**Software Requirement Specification (SRS)**

**Overall Description**

i.

#### Product Functions:

* **3D Visualization:** The software provides detailed 3D visualizations of interior designs, including furniture placement, color schemes, and lighting.
* **Collaboration Tools:** Real-time collaboration features that allow designers and clients to work together on design projects.
* **Customization:** Ability to customize design elements such as layouts, colors, and materials to meet user preferences.
* **Cost Estimation:** Tools for estimating project costs based on design choices and materials.
* **Feedback System:** A feedback system for clients to provide input and revisions on design concepts.

ii.

#### User Characteristics:

* **Designers:** Experienced interior designers who use the software to create and visualize designs for clients.
* **Clients/Homeowners:** Individuals or businesses seeking to design or remodel their interior spaces, who collaborate with designers using the software.
* **Technical Users:** IT professionals or support personnel who manage the software's installation, updates, and technical support.

iii.

#### General Constraints:

* **Hardware Requirements:** The software may have specific hardware requirements, such as graphics capabilities for rendering 3D designs.
* **Software Compatibility:** Compatibility with different operating systems and software versions, ensuring accessibility for a wide range of users.
* **Data Security:** Implementation of robust security measures to protect user data, designs, and intellectual property.
* **Scalability:** Ability to handle a growing number of users and projects without compromising performance.

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**User Training:** Providing user training and support resources to ensure smooth adoption and usage of the software.

**Functional Requirement Table:**

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| --- | --- |
| **User Registration/Login** | Users can create accounts or log in to access the interior design platform. |
| **Profile Management** | Users can edit their profiles, including personal information and design preferences. |
| **Room Creation** | Users can create virtual rooms specifying dimensions and layout. |
| **Furniture Catalog** | A catalog of virtual furniture items from different styles and brands. |
| **Furniture Placement** | Users can select furniture items from the catalog and place them within the virtual room. |
| **Customization Options** | Users can customize furniture items, such as color, material, and size. |
| **Design Collaboration** | Users can invite others to collaborate on a design project and share feedback. |
| **3D Visualization** | Realistic 3D rendering of designed rooms to provide a visual representation. |
| **Virtual Reality (VR) Mode** | Users can view and interact with their designed rooms in virtual reality for immersive experiences. |
| **Cost Estimation** | Estimate the cost of selected furniture items and overall design project. |
| **Shopping Integration** | Integration with online stores for direct purchase of furniture items within the platform. |

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| **Design Inspiration** | Provide design inspiration through curated collections, articles, or user-generated content. |

**Non Functional Requirement Table:**

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| **Non-Functional Requirement** | **Description** |
| **Performance** | The system must respond to user interactions within 2 seconds to ensure a smooth and responsive user experience. |
| **Scalability** | The system should be able to handle an increasing number of users and designs without a significant decrease in performance. |
| **Reliability** | The system should have a high level of reliability, ensuring minimal downtime and data loss. |
| **Security** | User data must be securely stored and transmitted using encryption protocols to prevent unauthorized access. |
| **Usability** | The user interface should be intuitive and easy to navigate, requiring minimal training for users to operate effectively. |
| **Compatibility** | The system should be compatible with a range of devices and browsers to accommodate various user preferences. |
| **Accessibility** | The platform should be accessible to users with disabilities, following accessibility standards such as WCAG. |
| **Maintainability** | The system should be designed with modular components and wellcommented code to facilitate future maintenance and updates. |