August 20 - The project has been initiated. My initial idea is to make every building of the school so that a student can access the map and get their way around. Ideally you would be able to see important things like water fountains and what not. This way if you haven’t been to a building yet you can whip out your map and find the bathroom or what places you can find a snack.

August 21 - I thought it would be cool if there was like an arrow that guided you on the floor of the map so that you can get from place to place.

August 22 - Another great thought I had was to make this project have safety information. So, pointing out fire hydrants, quickest route out of the building, where to go in a fire, etc.

August 23 - Nothing to report.

August 24 - Work has started on my one-page pitch document. Most of the text part is done. However, I now must get visuals to add to the project.

August 25 - Nothing to report.

August 26 - Nothing to report.

August 27 - Today I was able to gather images of the school that I can use for my one-page pitch document. Although, Marty mentioned that the pitch document should be something like an add that would show how the final project would look upon completion. So as such I intend to put visuals over my school photos to show what I am envisioning for my project.

August 28 - I was able to sit down and get some of the visuals done for my one-page pitch document.

August 29 - After Marty looked at my pitch document he suggested that I make some changes to the layout so that it reads better. I think finding some more images of the school would help what he described. For instance, he noted that because the images had to be somewhat small they had to be informative and get the point across fast.

August 30 - Made some tweaks to the layout of the pitch document.

August 31 - Nothing to report.

September 01 - Started on the project proposal. I intend to use what I learned from my project management course to guide my project proposal. For instance, the client will want to see what assets I need to make, what the use of my product will be for, and how it will improve their bottom line.

September 02 - I was able to make a lot of progress on the proposal. I'd say I am about half way to completing the document.

September 03 - I had some class mates look over my stuff and idea so far today. What they recommended I do is list everything I am going to need and quote variants of that. For example, if I needed a chair then I would need at least 3 variants of the chair to make the scene not look repetitive. Taking this into account I decided to survey the campus a little and make note of some of the repeated features of the school. From what I was able to find every building has very similar safety features, newspaper holders, chairs, doorways, etc.

September 04 - Finalized the one pitch document and finished the remainder of the proposal.

September 05 - Before I submit my proposal I gave it one more look and found a couple things that could change. Proposal and one pitch have been submitted and approved.

September 06 - After talking to some more people I rediscovered the technology of photogrammetry. I can imagine that this technology would be helpful in modeling the pipes in the roof of the school. This is my first major problem, because one key feature to UVU is its use of pipes and concrete. Pipes can be much harder to model and chart than the hallways of the school.

September 07 - Nothing to report.

September 08 - I have done some looking into photogrammetry and found a couple pieces of information to research later.

September 09 - Nothing to report.

September 10 - After looking at some of my resources I discovered that photogrammetry is a somewhat easy to do process. However, doing photogrammetry comes with a lot of draw backs. For instance, you must get the pictures to be as high resolution as possible and make sure that the color you take the photo is roughly the color you want the result to look like. So, no shadows in the photos.

September 11 - Nothing to report.

September 12 - Although I have looked at a decent amount of photogrammetry by this point I still am unsure of how to accomplish doing photogrammetry. For now, I am going to set up a folder with some images of a test subject that I have at home. This way I will have a practice set of images to use when approaching photogrammetry.

September 13 - While I was accidentally sitting in on one of Marty's classes working on another project he suggested to the class that they keep a running journal of all the challenges they face in the design process. This way you can reference back to this project when its complete (or not) to get a better understanding of what went wrong and how to improve upon it. (As a note I thought it would be good from this point mention that everything prior to this entry is purely things I can remember from earlier in the project. Dates and times may vary due to this.)

September 14 - Nothing to report.

September 15 - After some more digging I was able to find some videos of people doing walkthroughs of photogrammetry. Seeing it done in action affirmed that photogrammetry is the correct path toward completing my project. As such I will begin to research the technology further so that I can effectively use the process. I think this is the better way to go over hand modeling everything. Because, by using photogrammetry you can get texture, models, and depth all in one process.

September 16 - Nothing to report.

September 17 - My plans for the day are to survey the school to get a better idea of how I am going to implement photogrammetry. To start I am going to use photos from the hallway outside of class. I figured this would be the best thing because I could stitch the model of the pipes on the roof with the hallway that I modeled earlier. I have gotten a couple good sets of photos from the hallway and am thinking of starting the process of photogrammetry on my test data from home.

September 18 - Nothing to report.

September 19 - Today I spent most of the afternoon attempting to replicate the photogrammetry process. Alas I have gotten nowhere. After following the first couple steps of the process my computer would crash the program in a way where it wouldn’t even give an error.

September 20 - After yesterday's failure I figured I would use the school's computer with much better processing power. However, even after the first couple steps my model still wasn’t being created in the way I expected it to. From here I am going to have to do some more research. Because, I figure that I will have to use the school computers to render out the product and I need to know what is going wrong so that I am not on campus until 10pm again.

September 21 - After some good rest I had a revelation that if I was able to get the process to work correctly I could use all the 20ish computers in the lab after hours to render different models. Doing this would mean only a couple long nights vs being on campus every night until close.

September 22 - Nothing to report.

September 23 - Nothing to report.

September 24 - Today I found out that photogrammetry has a lot more drawbacks than I previously thought. First, as I mentioned earlier, photogrammetry goes by what pictures you have taken. This is a problem because as we go into the winter months you will be able to tell where some parts of the school are complete vs others. Second, photogrammetry takes a lot of time to render even simple scenes. Third, everything must have a unique texture, or it won’t be caught by the program. Keeping these all-in mind, I will press forward with photogrammetry cautiously.

September 25 - Today I figured I would try my other photos from the hallway and see what those yield being that they were taken with better angles. I was able to get a model from the program and am taking it home to finish later.

September 26 - I was able to bring the problems above up with Marty today and he mentioned that I should take into consideration the scope of the project first. For example, it has taken me around a month to figure out how to even get a result from my process. Keeping this in mind I may switch gears soon if I am not able to create a result that is worth the effort.

September 27 - Today I figured that I would gather data like the one in the demo I watched. In the demo they use a rock that is by itself to get the data they need. I was able to find a rock like this on campus that I figured I should use to figure out how to make a good result.

September 28 - Nothing to report.

September 29 - Nothing to report.

September 30 - I laid out today how I would go about doing the project if photogrammetry is not going to work.

October 01 - Today was a big day because I was able to get a decent point cloud from the program Colmap. It looks good just from the result I was able to get with the point cloud. Although the render times pushed me to the end of the day again and I will have to work on it later.

October 02 - Tonight I was able to download the other free programs I am going to need to make the model work. From that I was able to get a stellar example of photogrammetry.

October 03 - After showing the result to Marty I was able to get an idea of what to do next. From what we decided photogrammetry is something great to have learned. Although, it won’t be very practical to use it for my project. Because, all the above problems persist, and the result of the program won’t be good for what I intend to do for the project. Knowing this I will have to enact my previous plan of charting the school and hand modeling everything to make up for lost time.

October 04 - Nothing to report.

October 05 - Nothing to report.

October 06 - Today I had a good thought to photograph the maps that are already posted around the campus so that I have a solid starting point for my models.

October 07 - Nothing to report.

October 08 - Today I decided to use a tool I made a while ago to import the images I took of the school. After doing that I was able to make a quick model of the 5th floor of the CS building.

October 09 - Nothing to report.

October 10 - After surveying the CS building I found an image in the GT building where the whole floor was mapped out. Something like a floor plan. After seeing this I got inspiration to look around for more of these photos so that my modeling process would be greatly sped up. I brought this up with Marty and he mentioned that I should try to get in contact with administration to see if they had more of the floor plans available. Thus, I went out to find people in the facilities building that might know more. I did get a name and email of someone who might know more.

October 11 - Nothing to report.

October 12 - After emailing the person who had the floor plans I got a reply that led me to a UVU website that hosts all the school's floor plans for those that are disabled.

October 13 - I went to the site he pointed me to today and downloaded all the files and floor plans that I could. After doing this I was able to sit down and create the whole CS building in white box in one night.

October 14 - Going toward my goal I was able to create two more buildings in white box tonight.

October 15 - I realized that while researching things for this project that I hadn't started on the most important part of the project, the navigation. So, I sat down and started to research different methods for going from point to point. I found a couple that might work but I settled on Dijkstra's algorithm which finds the shortest path between all points in a node graph.

October 16 - Before I make the navigation algorithm I decided that I need a script that'll get me the distance between all the points in my scene.

October 17 - After a lot of research in geometry I was able to create a program that spans an object between two points. It does this by finding the midpoint between two points and stretching the object between them.

October 18 - Now that I have the spanning script done I need to start on the navigation script to meet my deadline.

October 19 - After looking at many resources I was able to create a script that emulates Dijkstra's alg. Now I just need to connect the two scripts so that I can navigate from point to point.

October 20 - The full navigation script is complete with some problems. For starters a couple things happen on update that probably shouldn’t. Although for the time being I can call the script done.

October 21 - Finished the connection of my assets and am working toward my build. For my build I intend to make the CS building a decently working model of what I want to accomplish.

October 22 - Collected all my stuff to this point and have submitted it to art station for review.

October 23 - Nothing to Report

October 24 – Upon the review of my project to this point several new factors and insights have been gained. To start Marty suggested that I refocus my efforts going into the second quarter of the production process. His suggestion was to cancel work on all other buildings of the school and focus on one building at a time. Doing this would provide a larger working asset that could be used to more effectively gauge the stability of the program and assets contained within the build. For example, if I were to complete the CS building I could theoretically copy and paste the building multiple times within the scene to get an understanding of what computers could handle with the project. Similarly, this would help speed up the production process of other models such as doorways, railings, etc. One more notable piece of advice was to use VR to gauge the scale of the scene so that a proper feel could be established of the school. Other topics included the use and effectiveness of photogrammetry in my project and various other resources that could be used to increase the effectiveness of the final product.

October 25 – Upon taking Marty’s advice I came to the realization that more tactical images need to be taken of select resources to populate the scene effectively. Previous image collecting results focused more on the construction of the building and lack quality photos of necessary set dressings.

October 26 – Nothing to report

October 27 – After speaking with my parents I gained a great insight. Most architects will create buildings that have visual echo. Meaning that if one floor is made many of the other floors will be similar in construction. This is something I already knew. However, it did make me privy to the idea that many other aspects of the building share similar visual weights and symmetry than I previously imagined.

October 28 – Nothing to report

October 29 – Today I gathered a good number of references of the door for our classroom. This type of door is seen in most of the doors in the CS building and can be easily duplicated for all doors until a unique model can be created for each room.

October 30 – More progress has been made on the door model. Similarly, I have found that Maya has a shortcut that can snap to independent planes. So, making corners on models from two edges is significantly easier. Using this method will make it a lot easier to make a modular set of models.

October 31 – Today I had a lot of extra time to collect more pictures of items located in the school. I also prioritized making sure that each item was taken from manageable angles. I did this to ensure that when it came to modeling the item the scale would be accurate and easy to make.

November 01 – A larger portion of today’s work was spent on organizing assets and collecting files that may be on other computers.

November 02 – Today I made a cylindrical lamp model. This lamp is featured throughout the school several times and is a key feature to the CS building. However, each roof has varying heights. So, the final build of the CS building model should be completed in Maya to ensure accuracy and the feel of the model. This will also help make it easier to place the model since Maya can easily modify vertices.

November 03 – Nothing to report

November 04 – Got started on the fire alarm model. This is the first variant that attaches to a wall.

November 05 – Nothing to report

November 06 – Nothing to report

November 07 – Today I decided that it would be best to use a texture for the wires that hang above the hallways. However, the support for the wires still needed to be completed. So today I was able to make a variant of the wire support structure that is found throughout the whole CS building.

November 08 – Today I started on creating a modular version of the pipes that are prominently featured throughout the school. As a base line I modeled multiple angles out from a torus that is part of Maya’s primitive model sets.

November 09 – After getting images of the school I noticed that the main doors on the fourth floor play a huge role in the aesthetic of the building. Thus, I started the model for the windows and doors.

November 10 – Today I felt it would be good to check on my last build and do some modifications to the building model.

November 11 – Updated paperwork.

November 12 - I spoke to a fellow college of mine today whom recommended that I try another approach to the pipes in my CS building model. He suggested that I use nurb curves to map out where the pipes would be present and then expand the model of the pipes through the curve. I Thought about doing this previously. However, I decided against it initially. Because, many of the pipes present in the school require a unique model. Looking further at this method I believe that for some select pipes this may be beneficial to do. However, I may investigate other methods such as Houdini to create modular pipes that would be easier to manipulate.

November 13 – Nothing to report

November 14 – Started on the Exit sign for the campus. This was quite the challenge because no official font is used to create exit signs. I found this out doing a little research on the subject. From what I found, exit signs only need to comply with some guidelines. First, they need to be in a visible font with a single or double arrow on either side to denote the direction of the exit. Past that other small things like positioning and size are required to be maintained. Some notable exceptions were found in my research as well.

November 15 – Found a font that would work well for the exit sign with some slight modifications to its spacing. Effectively the exit sign model is complete.

November 16 – Today I made a model for a weird white brick that is located at every elevator entrance/exit.

November 17 – I was able to make a quick model of a pill-shaped desk that is on the fourth floor.

November 18 – (The 18th through the 25th was a holiday week. This note was written after the this week occurred. Due to family events no significant or noteworthy work was completed during this week. Along with family, mandatory hours for the holiday season made work on the project difficult if not near impossible on select days.)

November 19 – Nothing to report

November 20 – Nothing to report

November 21 – Nothing to report

November 22 – Nothing to report (Thanksgiving)

November 23 – Nothing to report (Black Friday in Retail…)

November 24 – Nothing to report. (See note on November 18th.)

November 25 – Nothing to report

November 26 – Today I felt it would be necessary to create a model of the trash bins that are prominently featured on campus. These are tall rectangular bins that have simple or no logos on them. For the project the bin will be left “trash bag-less” to reduce poly count.

November 27 – Today I made the recycling variant of the above trash can. This bin is special because it features a bend on its surface that clearly defines it as a recycle bin.

November 28 – Today I made a round recycling bin that is used for only cans. It is big and round with a single small hole on top.

November 29 – Today I decided to spend some time and make a small model of the elevator door lock that is featured at every elevator entrance/exit.

November 30 – Today I created the railing for the open areas on the higher levels. This is a modular model that takes into count all bends of the standard railing.

December 01 – Nothing to report.

December 02 – I felt it would be necessary to make sure that the CS building model was as well optimized as possible. So, I cleaned up the geometry to reduce any unwanted vertices. This was a long and grueling process that involved deleting select edges and pulling geometry multiple times to ensure a proper “weld” between models.

December 03 – Today I created the stairs that are featured in the CS building. I took great care to note the angle in which the stairs are created. Doing this made it easy to create a better scale of the school. Because, all I had to do was model the cross section of one stair and count how many stairs there were per level. Then after making each level I could find out how big the rest of the walls and school would be.

December 04 – Today I made some broad adjustments to aspects of the CS building model. Such as, making the bathroom entrances the same size, repositioning the elevator, creating the “motherboard” centerpiece of the CS building, and many more small things like the pillars.

December 05 – Final adjustments have been made to the CS building model for the second quarter sprint.

December 06 – Nothing to report

December 07 – Adjusting the CS building model and Correcting UV’s

December 08 – Adjusting the CS building model with the staircase to better fit proportion.

December 09 – Implemented CS building model into build of game

December 10 – Updated paperwork

December 11 – Collected current assets and implemented them into build.

December 12 – Created video of project progress and last-minute adjustments