

Assignment 2: Software Requirements Specification

Project Title: 2D/3D Interior Design

Members:

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Meetings date	Participants
09/18/2023	Individual brainstorming
09/19/2023	Humaira, Nazanin, Mohima, Hannah, Lavender

Stakeholders	Requirements
College Students, Home renovators, Interior designers	FR1: Create a room with a specific room dimension. FR2: Add doors and windows to the room FR3: Be able to add/delete furniture. FR4: Users will be able to move furniture. FR5: Change the size of the furniture. FR6: Change the color of the walls and furniture. FR7: Export the floorplan into an image file.

	<p>FR8: Create an account to the web-app.</p> <p>FR9: Save models on their account.</p> <p>FR10: see the room in 3D view.</p> <p>FR11: View the 3D model from multiple angles.</p> <p>FR12: Be able to leave reviews.</p> <p>FR13: Display menu options for the users.</p> <p>FR14: Notify the user if their furniture placement are possible or not.</p> <p>FR15: Users will be able to undo/redo their most recent modification.</p>
All	<p>NR1: Performance</p> <p>NR2: Reusability</p> <p>NR3: Portability</p> <p>NR 4: Safety</p> <p>NR 5: Scalability</p> <p>NR 6: Dependability</p>

NFR1. Performance		
Goal: Low latency response time		
Stakeholders: Customers		
When loading the web app, it shouldn't take a long time, it is expected to take around ~5 seconds to load the web app and reduces the waiting time for customers.		
<u>Origin:</u> During our brainstorming session, team members agreed on adding this as an important part.		
<u>Version:</u> 1.0	<u>Date:</u> 09/18/2023	<u>Priority:</u> 1

NFR2. Reusability		
Goal: User friendliness		
Stakeholders: Older customers		
A lot of people are not experienced in using a home decor app and sometimes it gets frustrating to navigate through the different functions so our app should have everything presented in a clear manner and make the important menu option the center of visual.		
<u>Origin:</u> Team members came up with this idea during our project proposal presentation.		
<u>Version:</u> 1.0	<u>Date:</u> 09/18/2023	<u>Priority:</u> 2

NFR3. Portability

Goal: Operate across various devices

Stakeholders: Users on phones/tablets

The web app should be functional on all devices such as laptops, phones, and tablets. The site will look similar on all devices no matter the screen size. The best experience on a web app like this would be on a laptop/ desktop because of the screen size, but we will make it functional on other devices. The features of the web app should also be functional across all devices. For example, the 3D feature on the website can be controlled on the screen instead of using touchpad/mouse.

Origin: Group Meeting 09/06/2023

Version: 1.0

Date: 09/18/2023

Priority: 3

NFR4. Safety

Goal: Protect user data and project information from unauthorized access

Stakeholders: Customers

Our web application will feature a user authentication and password management page, enabling users to securely store their information. This not only enhances data security but also simplifies the user experience, making it more convenient for our customers to utilize the application while safeguarding their information.

Origin: Discussed with group over zoom

Version: 1.0

Date: 09/18/2023

Priority: 4

NFR5. Scalability

Goal: User Satisfaction

Stakeholders: Web App Users

As builders of the web app we expect there to be traffic on the site. We will work to make the web app scalable in order to ensure users are working with a fast-responding application. It should be able to handle traffic on the web app and respond to customers consistently with or without traffic. We would like to accommodate a growing number of users and avoid site crashes or slow loading so we can enhance user experience.

Origin: Group Meeting on 09/12/2023

Version: 1.0

Date: 09/12/2023

Priority: 5

NFR6. Dependability

Goal: Regular app updates and maintenance

Stakeholders: Home Owners, College Students, Interior Designers

We are committed to ensuring that our app remains current and operates seamlessly. To achieve this, we actively seek user feedback on the app's functionality and utility. We encourage our users to share their valuable input to contribute to the ongoing enhancement of our web app. Additionally, our team rigorously tests all updates in advance to guarantee a smooth and uninterrupted user experience. To update our app, we would first recognise the update needs and what needs to be improved. Then, categorize the updates based on their priorities such as minimal bug fixes or serious web lagging and so on.

Origin: Team agreed to add this because we value our users' feedback.

Version: 1.0

Date: 09/18/2023

Priority: 3

FR1. Create a room		
Goal: User will be able to create a room with specific dimensions		
Stakeholders: Home Owners, College Students, Interior Designers		
The user will be able to specify the dimensions of the walls in the room. When enter the part of the app to start making their design, they will be prompted to enter the dimensions of their room, then the app will generate a 2D layout of the room they can begin placing items in.		
<u>Origin:</u> Discussion during team meeting		
<u>Version:</u> 1.0	<u>Date:</u> 09/19/2023	<u>Priority:</u> 1

FR2. Windows and Doors		
Goal: Add windows and doors to the model		
Stakeholders: Home Owners, College Students, Interior Designers		
The user will be able to add windows and doors to their model. This will also show where the door swings when it opens so they can accurately layout their other items. Adding doors and windows will appear separately in the menu from furniture, and they will only be allowed to place them on the walls.		
<u>Origin:</u> Discussion during team meeting		
<u>Version:</u> 1.0	<u>Date:</u> 09/19/2023	<u>Priority:</u> 10

FR3. Add/Delete furniture		
Goal: The user will be able to add and delete various furniture items.		
Stakeholders: Home Owners, College Students, Interior Designers		
The user will have access to a menu with different furniture options, such as beds, couches, tables, lamps, and chairs. Once they select an option they will be able to pick from different variations such as king size bed or queen size bed, and place it in their model. They will also be able to select items they have placed, and delete them from the model.		
<u>Origin:</u> Discussion during team meeting		
<u>Version:</u> 1.0	<u>Date:</u> 09/19/2023	<u>Priority:</u> 3

FR4. Move the Furniture and Doors/Windows		
Goal: User will be able to move the furniture and doors/windows they have placed in the 2D model		
Stakeholders: Home Owners, College Students, Interior Designers		
The user will be able to select the one of the items they have placed and move it to a new location. They will do this by clicking on the object and they will then be able to select the location for it, and it will move there. They will also be able to rotate their items once they are placed.		
<u>Origin:</u> Discussion during team meeting		
<u>Version:</u> 1.0	<u>Date:</u> 09/19/2023	<u>Priority:</u> 4

FR5. Change the size of furniture items		
Goal: User will be able to scale the size of the items placed in the plan		
Stakeholders: Home Owners, College Students, Interior Designers		
The user will be able to select the items in the interface to view their specific measurements, and an option to change the size will pop-up. The user will be able to click and drag arrows to change the size, or enter precise measurements to automatically resize the item. By default, the program will keep a ratio between length and width, but this can be disabled by the user.		
<u>Origin:</u> Discussion during team meeting		
<u>Version:</u> 1.0	<u>Date:</u> 09/19/2023	<u>Priority:</u> 11

FR6. Change the colors		
Goal: The user will be able to change the colors of the walls, floors, and added items.		
Stakeholders: Web App Users		
The user will be able to select their items and pick a color to change it to. They will be able to select the walls and change that color as well. They will also be able to select the floor, and change the type/color of the flooring.		
<u>Origin:</u> Group Meeting on 09/12/2023		
<u>Version:</u> 1.0	<u>Date:</u> 09/12/2023	<u>Priority:</u> 14

FR7. Convert the room into a 3D model

Goal: The 2D plan will be converted into a 3D model

Stakeholders: Web App Users

Once the user is satisfied with their 2D model, or wants to check their model before doing any more modifications, they will be able to convert their 2D layout into a 3D model. The model will show the layout with their selections allowing them to get a better idea of what it would look like in real life.

Origin: Group Meeting on 09/12/2023

Version: 1.0

Date: 09/12/2023

Priority: 2

FR8. View the 3D Model from Multiple Angles

Goal: Provide a more comprehensive visualization of 360 of the room in 3D

Stakeholders: Web App Users

When users intend to use our app, their goal is to envision how their room will appear in real time with their preferred furniture. We aim to optimize the app's efficiency to allow for this process to happen seamlessly. In order for the app to be able to demonstrate the room in 3D we are planning to add initiative features such as rotational controls (drag, touch, drop options) and provide an orbit view so that the users can view the 360 of the room. We also want to allow users to be able to zoom in on any desired area in their room.

Origin: Group Meeting on 09/12/2023

Version: 1.0

Date: 09/12/2023

Priority: 5

FR9. Create an Account to the Web App		
Goal: Users can save their information and protect their privacy		
Stakeholders: Web App Users		
In order for the stakeholders to be able to save their information, they would need to have an account. We are providing a login page for our users to not only allow any changes to be saved, but also make sure their privacy is protected. We would require the users to meet our secure password requirements and also utilize password hashing. Later on, we also would like to add account verification to increase our security.		
<u>Origin:</u> Group Meeting on 09/12/2023		
<u>Version:</u> 1.0	<u>Date:</u> 09/18/2023	<u>Priority:</u> 12

FR10. Save Models to Their Account		
Goal: Save any prior changes done to the room to make designing rooms more efficient		
Stakeholders: Web App Users		
It would make the app extremely more efficient if the users are able to view their changes from the last time they used the app. By adding this saved feature, it encourages the users to use our app more to view their past ideas as well as adding any new furniture they would like to add.		
<u>Origin:</u> Group Meeting on 09/12/2023		
<u>Version:</u> 1.0	<u>Date:</u> 09/18/2023	<u>Priority:</u> 13

FR11. Gain Feedback via Reviews		
Goal: Gain Feedback.		
Stakeholders: Home Owners, College Students, Interior Designers		
Description: Users will be able to give feedback on the web-app using a link at the bottom of the screen. The review will be sent to us so we can see it and take any complaints or suggestions into account.		
<u>Origin:</u> Group Meeting on 09/12/2023.		
<u>Version:</u> 1.0	<u>Date:</u> 9/12/23	<u>Priority:</u> 15

FR12. Display a menu of options to the user		
Goal: Allow user ease of control		
Stakeholders: Web App Users		
At the top of the interface, the user will be presented with buttons that will allow them to access certain features previously identified (undo/redo, furniture options, save/export, the color picker, navigation ect.) as well as information about the floorplan such as when it was last saved and the overall dimensions of the room. The buttons will have simple icons and/or names, and when the user hovers over them a small pop-up will briefly explain what the button does.		
<u>Origin:</u> Group Meeting on 09/19/2023		
<u>Version:</u> 1.0	<u>Date:</u> 09/18/2023	<u>Priority:</u> 6

FR13. Modification Not Possible		
Goal: Inform user the modification to the room is not possible		
Stakeholders: Web App Users		
When the web app user sets the measurements of a room and tries to add a furniture piece that is too large it will inform the user that the modification is not possible. In the case where there is already a furniture piece in that area the app will also show the same message.		
<u>Origin:</u> Group Meeting on 09/12/2023		
<u>Version:</u> 1.0	<u>Date:</u> 09/18/2023	<u>Priority:</u> 8

FR14. Export the floorplan into an image		
Goal: Allow the user to download their plan as an image		
Stakeholders: Web App Users		
The user will have the option to save their floor plan as a digital image and download it to their device. This image will be view-only, and cannot be used to 'load' a design.		
<u>Origin:</u> Group Meeting on 09/12/2023		
<u>Version:</u> 1.0	<u>Date:</u> 09/18/2023	<u>Priority:</u> 7

FR15. Undo and Redo Modification

Goal: Allow users to undo modifications

Stakeholders: Web App Users

Users will be able to reverse modifications they made if they don't like it. These undo and redo buttons will allow users to experiment with different ideas they had in mind.

Origin: Group Meeting on 09/19/2023

Version: 1.0

Date: 09/18/2023

Priority: 9