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Independent Study Reflection

This independent study had three focuses. Being able to use Maya to create 3d objects for a game world, creating better terrains in unity that seem more world-like, and being able to animate the objects and navigate scenes within the game using C# computer language. My hope was to gain enough proficiency in these things as required to help make a full-fledged game focused on helping people with motor disabilities correctly follow a rehabilitation program. What I truly got from this experience was an introduction to the world of code, and the ability to create polygonal meshes both straight from my imagination, and based on reference images. I also got the experience of designing a terrain based on someone else’s storyboard, and trying to make everything flow logically. To demonstrate what I learned, or perhaps that I did learn *something*, specific skills I gained will be the focus of the rest of this paper.

Regarding Maya, I would say this has been the most successful aspect of this independent study. This is mostly because I had a great tutorial to work from, and I had a pretty specific idea of what I had to do to learn what I wanted to learn. Polygonal modeling is something that I sort of understood from unity, as the transformation tools are fairly similar, as is the scene view used for editing. I learned to create simple polygon primitives in a couple different ways, one using the dropdown menus, and the other by using the polygon presets on the polygon window mode. I learned how to alter these polygons using the transform tools that are similar to Unity’s, but also by using the attribute editor. I was also able to upload reference images, change the shading on objects, add freeform polygons, combine meshes, and duplicate and combine an object across a specified axis. When smoothing objects I learned that you can use the smooth button, which adds more polygons to smooth the object, but you can also use the “average vertices” button to make edges less pronounced without changing the polygon count which could be very useful when making a game that will have to render objects during play. I learned that when texturing an object that will be used in unity or another program that it is best to be very specific with the naming of the textures, even though I never got to texturing anything within Maya. Other than that I can say that I became much more comfortable with the Maya interface (although there is much about it that still confuses me) and can effectively use many of the tools required for modeling objects. One great example is using the smooth select to create objects that look organic, like when modeling rocks. Overall I am happy with my experience in Maya, and I am confident that if I wanted to pursue it further I would have the skills and knowledge to become very proficient.

As for my progress with C#, I can say that I really have nothing concrete to show that I learned anything. I worked with Adeesha for about a month trying to get a handle on coding, but I just didn’t have the time to spend really solidifying what I had learned or to apply much of anything. What I ended up with is a familiarity with the structure of code and certain aspects like namespaces, classes, and objects, as well as a few basic techniques like case changes, while loops, if statements, and for loops. I struggled most with the syntax of the C# and just understanding when capital letters should be used, or when to indent or use brackets. I was able to figure out the purpose for some lines of the code when prompted, but I could never at any point write something straight from my head, without a reference of some sort to guide myself. I did manage to write one piece of code that would rotate an object in unity around it’s y axis, but that was mostly copied. I also learned how to make a couple different types of comments within code to help people understand a specific part that may need explaining to anyone else working on a project with you. The biggest thing I got out of my work with C# is just understanding how the structure works, and maybe being able to write simple WriteLine or ReadLine commands. And I’m not sure I can even do that at this point.

Working with Unity proved to be the easiest thing for me, and as a result I think I got the least out of it. I have been dealing with unity for a while now and am at a level where I can comfortably work on the projects that I have been involved in. My main goal was to increase my abilities with the terrain editor. I think that the knowledge I gained was that you can create a skybox attached to a specific camera to change the sky when you enter a specific area, although I never implemented that. I learned how to import a 3d mesh that I made myself , and was able to see how unity treats them differently; when it imports an object you can edit the scale that it imports the object at (since usually you edit things at a larger scale in Maya than what you want in Unity. Also I just gained the experience of creating a large terrain and how this affects the tiling of textures, and how you may have to adjust your camera so that you can see the nice looking textures in front of you, without seeing the checkered textures on the huge mountain across the landscape. Also I had to base the terrain after Toby’s game scenarios, which was a pain because they weren’t exactly cohesive, so I had the challenge of making the terrain work with the story. I have a feeling that is one of the most difficult parts of making game worlds, is just implementing other’s ideas in a way that makes them seem fantastic and believable at the same time.

Overall I am pretty dissatisfied with what I accomplished with this independent study, and I think some of the main reasons were that I had unreasonable expectations, and limited time. I should have focused more on one program or skill to really get it. I think this would have also been easier had I not linked it to a greater project. I think in the future if people want to have an independent study like this they should design it in a much more independent way. The biggest mistake that I made when designing this independent study was choosing to go for three credits. I overestimated the amount of time that I had free, and just didn’t realize that although I can get an A in a three credit course without really putting in the estimated time, this is not the case for an independent project because it is much more difficult to learn on your own, and everything takes more time than it should to figure out. Maybe one of the most important things I learned this semester was understanding goal setting in a way that is specific to my own needs and tendencies. If I were to ever do another independent study I think I would be able to plan much more effectively.