

Darren Kriner

John Fitzgerald

Griffin Howlett

CSS 450

11/16/2016

Final Project Proposal: Interior Designer

Ever wanted to design the interior of your home, but don't have the artistic ability, nor the cognitive capacity to search for an app beyond the UW domain? Interior Designer is the answer to all your problems!

Our app is a tool for designing the layout of a small room. In this case, a bedroom. A blank canvas with walls and a door are shown to the user, and they have the option to add an array of furnishings. Simply click on a drop down and choose from a pre-determined list, and drag the object onto the canvas. Then users may scale it, move it, rotate it, change its color, or delete it.

Users also have the ability to add ceiling fixtures. To reduce clutter, we separated the editor into 2 modes that show different views, one that shows only floor furnishings, and one that shows everything, including the ceiling fixtures. The ceiling fixtures will likely be made transparent.



Figure 1: A design of our app. Within our canvas we have the primary editing window. The thick black bars represent the walls of a room we are viewing from the top down. In this area, users may add any

combination of furniture and arrange them as they please. On the left is the GUI that holds the controls, which include a color picker and furnishing options. On the right is a viewport that shows a miniature version of the editing window, and it is here where users can swap between Floor view, and Floor+ Ceiling view. The difference is the Floor + Ceiling view shows both floor furnishings and ceiling fixtures. Below this is a flag that informs the user if a piece of furniture has been placed out bounds and is clipping through a wall. Lastly, a delete button for the selected item.

*Not pictured: Time permitting, there may be an 'earthquake' button that activates earthquake mode, in which all fixtures will shift during a simulated earthquake. If we get so far as to implement this, the idea will shift to users are designing their own bomb shelter, which can be tested under natural disasters.

The plan:

1. Follow the MP5 guidelines to build a solid foundation to work off of
 - a. This demo will only include the canvas and is limited to the floor view
 - b. Some furnishings will be placed automatically upon loading the app so that we can test the transforms
2. The scene nodes
 - a. Pre-grouped objects (desks with lamps on top, chairs with ottomans etc.)
 - b. User-defined grouped objects (user highlights multiple objects and 'groups' them so they become siblings)
 - c. Adjustable room: allow changing of the room size, and maybe rotation.
3. Views
 - a. Floor View
 - b. Floor + ceiling View
4. After MP5 we will add the rest of the features and polish for our final demo
 - a. GUI
 - i. Color picker
 - ii. 'add furniture'
 - b. Delete button
 - c. Mini viewports
 - d. Static instructions below the editor window to guide the user
 - e. Texture mapping option for carpets and upholstery in addition to color picker