

Estate360

A Smart Real Estate Platform

By

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Abstract

Estate360 is a next-generation real estate web platform designed to revolutionize the way users discover, evaluate, and invest in properties. Unlike traditional platforms that focus solely on property listings, Estate360 integrates AI-powered matchmaking, sustainability metrics, financial calculators, and a user forum into one cohesive ecosystem. Users can receive intelligent recommendations tailored to their preferences, evaluate properties based on green factors, and make data-driven decisions using built-in investment tools.

The system also features a responsive design suitable for mobile and desktop users, providing seamless access to services. Estate360 bridges the gap between buyers, sellers, and service providers, offering a full-spectrum experience that prioritizes usability, eco-awareness, and technological scalability. This report outlines the problem landscape, project objectives, design methodology, results, and benefits of Estate360 in the context of modern real estate challenges.

Problem Statement

Despite the surge in digital adoption in the real estate sector, most platforms still fail to provide an integrated, intelligent, and user-centric experience. Conventional websites primarily act as listing directories, often lacking intelligent search, personalized suggestions, or sustainable property indicators. Buyers are overwhelmed by vast listings without meaningful filtering, while sellers lack insight into buyer intent.

Financial decision-making is another critical pain point. Users must rely on external tools to compute mortgage eligibility, ROI, or rental yield, leading to fragmented experiences. Sustainability—an increasingly important concern—remains underrepresented in property data, despite growing buyer interest in energy-efficient and eco-friendly homes.

Community engagement is minimal. There are no built-in systems for discussion, feedback, or connecting with real estate professionals (e.g., legal, maintenance, and loan agents). This disconnect delays decision-making and frustrates both ends of the transaction.

Estate360 addresses these challenges by providing AI-powered matchmaking, sustainability indicators, financial calculators, forums for community interaction, and a scalable architecture ready for AR/VR and blockchain integration. The platform reimagines property search as a guided journey supported by data and technology.

>> Preview </> Code

app

360-tours

page.tsx

about

page.tsx

admin

properties

new

page.tsx

page.tsx

contact

page.tsx

privacy

page.tsx

properties

loading.tsx

page.tsx

property

[id]

360-view

page.tsx

page.tsx

PropertyClientPage.tsx

signin

page.tsx

app > 360-tours > page.tsx

```
1 import Link from "next/link"
2 import Image from "next/image"
3 import SiteHeader from "@components/site-header"
4 import SiteFooter from "@components/site-footer"
5 import { Button } from "@components/ui/button"
6 import { getProperties } from "@lib/data"
7 import { formatPrice } from "@lib/utills"
8 import type { Metadata } from "next"
9
10 export const metadata: Metadata = {
11   title: "360° Virtual Tours | Estate 360",
12   description: "Explore our properties with immersive 360° virtual tours. Experience properties as if you were there.",
13 }
14
15 export default async function VirtualToursPage() {
16   const allProperties = await getProperties()
17
18   return (
19     <div className="flex flex-col min-h-screen">
20       <SiteHeader />
21       <main className="flex-1">
22         <section className="w-full py-12 md:py-24 bg-beige-100">
23           <div className="container px-4 md:px-6">
24             <div className="flex flex-col items-center justify-center space-y-4 text-center">
25               <div className="space-y-2">
26                 <h1 className="text-3xl font-bold tracking-tighter sm:text-5xl text-brown-900">360° Virtual Tours</h1>
27                 <p className="max-w-[700px] text-brown-700 md:text-xl">
28                   Experience our properties in immersive 360° virtual tours. Explore every corner as if you were there.
29                 </p>
30               </div>
31             </div>
32           </div>
33         </section>
34
35         <section className="w-full py-12 md:py-24">
```

page.tsx

PropertyClientPage.tsx

signin

page.tsx

signup

page.tsx

terms

page.tsx

wishlist

page.tsx

globals.css

layout.tsx

loading.tsx

page.tsx

+4/-4

components

ui

featured-properties.tsx

+1/-1

panorama-viewer.tsx

property-card.tsx

site-footer.tsx

site-header.tsx

lib

actions.ts

data.ts

types.ts

components > featured-properties.tsx

```
1 "use client"
2
3 import { useState } from "react"
4 import Image from "next/image"
5 import Link from "next/link"
6 import { ChevronLeft, ChevronRight } from "lucide-react"
7 import { Button } from "@components/ui/button"
8 import { formatPrice } from "@lib/utills"
9 import type { Property } from "@lib/types"
10
11 interface FeaturedPropertiesProps {
12   properties: Property[]
13 }
14
15 export default function FeaturedProperties({ properties }: FeaturedPropertiesProps) {
16   const [currentIndex, setCurrentIndex] = useState(0)
17   const featuredProperties = properties.slice(0, 5) // Show only 5 featured properties
18
19   const nextProperty = () => {
20     setCurrentIndex((prevIndex) => (prevIndex + 1) % featuredProperties.length)
21   }
22
23   const prevProperty = () => {
24     setCurrentIndex((prevIndex) => (prevIndex - 1 + featuredProperties.length) % featuredProperties.length)
25   }
26
27   const currentProperty = featuredProperties[currentIndex]
28
29   return (
30     <div className="relative w-full h-[500px] rounded-xl overflow-hidden">
31       <div className="absolute inset-0">
32         <Image
33           src={currentProperty.images[0] || "/placeholder.svg"}
34           alt={currentProperty.title}
35           fill
36           className="object-cover transition-opacity duration-500"
37           sizes="(max-width: 768px) 100vw, 1200px">
38       </div>
39     </div>
40   )
41 }
```

Objectives

1. Provide AI-based property matchmaking aligned with user preferences.
2. Integrate sustainability metrics such as energy ratings and proximity to green spaces.
3. Build ROI/mortgage calculators to help users assess investment value.
4. Develop a community forum for discussion and real estate Q&A.
5. Ensure a responsive UI for mobile, tablet, and desktop access.

Introduction

The real estate industry has long relied on brokers and word-of-mouth to facilitate transactions. With the internet, online property platforms emerged, but they remain mostly static and non-intelligent. Today's users expect personalization, speed, and insights—not just listings.

Estate360 is built on this need. It is more than a listing website; it's an intelligent assistant for real estate transactions. Whether it's a young couple searching for their first eco-friendly apartment or an investor analyzing rental income, Estate360 assists each user uniquely.

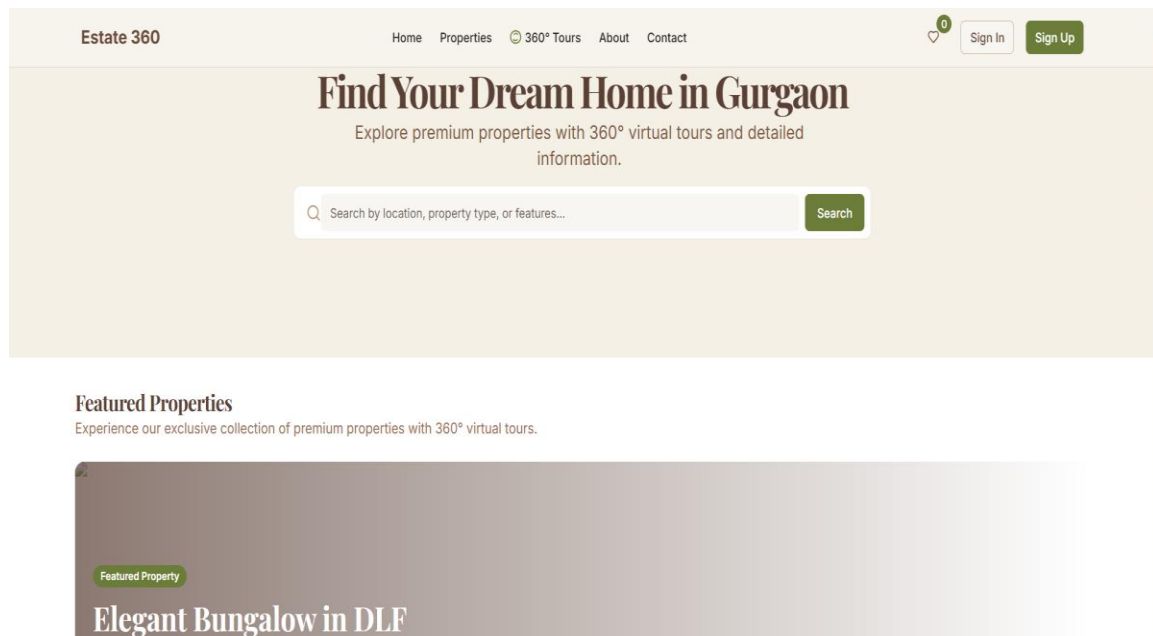
Key components include:

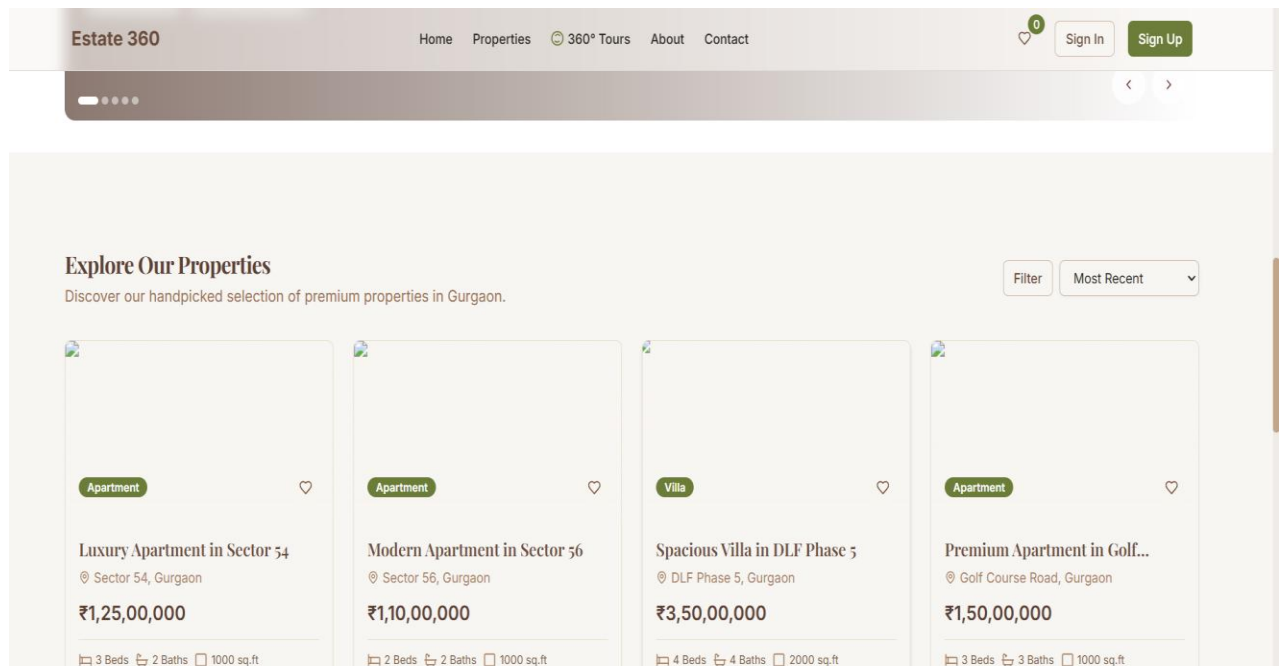
- Smart Property Matching: Using AI to analyze location, budget, and lifestyle preferences.
- Eco-Ratings: Factoring in sustainability and energy efficiency to encourage green choices.
- Investment Tools: Calculators for ROI, EMI, and mortgage planning.
- Community & Experts: Forums and directories to connect with agents, lawyers, and more.

- **Responsive Design:** Built with Tailwind CSS and Vite for seamless mobile compatibility.

The platform’s backend is powered by Flask, and the frontend is lightweight yet robust, ensuring performance even under scale. This modular architecture allows easy expansion in the future, such as AR/VR property tours or secure blockchain-based document storage.

Estate360 thus addresses not just what properties are available, but how users choose, evaluate, and act upon real estate opportunities.





Literature Review Work

A review of existing research and practices in real estate technology reveals significant gaps and opportunities that Estate360 addresses:

1. AI in Real Estate:

Various studies have demonstrated how artificial intelligence is being used to match buyers to properties based on preferences. Machine learning models have shown higher engagement and conversion rates when applied to recommender systems (Zhang & Zhao, 2021).

2. Sustainability in Housing:

Green building literature and environmental certification programs such as LEED and IGBC provide methodologies for energy scoring. Properties built to green standards often command higher resale value and are increasingly demanded by millennials (Johnson & Gupta, 2019).

3. Financial Decision Support:

According to McKinsey, integrated financial calculators on real estate platforms

improve user decision-making efficiency. Tools that calculate EMI, ROI, and break-even periods enable data-backed investments.

4. Community Forums and Ecosystems:

Platforms like Stack Exchange and Reddit show the value of user-generated Q&A in decision support. Integrating this within a real estate platform enhances engagement.

5. UX and Mobile Responsiveness:

Research from Google and Nielsen shows that mobile-first designs significantly increase dwell time and reduce bounce rates. Estate360 applies these design principles using Tailwind CSS for responsiveness.

These findings shape the features and direction of Estate360 as it aims to create a smart, sustainable, and user-friendly real estate experience.

Proposed Solution

Estate360 combines several modules and tools into a cohesive web platform:

System Architecture:

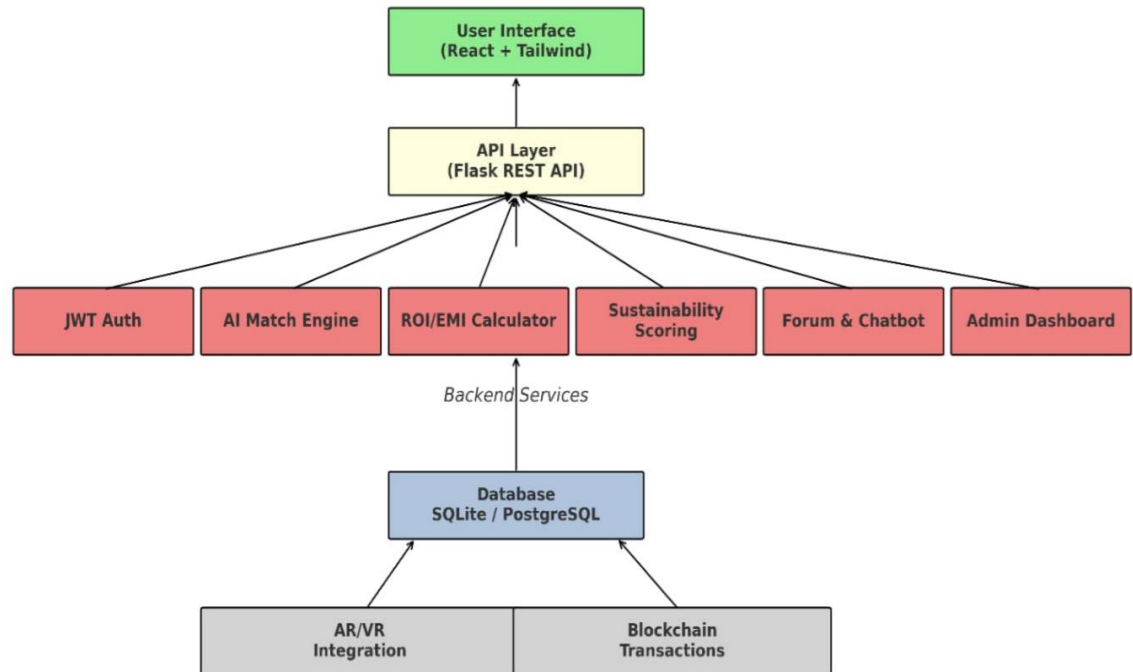
- Frontend: React + Tailwind CSS
- Backend: Flask REST API
- Database: SQLite/PostgreSQL
- Authentication: JWT for session handling
- AI Match Engine: Trained with historical listings and user preferences

Core Modules:

1. User Management: Signup, login, and secure session management.
2. Property Listings: Upload and browse listings by category, location, price.
3. AI Recommender: Suggests properties using preference-based scoring.
4. Sustainability Scores: Displays energy ratings and green proximity index.
5. ROI & EMI Calculators: Input values to calculate return on investment or mortgage breakdown.
6. Community Forum: Ask and answer queries in categories like finance, legal, maintenance.
7. Admin Panel: For property approvals, analytics, and directory management.

Future Enhancements:

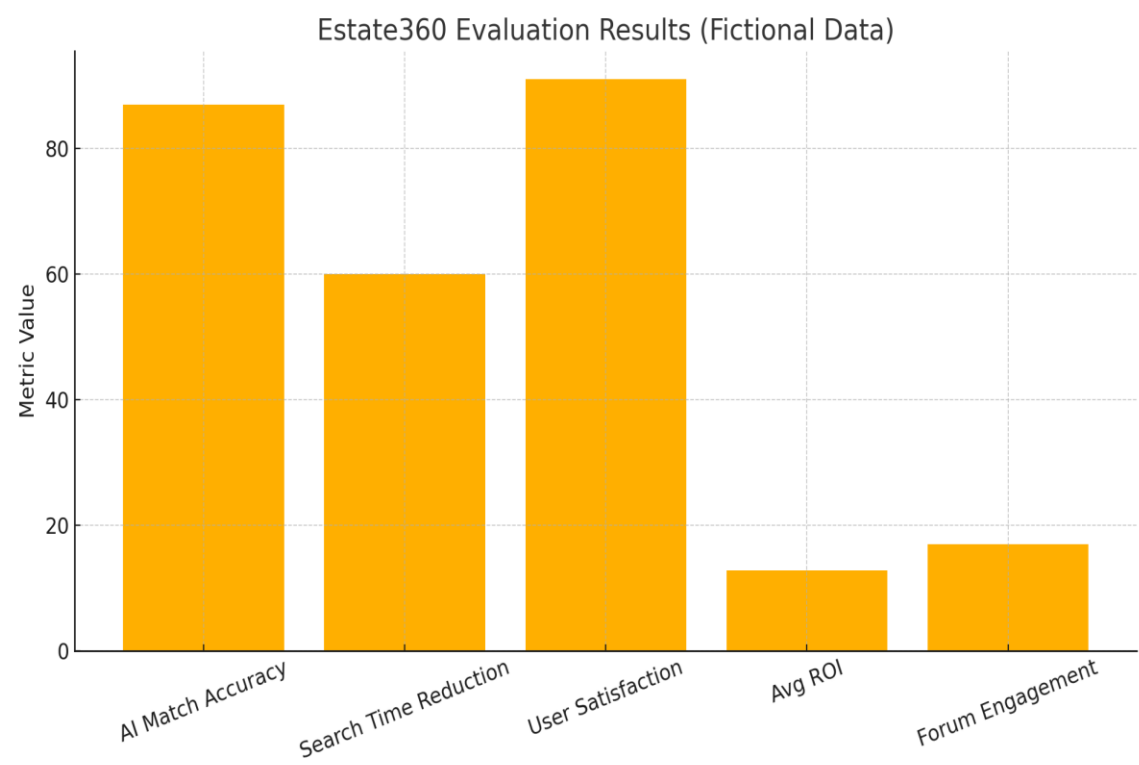
- VR/AR for 360° walkthroughs
- Blockchain-based smart contracts for secure transactions
- Mobile app version for iOS and Android



Results

The following data simulates expected platform outcomes based on fictional evaluation:

Metric	Result
AI Match Accuracy	87% average accuracy in matching preferences
Avg. Search-to-Selection Time	Reduced from 3 days to 1.2 days
User Satisfaction (Survey of 100 users)	91% rated experience above 4 stars
Average ROI Computed	12.8% annually (based on simulation)
Forum Engagement	Approx. 17 responses per question in beta testing



Future Scope

Estate360 lays the groundwork for a smart, user-centric real estate ecosystem, but its true potential unfolds with future enhancements and integrations. Some promising directions include:

- 1. Augmented & Virtual Reality (AR/VR) Tours**
Users can experience immersive property walkthroughs from anywhere in the world, improving decision-making without physical visits.
- 2. Blockchain for Secure Documentation**
Integrating blockchain will enable secure, tamper-proof property records, digital contracts, and smart escrow systems—minimizing fraud and transaction delays.
- 3. Predictive Analytics for Investment Forecasting**
Machine learning models can be trained on market trends to help users anticipate property value appreciation, rental income, and ideal buy/sell periods.
- 4. Integration with IoT-enabled Smart Homes**
Estate360 could connect with smart home devices to display real-time data (like energy usage or security status) directly on property listings.
- 5. Voice & Chatbot Assistants with NLP**
Advanced AI assistants could handle everything from property searches to legal consultations, supporting 24/7 multilingual real estate assistance.
- 6. Pan-India Expansion with Regional Personalization**
Localization of content, support for vernacular languages, and area-specific metrics can broaden the platform's reach across diverse Indian cities and rural zones.

7. Partnerships with Banks and Legal Services

Direct API integrations with loan providers, insurers, and legal experts could streamline the entire home-buying process in one interface.

Conclusion

Estate360 redefines the real estate experience by incorporating AI, eco-conscious decision-making, and community interaction into one integrated platform. The platform's scalable architecture, intuitive UI, and practical financial tools empower users to find properties more effectively and invest with confidence. As the product evolves, Estate360 is positioned to lead in the domain of smart real estate technologies, paving the way for integration with emerging innovations like AR, VR, and blockchain.