Hunter Mast

Dr. Bodenheimer

Augmented Reality

10th April 2024

MVD

GitHub: <https://github.com/HunterCadeMast/ARProject4/>

Currently, my project is underway and making good progress. The video demonstrates my current progress. Right now, I am able to generate walls on all 4 sides, furniture, a doorway, and floor. I am trying to figure out how to rotate all of the models to be in line with the floor and then display it all together. I was also dealing with an issue of scaling, but I have figured that part out mostly. For my MVD, I wanted to show I at least have everything appearing and I have a somewhat working demonstration. My next step here before I start preparing for my final additions is to work on rotations of the objects so they fit more uniformly and also fixing the bug of the walls not lining up correctly.

For the final section, I wanted to show the model being adjustable. I added some user interaction with the screen being tapped to scan all of the targets and then scan the “houseTarget” (Currently, it is just an image of a window). I want to be able to add more corners or objects to the model and show it adjusting to different kinds of blueprints. This is a bit hard though as when I add more corners it leads to more complexity in the system. For right now, I want to focus on 4, 6, and 8. With this, I also want to potentially add interior walls. This may be somewhat complicated also, but I think I can copy most of my code for the other walls and this should work similarly. Finally, I wanted to add color to my project. I want there to be a small UI menu that you can bring up to change colors of furniture, walls, etc.

Another issue I have been experiencing is the targets themselves. Vuforia does not allow for the same target to be used more than once, so currently, I am using lots of random images I originally intended to be other targets all as corners. I plan on trying to fix this and have more mainstream targets. One idea I had for it is using VuMarks and QR codes to differentiate the different corners, but I am not sure exactly.

This project is very complex in my opinion, so I am not sure how much I would be able to finish, but I believe I can at least add these last 3 items (Colors, interior walls, and additional size house) after fixing my issues of the walls and objects not lining up uniformly. Overall, my project has most of the framework currently done. Fixing a few bugs and adding some additional features is all that I should have to do before finishing the project. I attached my GitHub below with the code if you would like to view what I am currently working on. There is a file in the “Assets/CustomScripts/“ folder called “ModelCreator”. This is where all of my work has mostly been done trying to create the walls and other features. If interested, you can look at this file to see a lot of the work on the creation of the housing unit. Feel free to email me if any questions or if you have any advice on how to improve the current state of my project (Or if you know how I can fix any bug).