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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.

When I first started my ISP I needed to come up with a puzzle. Hunter suggested I do something really simple like pushing down a button. However, I was able to turn it into more of a puzzle by adding multiple buttons and introducing a in-game hint. This first puzzle is good for the game because it introduces the player to VR in a non-time based manner. During this puzzle I expect the player to experiment with VR, hopefully they learn that when they are holding an object collision doesn’t occur. Which is something that is tested in the third puzzle.

The first puzzle introduced me to a couple of things, namely blueprints and blueprint classes. Blueprints are a way that Unreal Engine handles scripting. Blueprint 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 scripting. Something that I found difficult with blueprints was there not being a if statement node, and not being able to find a node that I wanted at that time. Something I learned is that there is always a way to do what I want, I just need to adjust my thinking.

Going back to Blueprint Classes though, they allow for multiple static meshes and other actors to work as one cohesive unit while also allowing for them be programmed. This allows a level designer to simply drag and drop an 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. This appeared in the form of a hint for the first puzzle. Where I modified a texture, I found on the web so that it could be used as a hint in the game.

The second puzzle required considerably more time from me than the other two puzzles. This was a result of my work flow. What I was doing was changing something in one software, exporting it, importing it into Unreal and finding out if I liked the changes. If I didn’t like the changes then I would repeat the previously outlined process until I did. I wish I found a better workflow for working on tasks that have that kind of cycle. Or, that I’m in complete control of my game and if I think creating a puzzle will take a long time to complete then I should get rid of the puzzle.

The first thing that I was required to learn for puzzle two was how to use the 3D Modeling Software Blender. I would say that out of the stuff that I learned for my ISP learning the basics of Blender was one of the things that has a large amount of value, however it is the thing I mastered the least because Blender has so much breadth to it. Although it could be the kind of thing that gets me a job later.

The second puzzle is something that I would change if I had more time. How this puzzle is completed by holding an 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.

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 of the game when necessary.

On a whole my ISP was a useful learning experience. I learned what it’s like to wear many hats. I learned how to go from research on what an escape room is to finding what I want my escape room to be to scheduling myself to work to making props to building the level to coding to final product.

Some things I want to change about my next ISP is actually making a good schedule and sticking to it. By that I mean I should research into the field that I’m working on and build a schedule that fits both the workflow I like to follow and the workflow of professionals in the field I am in. For this ISP specifically I didn’t stick to the schedule because it didn’t fit my workflow and I planned it wrong.