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ISP

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Analysis

I’m going to organize this paper by walking through each of the puzzles showing what I’ve learned, how I did it, what changed during development and what I could have done better to make the puzzle work better.

The first puzzle introduced me to a couple of things, namely blueprints and blueprint classes. Blueprints are a way that Unreal Engine handles scripting. Blueprints is a proprietary visual scripting language that was one of the more difficult things that I needed to learn. I found learning this difficult because I’ve always done coding through a non-visual way. Some things that I found difficult with blueprints was there not being a if statement node, and not being able to find the node that I wanted at that time. However there was always a way to do what I wanted, it just took time for me to adjust my thinking to a node based system.

Going back to Blueprint Classes though, they allow for multiple static meshes and other actors Unreal offers to work as one cohesive unit while also allowing for them be programmed in Blueprints. This allows a level designer to simply drag and drop a actor into a level which creates an instance of that Blueprint Class in the level. For me this came in the shape of a button that when triggered the button would go down over time.

The first puzzle also nudged me to relearn GIMP (essentially open source Photoshop)

For this puzzle I wish I actually did something more interesting though. When I first started my ISP I needed to come up with a puzzle. Hunter suggested I did something really simple like pushing down a button. Which is something I ultimately did. However I was able to turn it into more of a puzzle by adding multiple of these buttons and introducing a in game hint being a rough layout of the room on the wall. This first puzzle is good for the game because it introduces the player to VR in a non-timed way. During this puzzle I expect the player to experiment with VR, hopefully they learn how that when they are holding a object collision doesn’t occur. Which is something that is tested in the third puzzle.

The second puzzle required considerably more from me than the other two puzzles. The first thing that I was required to learn was how to use the 3D Modeling software Blender. I would say that out of the stuff that I learned from my ISP learning the basics of Blender was one of the one learned the least about (because Blender has so much breadth to it) however I would say that it might be one of things that I learned for my ISP that helps me to get a job.

The second puzzle is something that I would change if I had more time. How this puzzle is completed is by holding a item inside of a trigger box for 3 seconds. However what I expect the player to be doing during this time is to look through the item at the opposite wall and trying to line up the letters on the wall with the holes in the item. This puzzle approximately works because usually after 3 seconds they will have figured out the correct orientation of the item. What should have been done is to use a combination of ray casting and a trigger box, that way the game knows when the player is in the trigger box and is holding the item in the correct orientation. Hunter was the won who pointed out to me that I could use ray casting in order to detect if the player has completed the puzzle.

The third puzzle in my ISP is a test to see if the player realizes that they are in virtual reality. After some time the player becomes normalized to the controls and how to navigate around in VR. By now the player is expected to have played around with objects that can be picked up and see how they interact with other objects in the world. The third puzzle was really good investment of time considering how simple it is to build.

The third puzzle forced me to interact with Unreal’s particle system Cascade. Interacting with Cascade was something that I would say was hard to say was worth the time invested in interacting with it. What I had done at the end of the puzzle was adjust a particle system from the starter content. The lesson I learned here is that I am completely in charge of my project and considering that I am allowed to change my vision for what I want the game to become.