QUANTRION

SCOPE
of work

The Home Studio Platform MVP aims to transform the home-buying experience by providing an interactive design and furnishing solution. The platform will allow builders to upload CAD files, vendors to upload 3D furnishing models, designers to create predefined themes, and buyers to explore, customize, and save their preferred home designs.

This SOW outlines the business deliverables, technology integrations, dependencies, and collaboration touchpoints required to deliver the MVP within a **4-month engagement**.

AI
HOMESTUDIO
Where House Becomes Home

OVERVIEW

Quantrion is excited to partner with Home Studio Enterprises, LLC to redefine the modern furniture shopping experience through the development of a robust, technology-driven platform. This project is designed to align with the company's goals of elevating customer engagement, enhancing online and in-store experiences, and streamlining operational efficiency. By integrating cutting-edge 3D visualization, real-time inventory management, and seamless e-commerce capabilities, the platform will serve as a comprehensive solution to meet the needs of today's tech-savvy shoppers.

Through this partnership, Quantrion will leverage its expertise in software development, user experience design, and supply chain optimization to create a platform that stands out in the marketplace. The initiative not only promises to bring innovative tools, such as virtual showrooms and AR/VR-powered product visualizations, to the forefront but also aims to drive measurable business outcomes, such as increased conversion rates, improved inventory accuracy, and enhanced customer satisfaction. By fostering a collaborative approach, we aim to deliver a platform that transforms the shopping journey and positions Home Studio AI as a leader in the industry.

SCOPE OF SERVICES

The scope of this project reflects our commitment to creating a state-of-the-art furniture technology platform that delivers exceptional value and functionality for both Home Studio Enterprises, LLC and its customers. Quantrion will oversee every aspect of the project, including initial discovery sessions to gather insights into business requirements and customer needs, detailed system design, development, and rigorous testing to ensure optimal performance. Our team will also provide training and ongoing support to ensure a smooth transition and long-term success.

The platform will encompass key features such as real-time inventory tracking, seamless integration with existing systems, and tools for customers to visualize furniture in their spaces using AR/VR technology. This comprehensive approach ensures the platform not only meets but exceeds expectations, providing a transformative shopping experience. By focusing on scalability and flexibility, the solution will support future growth, accommodate additional features, and adapt to evolving market trends, ensuring it remains a valuable asset for years to come.

DELIVERABLES

Quantrion recognizes that the success of this endeavor hinges on the ability to align with the client's vision while maintaining a structured and strategic approach to project execution. To this end, we have established a detailed timeline and milestones that will guide the project through each critical phase. This timeline incorporates all essential elements, including discovery, design, development, testing, and deployment, ensuring that each stage is thoroughly planned and executed with precision.

Regular progress updates will be shared with stakeholders to maintain transparency and ensure that expectations are met throughout the process. Milestones will serve as checkpoints to assess progress and address potential adjustments or refinements proactively. By adhering to this structured timeline, we ensure that the project remains on track and aligns with both the client's strategic goals and the anticipated launch date, ultimately delivering a solution that exceeds expectations.

CLIENT RESPONSIBILITES

The successful delivery of this project relies on the active collaboration between Quantrion and Home Studio Enterprises, LLC. As part of this partnership, the client will play a crucial role in providing key assets and resources necessary for the development process. These include access to an up-to-date product catalog, complete with 3D assets and metadata, which will serve as the foundation for the interactive visualization and e-commerce components of the platform. Additionally, the client will provide credentials for integrating secure payment gateways, ensuring seamless transactions for customers.

Beyond these technical assets, the client's support will also be required in facilitating domain and hosting details, enabling a smooth deployment of the platform. Furthermore, access to a select group of test users will be instrumental in validating the platform's functionality and user experience during the development and QA phases. By ensuring timely provision of these resources, Home Studio Enterprises, LLC will not only support project timelines but also contribute directly to the creation of a solution that aligns with their vision and operational goals. This collaborative approach is essential to delivering a platform that meets the needs of all stakeholders and achieves measurable business outcomes.

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TERMS AND CONDITIONS

The terms and conditions outlined in this project are designed to ensure mutual understanding, transparency, and alignment between Quantrion and Home Studio Enterprises, LLC. All intellectual property, including but not limited to proprietary code, tools, methodologies, software, designs, and any other work product developed, created, or improved in connection with this project, shall be the sole and exclusive property of Home Studio Enterprises, LLC. Quantrion acknowledges that its role is that of an independent contractor, and any intellectual property developed while performing services under this agreement shall be considered 'work made for hire' under applicable law. To the extent that any intellectual property rights do not automatically vest in Home Studio Enterprises, LLC, Quantrion agrees to assign and transfer all such rights to Home Studio Enterprises, LLC upon creation, ensuring the company's full ownership and control over the technology and innovations developed.

To maintain project momentum and avoid delays, the client is responsible for providing all necessary inputs, including product catalogs, hosting details, and other critical resources, in a timely manner as outlined in the responsibilities section. Any changes to the project's scope will require a formal Change Order agreement to ensure all parties are aligned on new objectives, timelines, and costs. These terms and conditions are essential to fostering a collaborative environment, minimizing risks, and ensuring the successful delivery of a platform that meets and exceeds expectations.

APPROVAL & SIGNATURES

Client Representative: _____

Date: _____

Quantrion Representative: _____

Date: _____

PROJECT SCOPE

The project will address the following business objectives:

1. **Decision Fatigue Reduction:** Simplify the overwhelming number of design decisions for homebuyers.

2. **Furnishing Upselling:** Enable builders and vendors to capture furnishing sales at critical decision points.

3. **Customer Delight:** Deliver a move-in-ready home experience with pre-selected furnishings and decor.

Key Functionalities:

- **API for CAD and 3D Model Upload:**
Builders will upload CAD files and project details via an API-supported portal, while vendors can upload 3D furnishings in the same system.

- **Theme Creation by Designers:**
Designers will be able to create themes by combining furniture and color schemes, which buyers can later select and customize.

- **Predefined Themes for Buyers:**
Buyers can explore predefined themes, save them, or add them to their cart for purchase.
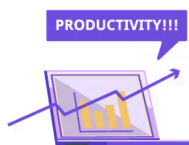
- **Authentication and User Onboarding:**
Secure user onboarding process with role-based access for builders, vendors, designers, and buyers.

Streamline your
day-to-day operations

Reduce the time
spent on tasks

PRODUCTIVITY!!!

Increase operational
efficiency

Connect people
systems and departments

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Deliverables and Client Inputs

Foundational Platform Setup

Business Deliverable

Establish the core infrastructure to onboard builders, vendors, designers, and homebuyers.

Technical Solution

Develop backend architecture using Node.js and PostgreSQL.

- Build APIs for CAD file uploads and 3D model furnishing uploads.
- Implement the frontend dashboard using React.js for builder and vendor users to manage their projects and uploads.

UX/VD Deliverables

- Conduct user research to understand the needs of each user group (builders, vendors, designers, buyers).
- Create user personas and initial wireframes for dashboard interfaces.

Client Inputs Needed

- Sample CAD files in DWG/DXF formats.
- •Furniture catalogs from vendors in 3D formats (GLTF/FBX).
- •Contact details for initial builder and vendor partners.

0-30 DAYS

Deliverables and Client Inputs

Interactive Visualization and Personalization

Business Deliverable

Launch an interactive 3D viewer and enable designers to create predefined themes.

Technical Solution

- Use **Three.js** and **WebGL** for real-time rendering.
- Build a **designer view** where they can combine furniture models and color schemes to create themes.
- Develop a **buyer-facing dashboard** where buyers can explore, save, and purchase themes.

UX/VD Deliverables

- Design high-fidelity mockups for both the designer and buyer interfaces.
- Create interactive prototypes for usability testing.

Client Inputs Needed

- User feedback from builders, vendors, and buyers.
- Furniture catalogs with metadata for accurate rendering.

31-60 DAYS

Deliverables and Client Inputs

E-Commerce and Checkout Process

Business Deliverable

Implement a build-to-order process for buyers to place furniture orders through the platform.

Technical Solution

- Develop e-commerce functionality for cart management, including the ability to save and modify themes.
- Prepare for integration with payment gateways (Stripe/PayPal) in a future phase.

UX/VD Deliverables

- Design user-friendly interfaces for the cart and checkout process.
- Conduct final usability testing to ensure smooth user interactions.

Client Inputs Needed

- Policies for refunds, builder credits, and payment terms.
- Legal documents including privacy policy and terms of use.

61-90 DAYS

Deliverables and Client Inputs

Quality Assurance, DevOps, and Go-Live

Business Deliverable

Ensure the platform is fully tested and deployable, with CI/CD pipelines in place.

Technical Solution

- Perform **QA testing** using **Selenium** and **Postman**.
- Set up **CI/CD pipelines** using **Jenkins** or **GitHub Actions**.
- Deploy the platform on **AWS** or **Azure**.

UX/VD Deliverables

- Conduct final usability testing and address any remaining issues.
- Provide a **style guide and documentation** for future development.

Client Inputs Needed

- Test user access for builders, vendors, and buyers.
- Domain and hosting details for deployment.

91-120 DAYS

Technology Stack and Business Justification

Component	Technology	Business Justification
Backend	Node.js, Express.js	Secure data storage and multi-user workflows
Frontend	React.js, Next.js	Fast, dynamic, and responsive user interface
Database	PostgreSQL, Firebase	Efficient handling of large volumes of data
3D Visualization	Three.js, WebGL	Interactive floor plan and furnishing customization
CAD Integration	AutoCAD API, Revit API	Enables builders to upload and convert floor plans
Authentication	Firebase, OAuth	Ensures user security and account management
QA Tools	Selenium, Postman	Platform reliability and functionality testing
DevOps	Jenkins, Docker, AWS	Smooth deployment and scalability

Client Dependencies Timeline

Requirement	Details	Timeline
Floor Plans (CAD Files)	CAD formats from builders (DWG, DXF)	Month 1
Vendor Catalogs (3D Assets)	Furniture vendor catalogs (GLTF/FBX)	Month 2
Legal Documents	Privacy policy and terms of use	Month 3
Hosting Details	Domain and hosting provider details	Month 1
User Feedback	Test users for feedback sessions	Ongoing

Project Phases and Timeline Summary

Month	Key Deliverables	
Month 1	Foundational Platform Setup	Core infrastructure for builders, vendors, and designers
Month 2	Interactive Visualization and Themes	Personalized user experience
Month 3	E-Commerce and Checkout Process	Secure transactions and order flow
Month 4	Quality Assurance and Go-Live	Testing, deployment, and scaling

Key Considerations

Foundation Phase

The foundational phase will take more time than subsequent phases, as it involves setting up backend architecture, APIs, and core platform functionality. This is a general rule that must be kept in mind to manage expectations.

Collaboration

Considerable time would be required to meet Pre-requisites like getting CAD and 3D models working with vendor teams, internal communication with **Product, UI/UX design iterations**, **Q&A sessions**, and **clarifications** between teams.

Team Composition

- **1 Project Manager / Scrum Master**
- **1 Architect / Lead Developer/ DevOps**
- **2 Frontend Developers**
- **1 Unity Developer (for 3D Modeling)**
- **1 Backend Developer**

It's been time tested and our model for QA will be a shared responsibility between the client and the development team to ensure platform reliability. It's a TEAM work than an individual contribution.

Pricing

Payments are broken down into Sprints

Total Project Cost: $250,000

The project cost is structured into four installments, tied to milestones and deliverables:

1. **Initial Payment: Amount: $50,000**
   Due: Upon SOW signature and project kick-off.

2. **Second Payment: Amount: $75,000**
   Due: Upon completion of the first 3 sprints, which include:
   - Foundational platform setup (backend architecture and APIs for CAD and 3D model uploads).
   - Initial frontend dashboard for builders and vendors.
   - Designer module setup for theme creation.

3. **Third Payment: Amount: $75,000**
   Due: Upon completion of 6 sprints, which include:
   - Delivery of the interactive 3D viewer for homebuyers.
   - E-commerce functionality, including build cart and save that as an order for this phase.
   - Completion of QA testing and platform deployment.

4. **Final Payment: Amount: $50,000**
   Due: Upon project completion and provision of 3 months of post-launch support.

This payment structure ensures alignment with the project timeline and deliverables while reserving a portion of the budget for post-launch support.