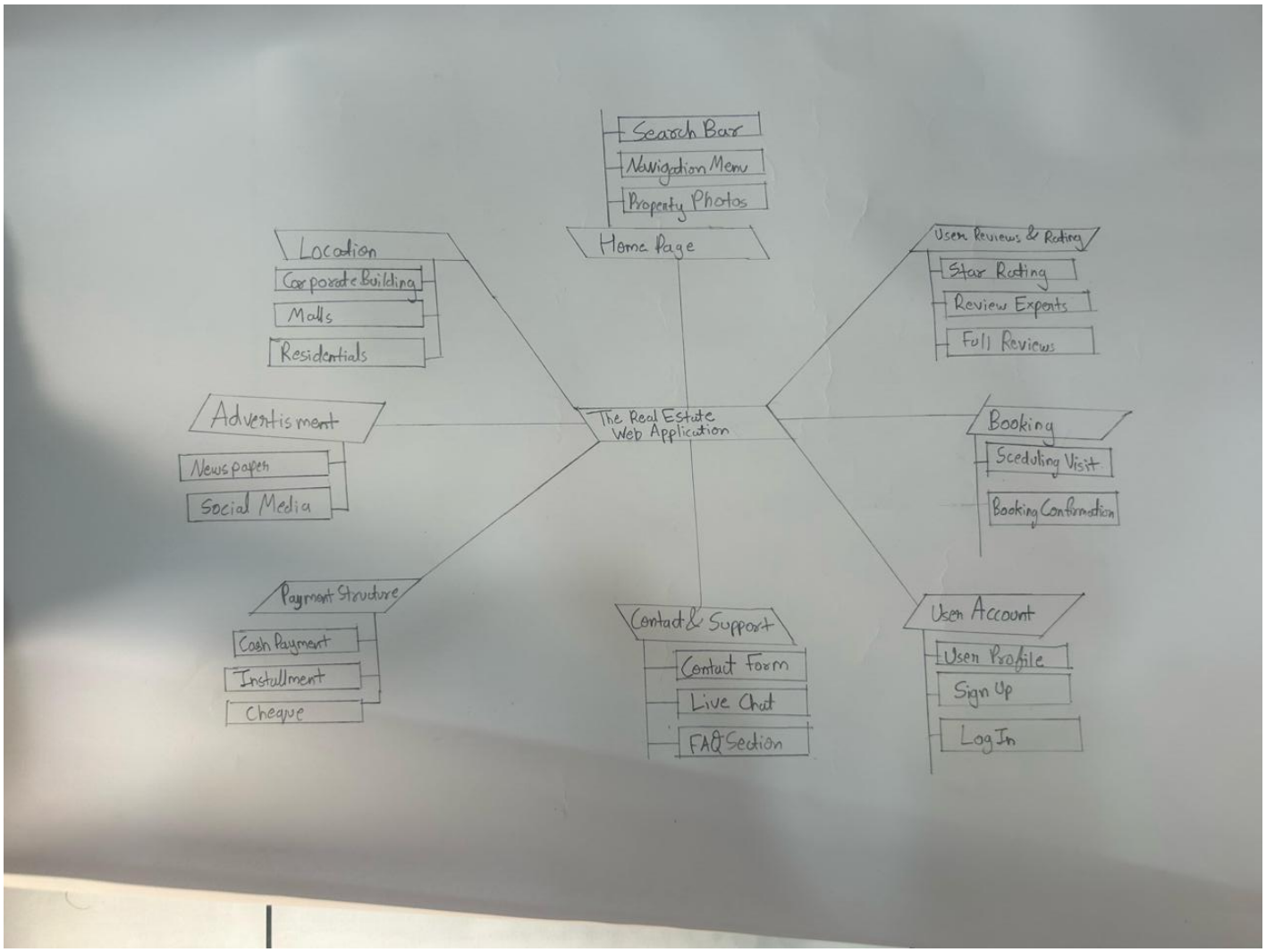
The purpose of this Website is:

- Real Estate Platform (Web App)

Here is the brief explanation:

1. **Real Estate Platform (Web App)**: The core idea is to create a real estate web application, likely involving property listings, user interaction, payment handling, etc.

Mind Mapping (Data Analysis) Canvas:



USERS:

- Rental/Buyers
- Agents/Broker
- Admin

ACTIVITIES:

- Payment Processing
- Communication via messaging
- Scheduling visit

STAKEHOLDERS:

- Platform Investor
- Marketing Team
- Legel Team

OBJECT:

- HTML
- Python
- CSS

INTERACTION:

- User friendly (UI & UX)
- Real Time messages

ENVIRONMENT:

- Development Environment
- Testing Environment
- Staging Environment

SITUATION/CONTEXT/LOCATION:

- Corporate Building
- Malls
- Residents

Purpose:

The purpose of this Website is:

- Simplified planning
- Real time Update
- Personalised Exploration
- Convenient exploration
- Local Discovery

Components:

Components Used in this web-app are:

- Backend: Location Review
- Recommendation Engine
- Database
- Integration & Third Party Services

Tools/Methods/Theories/Application Process Involved:

- User interface region tools
- GPS & location Based services
- Backend Development tools

- Database visualization tools

Software/Simulation/Skill Mathematical Requirement:

- HTML
- Python
- CSS
- SML

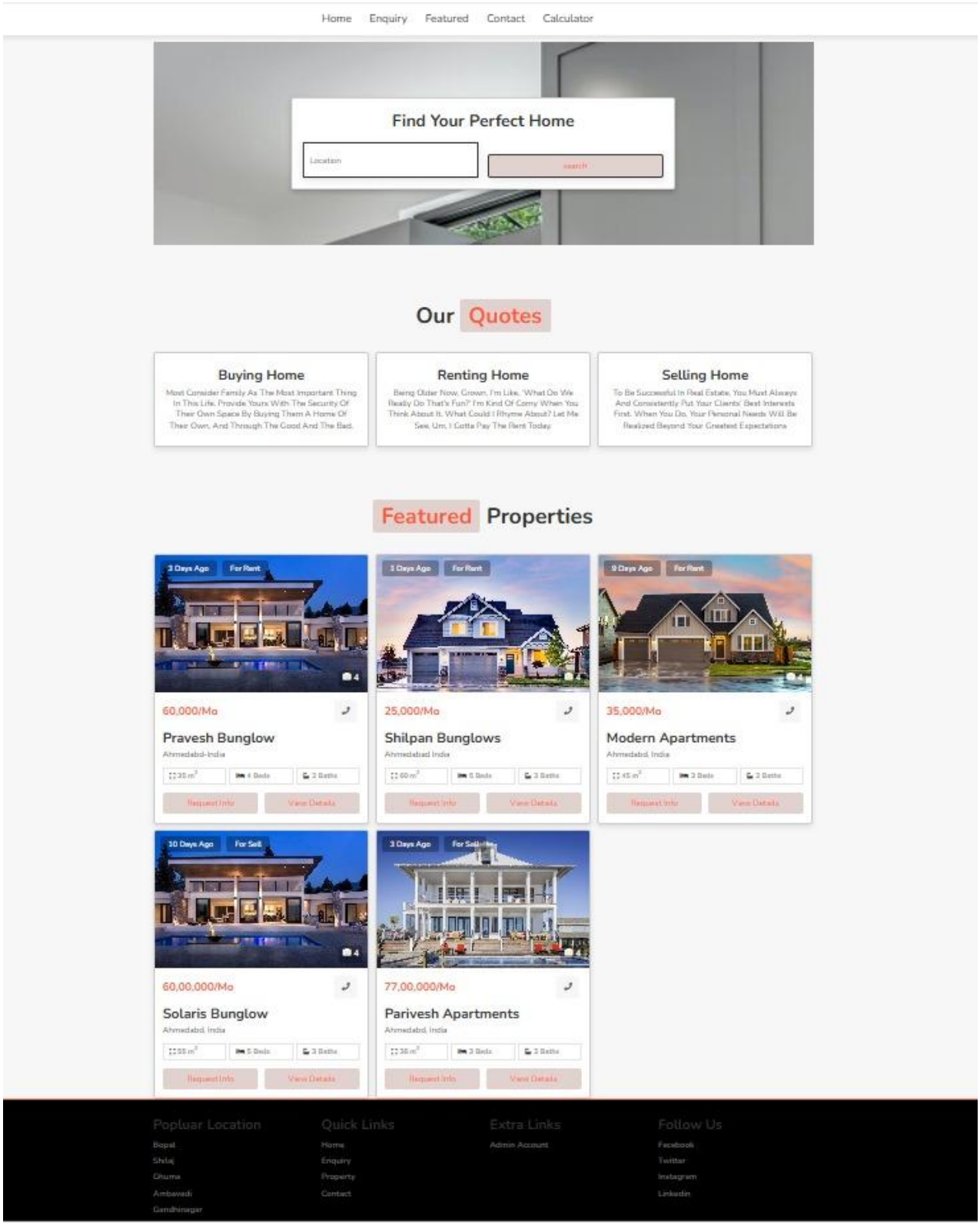
Component Material' Strength Criteria (exploration-varieties/testing requirements):

- Accuracy
- Security
- Reliability
- Usability
- Efficiency
- Responsiveness

Principles and experiments:

- Personalisation
- Simplicity
- Periodic update
- Data Privacy

PROTOTYPE


Home
Enquiry
Featured
Contact
Calculator
Find Your Perfect Home
Location
search
Our Quotes
Buying Home
Most Consider Family As The Most Important Thing In This Life. Provide Yours With The Security Of Their Own Space By Buying Them A Home Of Their Own, And Through The Good And The Bad.
Renting Home
Being Older Now, Grown, I'm Like, 'What Do We Really Do That's Fun?' I'm Kind Of Corny When You Think About It. What Could I Rhyme About? Let Me See, Um, I Gotta Pay The Rent Today.
Selling Home
To Be Successful In Real Estate, You Must Always And Consistently Put Your Clients' Best Interests First. When You Do, Your Personal Needs Will Be Realized Beyond Your Greatest Expectations
Featured Properties
3 Days Ago
For Rent
60,000/Mo
Pravesh Bunglow
Ahmedabd-India
Request Info
View Details
1 Days Ago
For Rent
25,000/Mo
Shilpan Bunglows
Ahmedabad India
Request Info
View Details
2 Days Ago
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Modern Apartments
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Request Info
View Details
10 Days Ago
For Sell
60,00,000/Mo
Solaris Bunglow
Ahmedabd, India
Request Info
View Details
3 Days Ago
77,00,000/Mo
Parivesh Apartments
Ahmedabd, India
Request Info
View Details
Poplular Location
Bopal
Shilaj
Ghuma
Ambawadi
Gandhinagar
Quick Links
Home
Enquiry
Property
Contact
Extra Links
Admin Account
Follow Us
Facebook
Twitter
Instagram
Linkedin

THE EXPLORE HUB LOGO
←←←

The GeoNest logo effectively merges real estate and location technology through its design. The icon features a green location pin enclosing a navy blue house with four window panes, symbolizing homes that are easily found via geolocation services while representing navigation and mapping—key aspects of location-based real estate solutions. The typography is bold and modern, with “Geo” in dark blue to convey technology and trust, and “Nest” in green to reflect growth, comfort, and nature—aligning with the essence of housing and property. Overall, the logo presents a professional yet inviting image, balancing digital navigation with the warmth of a home, making it well-suited for a real estate listing or discovery platform.

CONCLUSION

The real estate sector is one of the most globally recognized industries, comprising four sub-sectors—housing, retail, and commercial—whose growth is supported by corporate expansion and increasing demand for office spaces and urban accommodations. Success in real estate involves delivering high-quality properties that meet market needs while achieving favorable returns on investment, with specific success metrics varying across different projects. One significant advantage is energy efficiency, as automated control over lighting, heating, cooling, and appliances helps homeowners reduce waste, lower utility costs, and promote sustainability. For instance, residential developments may aim to reach specific occupancy rates or sell units within a set timeframe, while commercial projects focus on attracting tenants and generating revenue. Additionally, online real estate platforms have transformed the industry by providing user-friendly search tools, enabling buyers and sellers to connect with agents, explore listings, and gain market insights with greater convenience than ever before.

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