

Urban Harmony

Design your Imagination!



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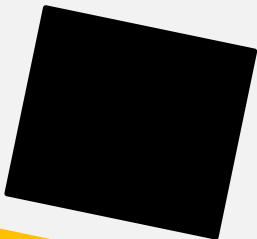
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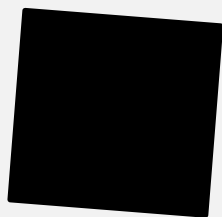
INTRODUCTION:

Interior home decor and design is the art and science of enhancing the interiors of a space to achieve a healthier and more aesthetically pleasing environment. It combines functionality with creativity, transforming ordinary rooms into inviting and personalized havens.

At its core, interior design involves understanding how people interact with their surroundings and using that knowledge to create spaces that meet their needs. This includes selecting color palettes, furnishings, and layouts that reflect personal style while maximizing comfort and usability.

Home decor, on the other hand, focuses on the decorative elements that bring life and character to a space. This can include artwork, textiles, lighting, and accessories that add texture and warmth. Together, interior design and decor play crucial roles in shaping the ambiance of a home, making it not just a place to live, but a true reflection of the inhabitants' tastes and lifestyles.

Our team developed a Flutter mobile app that seamlessly integrates interior decor solutions with user-friendly design and functionality. Our strategy focuses on creating an intuitive interface that allows users to visualize their spaces through interactive tools, enabling them to experiment with different color schemes, furniture arrangements, and decor styles. By leveraging Flutter's cross-platform capabilities, we ensure a smooth and engaging experience on both iOS and Android devices. Additionally, our app incorporates personalized recommendations and curated inspiration boards, empowering users to transform their homes effortlessly while fostering a sense of creativity and self-expression.





Scope:

Background and Necessity for the Mobile App:

Over the past few years, the home interior décor and design industry has experienced notable expansion with more homeowners enlisting professional help to enhance their living spaces. Traditional approaches to interior design, including face-to-face consultations and physical portfolios, can be time-intensive and restricted in reach. As technology evolves, there is an increasing need for digital platforms that deliver comprehensive interior design services online. Virtual design catalogs and online shopping for interior design products are extremely advantageous for homeowners looking to improve their homes.

The scope of interior home decor and design is vast, encompassing various aspects that contribute to creating functional, aesthetically pleasing, and harmonious living environments. Here are some key areas within this scope:

1. Space Planning

- **Layout Design:** Efficiently arranging furniture and fixtures to optimize flow and functionality.
- **Zoning:** Creating distinct areas for different activities, like living, dining, and working.





2. Color Theory

- **Color Selection:** Understanding the psychological effects of colors and choosing palettes that enhance mood and ambiance.
- **Accent Walls:** Using colors strategically to create focal points within a room.

3. Furniture Selection

- **Ergonomics:** Choosing furniture that is comfortable and suits the needs of the occupants.
- **Style Cohesion:** Ensuring that furniture aligns with the overall design theme, whether it's modern, traditional, or eclectic.

4. Lighting Design

- **Natural vs. Artificial Lighting:** Maximizing natural light while selecting appropriate artificial lighting solutions for different purposes.
- **Layered Lighting:** Combining ambient, task, and accent lighting to enhance the atmosphere and functionality.

5. Textiles and Materials

- **Fabric Selection:** Choosing materials for upholstery, curtains, and rugs that add texture and warmth.
- **Sustainability:** Incorporating eco-friendly materials and practices to promote environmental responsibility.





6. Decorative Elements:

- **Art and Accessories:** Selecting artwork, sculptures, and decorative items that reflect personal taste and contribute to the overall theme.
- **Plants and Greenery:** Integrating plants to enhance air quality and add a natural touch to interiors.

7. Style Development:

- **Thematic Design:** Developing a cohesive design theme that resonates with the homeowner's personality, such as minimalist, bohemian, or industrial styles.
- **Cultural Influences:** Incorporating elements that reflect cultural backgrounds or regional influences.

8. Smart Home Integration:

- **Technology in Design:** Integrating smart home devices like lighting, climate control, and security systems for enhanced convenience and efficiency.
- **Home Automation:** Designing spaces that accommodate technological innovations while maintaining aesthetic appeal.

9. Renovation and Remodeling:

- **Structural Changes:** Collaborating with architects and contractors for structural modifications that improve functionality and aesthetics.
- **Restoration:** Preserving historical elements while updating spaces for modern use.





10. Client Collaboration:

- **Consultation Process:** Engaging with clients to understand their needs, preferences, and lifestyle, ensuring the final design reflects their vision.
- **Feedback and Iteration:** Involving clients in the design process through regular updates and adjustments based on their feedback.

11. Budget Management:

- **Cost Estimation:** Developing budgets that align with client expectations and project scope.
- **Resource Allocation:** Prioritizing spending on elements that will have the most significant impact on the overall design.

12. Market Trends:

- **Staying Current:** Keeping up with emerging trends in decor, design innovations, and consumer preferences to ensure relevance and appeal.
- **Sustainable Practices:** Emphasizing environmentally conscious design trends that resonate with modern homeowners.





Constraints:

This mobile app will be displaying various high-resolution images. Hence, loading time should be minimized, and fetching of data within the app should be fast and seamless. The app cannot provide any physical designing facilities and can only facilitate virtual designs. The app must adhere to these constraints to ensure its successful implementation and operation.

1. Technical Limitations

- **Device Compatibility:** Ensuring the app functions seamlessly across various devices and screen sizes can be challenging, especially with different operating systems.
- **Performance:** High-resolution images and complex graphics can slow down app performance, leading to a poor user experience.

2. User Experience (UX)

- **Intuitive Navigation:** Creating an easy-to-use interface while offering robust features requires careful design to avoid overwhelming users.
- **Customization Options:** Balancing between providing enough customization features and keeping the app simple and user-friendly can be difficult.





3. Content Management:

- **Quality of Visuals:** Maintaining high-quality images and accurate representations of decor elements is crucial but can be resource-intensive.
- **Content Updates:** Regularly updating the app with new decor trends, styles, and product availability can strain resources.

4. Budget Constraints:

- **Development Costs:** High-quality app development can be expensive, especially if incorporating advanced features like AR or VR.
- **Marketing Expenses:** Promoting the app effectively to reach the target audience can require significant investment.

5. User Diversity:

- **Varied Preferences:** Catering to diverse tastes and preferences in decor can complicate feature development and content curation.
- **Cultural Sensitivity:** Understanding and respecting cultural differences in design aesthetics is essential to avoid alienating users.

6. Regulatory Compliance:

- **Data Privacy:** Adhering to data protection regulations (like GDPR) when collecting user data can pose challenges.
- **Intellectual Property:** Ensuring all images and content used in the app are properly licensed or owned to avoid legal issues.





7. Market Competition

- **Saturation:** The mobile app market for interior design is crowded, making it challenging to stand out and attract users.
- **Continuous Innovation:** Staying ahead of competitors requires constant innovation and feature enhancement.

8. User Engagement

- **Retention Strategies:** Developing effective strategies to keep users engaged over time can be challenging in a dynamic app environment.
- **Feedback Mechanism:** Implementing a robust feedback system to continually improve the app based on user input is essential but can be complex.

9. Integration with E-commerce

- **Product Availability:** Ensuring that linked products are in stock and accurately represented can complicate the user experience.
- **Seamless Checkout:** Creating a smooth transition from design inspiration to purchasing products requires careful integration with e-commerce platforms.

10. Environmental Factors

- **Sustainability Concerns:** Users may increasingly seek eco-friendly options, requiring the app to highlight sustainable decor choices without overwhelming other features.





Problem Statement:

The growing interest in personalized home environments has led to an increasing demand for innovative interior decor solutions. However, many existing mobile apps in the interior design space fall short in providing an intuitive, engaging, and comprehensive experience for users. Common issues include a lack of customization options, overwhelming interfaces, and insufficient integration of technology such as augmented reality (AR) to visualize designs in real-time. Additionally, users often struggle with sourcing quality decor products that align with their unique tastes and budgets. As a result, there is a significant need for a mobile app that not only simplifies the design process but also enhances user engagement and satisfaction by offering personalized recommendations, seamless navigation, and the ability to visualize and purchase decor items effortlessly.



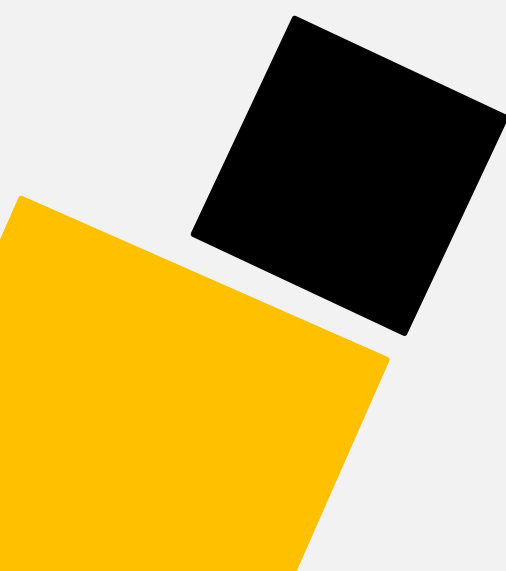


Purposed Solution:

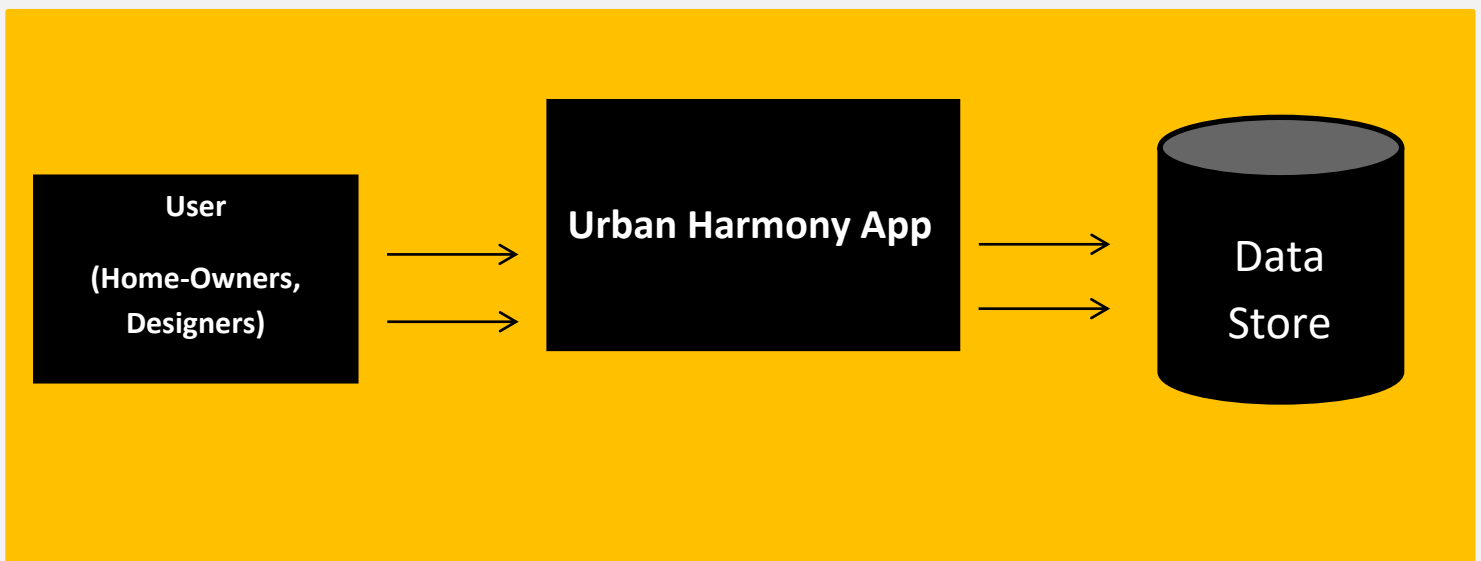
To make it easier for homeowners and professional interior designers, a mobile application (app) named Urban Harmony is to be developed. This mobile app will be a comprehensive home interior design app that offers access to a vast product catalog, inspiration galleries, and options for professional consultations.

Purposed Of This Document:

The purpose of this document is to present a detailed description of Urban Harmony mobile app. This document will explain the purpose and features of the app, the interfaces of the app, what the app will do, and so on. This document is intended for both stakeholders and developers of the app.



Architecture Design of The system:





Project Deliverables:

You will require to design and build the project and submit it along with complete Documentation that includes:

- Problem Definition
- Design Specifications
- Diagrams such as Flowcharts for various Activities, Data Flow Diagrams, and so on
- Database Design
- Test Data Used in the Project
- Project Installation Instructions (if any)
- User Credentials for all Types of Users with Passwords.

Documentation is considered as a very important part of the project. Ensure that documentation is complete and comprehensive. Documentation should not contain any source code.

The consolidated project will be submitted consolidated project Source Code zip file with a ReadMe.doc file listing assumptions (if any) made at your end and SQL scripts files (.sql) containing database and table definitions and Android Package File (.apk file) for the mobile app.





Functional Requirements:

The app will be designed as a set of Forms/Pages, Navigation, and Fragments/Screens with menus representing choice of activities to be performed. Following are the functional requirements of the mobile app:

1. User Registration and Authentication:

The registration function should allow users to create their accounts. It will enable new users to register themselves. At the time of registration, users must provide Name, Email ID, Contact Number, and Username, and then configure their password. Appropriate error-checking must be done on the fields of the form to ensure correct data.

For example, email id can be checked to see if it is of appropriate format. (Hint: Use client-side validation).

2. Design Gallery:

The app should display high-quality images of interior designs in a design gallery/showcase. The app should categorize these images by room type, theme/style, and color scheme. Sub-categories can include Living Rooms, Bedrooms, Kitchens, Bathrooms, and so on.

Users should be able to save favorite images to their profiles. They should be able to browse as well as customize available designs to build their own.





3. Product Catalog:

Various menus/features under this can include

- Integrated Product Listings:

A catalog of furniture, decor items, and materials from various brands and retailers. Sub-categories could include:

- Furniture
- Lighting
- Décor
- Rugs and Carpets
- Wall Art
- Curtains and Blinds
- Search, Sort, and Filter: Advanced sort, search functionality, and filters to find products by category, brand, price, style, and so on.
- View Product Details: Detailed information about each product including dimensions, materials, and price.





- Add Products to Cart: Users can select and add products to the cart.
- View Third Party Purchase Links: Direct links to purchase products from partner Websites.

4. Professional Consultation: Menus/features under this can include:

- Book a Consultation:

Users can book consultations with professional interior designers.

- View Designer Profiles: Profiles of available designers with their portfolios, ratings, and reviews.
- View Scheduling: Users can view available time slots and schedule appointments.
- Add Consultation Reviews: Users can leave reviews for the consultations they receive.
- Cancel Appointments: Users can cancel appointments that have already been booked.

5. User Reviews: Under this option:

- Users should be able to leave reviews for décor products and gallery designs.

6. User Dashboard: Menus/features under this can include:

- Design Management: Users can view, edit, and manage their saved designs.
- Activity Overview: Overview of recent activities, saved items, and upcoming consultations.
- Notifications: Alerts for new design inspirations, product updates, and consultation reminders.





7. Admin Features and Functionality:

- Admins should be able to manage user accounts, including suspending or deleting accounts.
- Admins should be able to add, edit, and delete content in the design gallery.
- The app should generate reports on user activity and site performance.

8. Blog:

- Articles and posts related to interior design trends, tips, and Do It Yourself idea.

9. User Account Management:

- Users can view/edit their profile.
- Sub-categories could include:

Profile settings

- My designs
- Saved items
- My design
- My consultations
- Order History

For Professional Designers:

Menus/Features can include:





Registration and Profile Setup:

- Interior designers can sign up using their professional email address, create a comprehensive profile by filling out their personal and professional information, upload images and descriptions of past projects to their portfolio, and set their availability for client consultations by defining available time slots.

Managing Consultations:

Designers set their available time slots for consultations. Clients can view these slots and book appointments directly through the mobile app. Professional interior designers can also cancel appointments if required.

Receiving Reviews:

The client provides a review on the designer's profile. The designer can respond to the review and use the feedback to improve their services. Common Features to both types of users: About Us and Contact Us pages should be part of the mobile app. Implement GPS/Relocation functionality if applicable.

Sitemap:

To help users understand the flow of the app, you will create a Sitemap and add it to the home screen of your app.





Sample Homeowner flow diagram:





Non Functional Requirements:

There are several non-functional requirements that should be fulfilled by the mobile app. These include:

Safe to use:

The mobile app should not result in any malicious downloads or unnecessary file downloads.

Accessibility:

The mobile app should have clear and legible fonts, user-interface elements, and navigation elements.

User-friendliness:

The mobile app should be easy to navigate with clear menus and other elements and easy to understand.

Operability:

The mobile app should be reliable and efficient.

Performance:

The mobile app should demonstrate high value of performance through speed and throughput. In simple terms, the mobile app should have minimal load time and smooth page redirection.

Scalability:

The mobile app architecture and infrastructure should be designed to handle increasing user traffic, data storage, and feature expansions.

Security:

The mobile app should implement adequate security measures such as authentication. For example, only registered users can access certain features.

Availability:

The mobile app should be available 24/7 with minimum downtime.





Interface Requirements:

Hardware

- Intel Core i5/i7 Processor or higher
- 8 GB RAM or higher
- Color SVGA
- 500 GB Hard Disk space
- Mouse
- Keyboard

Software Programming Software and IDE:

Android Studio IDE with Android 9 or higher with Java, Flutter 1.2 with Dart 2.6 or higher

Database:

SQLite or Firebase

Testing:

You can test the mobile app using a mobile device or a suitable emulator.



Our LOGO:





Our Splash Screen:



Urban Harmony

Sample Professional interior designer flow diagram:

