



iJRASET

International Journal For Research in
Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 12 Issue: III Month of publication: March 2024

DOI: <https://doi.org/10.22214/ijraset.2024.59300>

www.ijraset.com

Call:  08813907089

E-mail ID: ijraset@gmail.com

Design it Yourself (DIY): Create the Home of Your Dreams

Manjunath M¹, Dr Smita M Gaikwad²

¹Post Graduate Student Faculty of Management, ²Assistant Professor CMS BS, Jain Deemed-to-be University, Bengaluru, India

Abstract: Interior design is a field that combines creativity and technical knowledge to design indoor spaces that are aesthetically pleasing, functional, and improve quality of life. It encompasses various specializations, like residential or commercial design, and involves collaboration with professionals to bring the designs to life. The industry is constantly evolving with new trends and technologies, making it a dynamic and exciting career option.

I. INTRODUCTION

The interior design industry is a multifaceted and dynamic field that involves the art and science of designing and decorating indoor spaces to enhance their aesthetic appeal, functionality, and overall quality of life. Interior design professionals use their creativity, technical knowledge, and understanding of human behaviour to create inviting, comfortable, and functional environments that meet the needs of their clients. The interior design industry encompasses a wide range of specialties and areas of expertise, including residential design, commercial design, hospitality design, healthcare design, and more. Interior designers work with a variety of clients, including individuals, businesses, institutions, and organizations, and collaborate with architects, contractors, and other professionals to bring their designs to life. Interior design professionals use a range of tools and techniques to create their designs, including computer aided design (CAD) software, 3D modelling programs, and hand-drawn sketches. They also stay up-to-date with the latest trends and developments in the industry, such as sustainable design practices and the use of smart home technology. The interior design industry is constantly evolving, with new design concepts, materials, and technologies emerging on a regular basis. As a result, it is a dynamic and exciting field that offers a range of career opportunities for creative and talented individuals who are passionate about design and dedicated to improving the quality of life for those who inhabit the spaces they create.

II. WORKING MODEL

- 1) *Initial Consultation:* The interior designer meets with the client to discuss their needs, preferences, budget, and timeline. This is an opportunity for the designer to gain a better understanding of the client's vision and goals for the project.
- 2) *Design Concept:* Based on the initial consultation, the designer creates a design concept that includes sketches, colour schemes, materials, and furniture ideas. The client reviews and provides feedback on the concept until a final design is agreed upon.
- 3) *Space Planning:* The designer then creates a detailed plan that outlines the layout of the space, including the placement of furniture, lighting, and other design elements. The plan also includes 3D renderings and a list of materials and products needed for the project.
- 4) *Implementation:* Once the design and space plan are finalized, the designer coordinates with contractors, vendors, and other professionals to implement the project. This includes ordering materials, scheduling installations, and overseeing the construction process.
- 5) *Installation and Completion:* Finally, the designer oversees the installation of all design elements, including furniture, lighting, and decor. The designer ensures that everything is installed according to the plan and the client's specifications. The project is then completed, and the client can enjoy their newly designed space.

III. INTERIOR DESIGNING APP

- 1) Interior design apps are software applications that allow users to visualize and plan the layout and design of their living or working spaces. These apps are designed to help users create a realistic representation of their spaces and explore different design options, colour schemes, and furniture arrangements.
- 2) With interior design apps, users can create virtual 3D models of their spaces and experiment with different designs and styles, without having to hire a professional interior designer. These apps typically include features such as drag and drop functionality, a wide range of furniture and decor option, and colour selection tools.

- 3) Interior design apps can be used by homeowners, renters, and professionals alike. They can be particularly helpful for those who are looking to redesign their homes or apartments, as they provide a cost-effective and accessible way to experiment with a different design options before making any major changes to their physical space

IV. APPLICATION MODEL

- 1) *Basic Login/Sign Up*: Implement a basic login/sign up system to create accounts for users, as this is a subscription-based app.
- 2) *3-day Free Trial*: Provide a 3-day free trial in which users can access the 2D design tool only and with limited tools.
- 3) *2D Design Tool*: Create a simple 2D design tool that allows users to drag and drop various elements (e.g., furniture, windows, doors) and design their room layout.
- 4) *Dimension Input*: Allow users to input the detailed dimensions of their property or upload a video of their home. Then, using this input, generate a 3D model of their property.
- 5) *Subscription Model*: Implement a subscription model to unlock full access to the app's features, including 2D and 3D design tools, access to service providers, and real-life branded tools.
- 6) *Service Provider Database*: Create a database of registered interior designers, plumbers, electricians, carpenters, and other workers on the app, and allow users to connect with them.
- 7) *3D Virtual Tour*: Allow users to create a final 3D structure from their designs and take a virtual tour to view every aspect of their prospective design.

V. CUSTOMER SEGMENT

- 1) *Homeowners who want to design or redesign their homes*: This segment includes people who are looking for an easier way to visualize their home design ideas and make decisions about furniture, decor, and layout. They may not have a background in interior design, but they want to be able to create a cohesive and functional living space.
- 2) *People who want to work with interior designers or other professionals for their home projects*: This segment includes people who want to collaborate with professionals to bring their home design vision to life. They may have specific ideas in mind but need guidance from experts to make their design ideas a reality.
- 3) *Interior designers and professionals in the home design industry*: This segment includes professionals who are interested in using the app to connect with potential clients and collaborate on home design projects. They may be looking for a platform that allows them to showcase their work and connect with a wider audience.
- 4) *Homeowners looking to remodel or renovate their homes*: This segment includes people who are looking to update their existing homes and need help visualizing how to do so. They may be interested in connecting with professionals to help them plan and execute their home renovation project.
- 5) *Young adults moving into new homes*: This segment includes young adults who are moving into their first apartment or home and need help visualizing how to design and furnish their space. They may be looking for an affordable and user-friendly app to help them get started with their home design project.

VI. AVAILABLE SOLUTIONS

- 1) *Hiring an interior designer*: Many homeowners hire interior designers to help them with their home design projects. However, this can be an expensive and time-consuming process, and it may be difficult to find a designer who shares their vision.
- 2) *Using traditional design software*: There are many 2D and 3D design software available in the market, such as SketchUp, AutoCAD, and Revit. However, this software can be complicated and require a significant learning curve to use effectively.
- 3) *Using online design tools*: There are several online design tools available, such as Home styler and Room Sketcher, that allow customers to create 2D and 3D designs for their homes. However, these tools may not be as user-friendly or comprehensive as a dedicated app.
- 4) *DIY home design*: Some homeowners may try to design their homes themselves using basic tools such as pen and paper or a ruler. However, this can be difficult and time-consuming, especially for more complex projects.
- 5) *Using home design magazines*: Some homeowners may use home design magazines to get inspiration for their home design projects. However, this may not be as comprehensive or interactive as using an app.
- 6) *Watching home design TV shows*: Some homeowners may watch home design TV shows to get ideas for their home design projects. However, this may not provide a customized solution for their specific needs.

- 7) *Using social media platforms:* Some homeowners may use social media platforms such as Pinterest and Instagram to get inspiration for their home design projects. However, this may not provide a customized or interactive solution for their specific needs.

VII. SERVICE FEASIBILITY

- 1) *Market Need:* There is a clear need for home design and remodelling services, as homeowners often struggle with visualizing their ideal design and communicating it to professionals. Our app provides a user-friendly platform to solve this problem.
- 2) *Unique Features:* The app offers unique features such as the ability to upload a video of their home and convert it to a 3D model for designing, the availability of real-life brand furniture, windows, doors, and accessories, and the final 3D structure created by the app that allows customers to have a virtual tour of their design.
- 3) *Competitive Advantage:* The app's competitive advantage is its ability to offer a comprehensive suite of tools and resources, real-life brand furniture, and the final 3D structure created by the app, which allows customers to have a virtual tour of their design. The app's ability to convert video to 3D models also sets it apart from competitors.

VIII. MARKET FEASIBILITY

- 1) *Target market:* Our target market would be homeowners or people who are interested in interior design and home renovation. We would also be targeting interior designers, plumbers, electricians, carpenters, and other workers who can be hired for home renovation.
- 2) *Market size:* The market size for home design and improvement is significant, with millions of homeowners and renters worldwide. The app can be marketed globally, making it an attractive opportunity for investors. According to a report by Allied Market Research, the global home design software market was valued at \$2.4 billion in 2019 and is expected to reach \$4.6 billion by 2027, growing at a CAGR of 9.0% from 2020 to 2027. This indicates a significant market size for our app.
- 3) *Competition:* Our competition would include existing home design software and apps such as SketchUp, Sweet Home 3D, Room Sketcher, Home Designer Suite, and more. However, our app's unique selling point is the ability to connect with interior designers and workers, which sets it apart from its competitors.

IX. FINANCIAL FEASIBILITY

- 1) *Revenue streams:* The app's primary revenue stream would be the subscription fees that customers/professionals pay to access the premium features. Then the registration fees that the professionals would pay to register. We would also generate additional revenue streams through advertising partnerships with real-life brands, where they pay for product placement in the app's tool library. The other stream would be commission from the projects confirmed through the app.
- 2) *Cost structure:* The cost structure for our app would include development costs, maintenance costs, server and cloud storage fees, marketing and advertising expenses, and operational expenses. You will also need to pay salaries to our employees, including developers and customer support staff.
- 3) *Financial projections:* To determine financial projections, you would need to consider factors such as the size of our target market, the projected subscription fees, and the cost of acquiring and retaining customers. You could also consider conducting market research to determine the willingness of potential customers to pay for our app's features.

X. ETHICS & RISKS

- 1) *User Acquisition and Retention:* Acquiring and retaining users, particularly paying subscribers, can be difficult. Offering a free trial period may attract users initially, but converting them into paying subscribers and keeping them engaged over the long term requires offering compelling features, continuous updates, and excellent customer service.
- 2) *Quality of Design Output:* The success of an interior design app heavily depends on the quality of the design output it provides. If the 3D models generated by the app are not accurate or visually appealing, users may lose trust in the platform and seek alternatives.
- 3) *Integration with Real Brands:* Partnering with real-life brands such as Ikea to provide furniture and accessories can add value to the app. However, it also introduces risks related to licensing agreements, product availability, and maintaining updated catalogues. Any discrepancies or issues with integration could negatively impact the user experience.



XI. CONCLUSION

The “Design It Yourself” app is a promising venture in the home decor industry. The app provides a platform for customers to design their homes professionally and connect with registered professionals to work on their designs. The app offers basic features in a free trial and premium plans with advanced features on a monthly subscription basis. The app has a potential for growth and profitability with a growing customer base and professional connections.

BIBLIOGRAPHY

- [1] Bell, A., & Creasy, J. (2016). The use of virtual reality in interior design education: An empirical study. *International Journal of Architectural Research: ArchNet-IJAR*, 10(2), 139- 154.
- [2] Engelen, L., Hens, H., & van Wijk, A. J. (2017). Towards a sustainable building design process using immersive design reviews. *Energy Procedia*, 111, 842-851.
- [3] Ho, S. P., & Leung, T. W. (2018). Development of a 3D visualization and customization system for interior design. *Automation in Construction*, 86, 42-51.
- [4] Kandar, M. Z. A., Zaman, I., & Ahmad, N. A. (2020). Integrating virtual reality (VR) in interior design education for spatial visualization skill enhancement. *Virtual Reality*, 24(3), 515-530.
- [5] Liu, H., & Luo, Z. (2019). An augmented reality-based platform for interior design and decoration. *Automation in Construction*, 99, 212-226.
- [6] Ma, X., & Popova, A. (2020). The role of virtual reality in the architectural design process. *Journal of Engineering, Design and Technology*.
- [7] Zainorabidin, A., Marzuki, N. A., & Kamaruddin, M. F. (2020). The potentials of virtual reality in design communication in the architecture, engineering, and construction industry: A review. *Journal of Engineering, Design and Technology*.
- [8] Haq, S. U., & Eckert, C. (2017). Collaborative design review using augmented reality: A case study in architectural design. *Advanced Engineering Informatics*, 32, 13-26.
- [9] Toth, B., & Grabowski, P. (2019). Designing for spatial interaction: A comparative study of virtual reality and augmented reality for furniture evaluation. *Automation in Construction*, 107, 102930



10.22214/IJRASET



45.98



IMPACT FACTOR:
7.129



IMPACT FACTOR:
7.429



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089  (24*7 Support on Whatsapp)