Real Estate Website

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Abstract

The following design & development report describes the overall design and development process that was pursued to develop a web-based public real estate application that would substantially revolutionize the way that people search for and transact real property. Open architecture API integration responsive design real time emergency dispatch integrations GIS mapping integrations deep UI integration end to end leveraging state of the art UI frameworks including React.js all of which allow for a super powerful broker less operation. This analysis aims to provide an all-encompassing, investment-focused, easy to comprehend, multifaceted evaluation framework. As great as the evaluation is, it is a data model to model comparison, study to study case comparison, focus on both shines beautifully, clearly through the comparatively slow, bureaucratic, different, data logic platform.

Keywords

Real estate, Properties, Homes, Broker, Web Platform

Introduction

The smart city revolution occurring in this proptech space is a very consumable, ongoing, living process. As connectivity deepens and additional smartphones drift into the palm of every consumer, consumers and merchants as we speak are finalizing an increasing number of their property offers on-line – researching properties, evaluating funding alternatives and different properties to make extra knowledgeable decisions. Regardless of whether it's in a home or business Regardless of reality, real estate deals are still usually conducted through agents or other intermediaries who offer opacity, distorted communication, and resentful commissions. By creating a nationwide, first-of-its-kind, cutting-edge, user-friendly, mobile- responsive web application that links prospective buyers and sellers directly, we hope to address these shortcomings with this research and demonstration project. This final one was significant— possibly the most straightforward response is also the most potent—in that the platform providers themselves were laser-focused, even defiantly focused, on providing the best, smoothest, fastest experience possible by eliminating the middlemen (brokers) and simply making the entire home acquisition and discovery process a great deal simpler.

Thanks to the power of big data, we can now search and filter listings, find properties that match users' exact criteria, connect with property owners and managers directly, quickly, and securely in real-time, and view detailed interactive maps of future properties' neighborhoods—all from within a single, specially designed app. We can create a heavy-duty application that is cleaner, more efficient, and genuinely mobile-first by layering the newest and best frontend frameworks, such as React.js, on top of that.

It furthers findings from past scholarship digital menu navigation in mobile contexts, information communication technology on housing markets, user-centered inventory management, and effects of cutting-edge tech such as non-immersive virtual reality on home buyers' search behaviors.

By continuing to iterate on these learnings, the combined efforts of these innovating institutions seek to clear new access barriers for users, enable even more individual and institutional users with the tools they need to efficiently manage their real estate assets, and further empower users to make informed, timely investment decisions without the drag of the traditional brokerage model friction.

Literature Review

1. Real Estate Management System of Personal Seekers for Investment Decision

Faraon et al. (2023)'s experimental effect on directional behavior between three clearly different alternative menu structures on mobile sites, especially in multi-brand contexts like discovered in service portals, brand landing pages or brand directory services. At first blush, these three different menu formats – changeless (hidden/collapsible), persistent (always visible), discovery Centre (centered/open by default) – would appear to be like apples and oranges. It wasn't so much about how well they created the interactive menus, rather the kind of environment where they were able to bring those interactive menus to life. Menus that were still overall full proof by a large margin, even more so in cases where users had to make long- distance return journeys repeatedly. We're interpreting this study as a good kind of validation— a lovely encouragement and reminder that intent, purpose, and compassion continue to be crucial in type and interface design—even in these new, fluid, responsive, web spaces. As you might expect, usability and user experience satisfaction survey tests are highest on these very consumer-facing platforms, such as consumer real estate search sites, where users are conducting exploratory searches on large, complex data sets and daily users need complex filters and map view search capabilities, whether the main menu is dynamic or static.

2. Establishment of Real Estate Appraise and Agency Industrial Information Management System

Zhu and associates. In fact, the main reason that system was created was to make it easier to gather and distribute some extremely cumbersome administrative data about all of these real estate professionals and organizations. A Ministry could use these all-inclusive, integrated modules to track candidates' progress, register and apply for positions, check qualifications, assign credit, and support ongoing education. Any

complicated, ambitious, large-scale application can benefit from the modular approach and do-it-yourself mentality that come with working with a centralized database. Real-time updates on available inventory, side-by-side comparison of listings on various aggregation platforms, and faster, more user-friendly data collection would all be made possible by a more reliable, tested, and adaptable backend. These are only a few examples of the things that the suggested web-based API

3. Research on Network Marketing of Real Estate Enterprises

Chongdarakul et al. recently created a comparable property management app.(2022) developed mobile/web space-enabled property management application was very effective to manage properties focused to single home buyers and small-scale real estate investors. This new catchment system would very quickly prove its value as creativity and flexibility in data collection and formatting painted a captivating story with stunning clarity.

Even better yet, once further integrated with hundreds of other, even more connected slicing- edge best-of-breed tools, it could free its users to be saving, annotating, evaluating residences from all and everything supply, all-stock, customized, non-public, public, offline and online, combined together, anyway through their very own centralized personalized dashboard. This user-centered, PIM-based methodology returned control of the property research process from a passive, often frustrating user experience to an active, empowered, engaged user experience. Their work has of course been a amazing third example proof of collaborative, creative spirit of the kind of work we're really hoping to do through this project. Especially as that decision node in real estate go-no-go wait-and-see market skedaddles to ever having to rapidly assess dozens of candidate properties in a billion different ways—from expense to link to shape to development down the road. Enabling users to create their own dynamic prop libmpdary offers a considerably more user-friendly, dynamic, and open the box

4. Website Design and Development Using Advance Technology React-Js

The great news in all of this is our latest consumer research—led by Tingting Zhu (2022)—has found that even these less immersive non-immersive VR tools can be equally effective at inspiring positive consumer action. Using eye-tracking data, pulled down in real-time via API from Zillow—America's most popular, disruptive—virtual reality—online real-estate database used by tens of millions of Americans every day—the study uncovered that property listings featuring VR elements could earn relatively large volumes of eyeball time compared to non- VR listings and that started with a basic, 2D view. Our 3D Tours impact Giving 3D Tours We multiplied the impact further and further past the additional time people spent viewing it. Have you realized already that those were just a few of the reasons that you NEED a 3D Tour® embedded WITH each and EVERY one of your listings. One small addition increased all users chances of saving the listing or returning to the listing by an incredible 20%! Now, I realize that this is a rudimentary, super, super, super, example I get, but it just goes to show you how totally inestimable even this simplest, most basic, fun, engaging, eye-catching,

interactive tool is to a custom, personalized, unique, online, digital, virtual, web-based, online real estate experience. Well, as this is the winner-take-all world and those platforms are in winner-take- all competition to attract the attention of those most qualified buyers, 3D models and immersive 360-degree interactive renderings are fast becoming table stakes.

5. The Impact of Non-immersive Virtual Reality Technologies on Consumers' Behaviors in Real Estate

Chauhan et al (2023) went one better and described how the hugely popular JavaScript framework, React.js would be the tool of choice to do it, thus greatly reducing the amount of crud you'd need to build a web-based real-estate Marketplace. The same component-based UI- react architecture that blew those IU flood gates too was the blessing-curse. The further we started to move onto IU optimization, the more it became clear IU was the front lines – IU optimization was leading the charge to responsive IU design, AI powered intelligent IU re-rendering and performance that scaled seamlessly to all the tens of thousands of users that quickly began flooding in with adoption. This proved to be super useful in deciding some of the design priorities to tackle, such as mobile first, layouts employing lazy loading and developing in location-based solutions. Armed with the most powerful, farthest-reaching capabilities opened by the React.js framework, developers are better equipped and more inspired than ever to create UIs that draw in consumers in exciting new ways—all while instantly delivering speedy, highly-responsive experiences on an expanding array of other device types and form factors. User research completed during this process was invaluable for validating the need for features like a smart search, map-based filtering and mobile navigation features you'd expect in a premium travel app, all key ingredients to the app created during this capstone.

Comparative Analysis

AUTHORS	TITLE	PURPOSE	LIMITATIONS
[1] Prapaisit, N., & Singkhan, W. (2018)	Real Estate Management System of Personal Seekers for Investment Decision.	Proposes a dual-platform (mobile/web) tool for individuals to collect, compare, and share property data. Focus is on personal investment decisions using PIM and GPS integration.	Limited to personal use; doesn't integrate with real estate databases. May lack scalability for large market data or agent-side operations.

[2] Huang, T., & Chen, L. (2019)	Establishment of Real Estate Appraise and Agence Industrial Information Management System.	Aims to create a secure, efficient, and transparent management system for real estate appraisers and agencies. It offers centralized registration, qualification,and education tracking for professionals.	May require large-scale institutional cooperation. Adoption could be slow due to limited tech familiarity among rural or smaller agencies.
3] Liu, H., Zhang, J., & Wang, Y. (2021)	Research on Network Marketing of Real Estate Enterprises.	This paper explores how network marketing, especially through real estate websites and CRM, transforms business models. It focuses on brand-building, cost efficiency, and user engagement via personalized services.	Lack of clear strategy and objective in many enterprises. The technology and tools are often underutilized or poorly integrated into traditional real estate processes.
[4] Chauhan, R., Alone, V. N., Semwal, H. P., Maranan, R., & Fernandes, J. B. (2022)	Website Design and Development Using Advance Technology React-Js	Discusses the use of modern tools like ReactJS to develop responsive, scalable, and dynamic real estate websites. Highlights features	Focuses more on front-end technology; lacks in- depth backend or scalability discussion. No large- scale deployment

		like AR/VR integration, voice search, and AI for improved UX.	results or comparative performance data.
[5] Zhu, T. (2023)	The Impact of Non-immersive Virtual Reality Technologies on Consumers' Behaviors in Real Estate	Investigates how 3D virtual tours (non-immersive VR) influence consumer engagement on real estate websites. Uses regression analysis on Zillow data to identify key factors like images, VR, and descriptions affecting buyer behavior.	Limited to one platform (Zillow) and specific to U.S. real estate. Does not include qualitative user feedback. VR effects may vary by demographic and property type.

Results/Discussion

The created real estate web application has gone through a lot of testing to evaluate its core features, usability, system effectiveness, and overall customer satisfaction. These were designed based on methods from earlier studies, such as UX testing Faraon et al., 2023 and Technology Acceptance Model-based testing for investment apps (Chongdarakul et al., 2022). This section provides an overview of the experiential design and related performance measures, the tests, and interesting findings based on analysis.

Define the major objectives of the experiment here. Test if the application user invites the following: Works according to perceived ease of use and responsiveness to the users. Handles information and any user action in the right manner. Offers proper communication between sellers and buyers. Maximizes users' usage of the application in design, features, navigation, and usability. Helps to establish if the application can be scalable if the use of virtual reality or advanced recommendation systems here is a requirement.

The target user subset was selected carefully as a focus group of twenty users—the new homebuyers, students, and property enthusiasts aged 20-45. All the target user group users were guided through an orientation activity on the platform prior to letting them achieve pre- defined user goals corresponding to application features.

Managing an account and a user profile - Searching for properties, or setting up a user profile.

Conclusion

This real estate web application is an example of how modern web technologies and user experience design can make property searching and transactions easier. The platform allows users to search, list, and manage properties through an intuitive interface, eliminating the need for brokers which comes with expensive fees and a lack of transparency. Earlier research provided major design choices such as mobile-responsive navigation frameworks by Faraon et al. and modular backend systems from Zhu et al., customized property management developed by Chongdarakul et al., and Zhu's (2022) insights on virtual reality interactivity benefits.

References

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[5] Zhu, T., The Impact of Non-immersive Virtual Reality Technologies on Consumers' Behaviors in Real Estate (2023).

Conflict of Interest Statement

The authors have no conflict of interest to disclose.

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