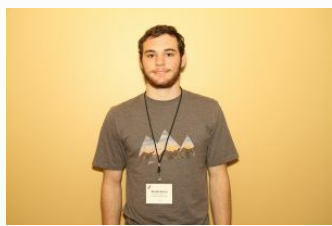




## Austin Garcia



### Thirty Fourth Post



Posted on August 1, 2017 by acgarcia

A lot has happened since the last post. The poster is completely done, a lot of the paper is done, and the application is nearly complete minus the menu screens. I created more scenes so that when you enter an assembly you see what you are going to be making before actually building. I did this for the wing assembly as well as for the tutorial which I also worked on. Some of the tolerances on the tutorial could be improved and verbal instruction could help in teaching for the tutorial. I would also have liked to have added some counters in the background to measure different aspects of the users to provide them with feedback but right now we need to focus on getting the paper finished. We also decided to get a TV so that during our presentation we could have a video playing showing what we built. We have one video recorded but might have to redo it because some changes have been made.

Over the weekend I ran home Saturday then Sunday, Emma, Emanuel, Alfredo, and I all went climbing at Climb Iowa and ate out at a mixture of Popeyes and BBops. After we got back we watched the best Star Wars movie.

I should probably start packing tonight because we only have a couple of days left!

Austin

Posted in Uncategorized | 1 Reply

### Thirty Third Post

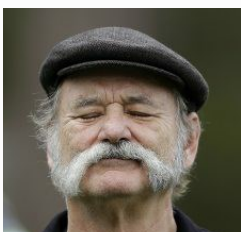


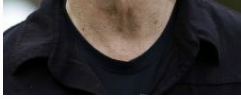
Posted on July 27, 2017 by acgarcia

I've gotten a lot done in the past couple of days. I'd say about 3/4 of the pieces are in place so I really need to make about 50-60 animations and then we're good in that department. I'm currently having some issues with the hands because when an object in hand is destroyed, the hand is disabled and can't be used to pick up objects anymore. I actually think I just thought of a solution right now. Also I need to work on the quality because when a lot of things are on screen, the quality slows down. I currently runs at about 45 fps but I'm hoping I can get that up. My team has done a great job of working on the poster and the paper. I think some phrasing and images could be improved on the paper but it's nearly done, and about 3/4 of the paper is done. If the development finishes up soon we are set.

My grandparents just moved in last night so I ran home right after work to say hi to them and help move stuff around. While I was home my mom fixed my hacky sack! we'll see how long it lasts this time.

Daily Meme #79 (thought you'd enjoy a picture of Bill Murray)





Austin

Posted in Uncategorized | 1 Reply

## Thirty Second Post



Posted on July 25, 2017 by acgarcia

I spent most of the morning restructuring the entire Unity project, it ended up being a lot easier than I thought. I messed around with tags and now any screw, not just a specific one will snap into place. Also, Instead of linking all of the different animations, grabbable pieces, and in place pieces to each other and activating them based on each other, I now have a step counter set up and all of the parts are activated. The mesh renderers and colliders now appear depending on the step number. It should now be a lot easier and faster to switch pieces around and get new pieces added. I also figured out how to fix the snapping issues. The previous snapping system worked well for the big pieces, however the smaller pieces were a struggle. I created a separate script for each of the smaller pieces so now parts like screws, washers, and nuts snap on a trigger based system but it still fits in with the rest of the framework. Using this and the tags, I can now just have a bin with the correct pieces and any of them are able to be used instead of one specifically.

Chase Meusel gave our lunch lecture today and it was good to see him again, though we had some troubles hearing him. It sounds like Microsoft has been treating him well, as has Washington. Last night Emma, Natalie, Alfredo, and I climbed some at Lied. The same routes are still up but I still managed to finish two routes I hadn't done before so it was a pretty successful night.

Daily Meme #78 (not a meme but whatever)



Austin

Posted in Uncategorized | Leave a reply

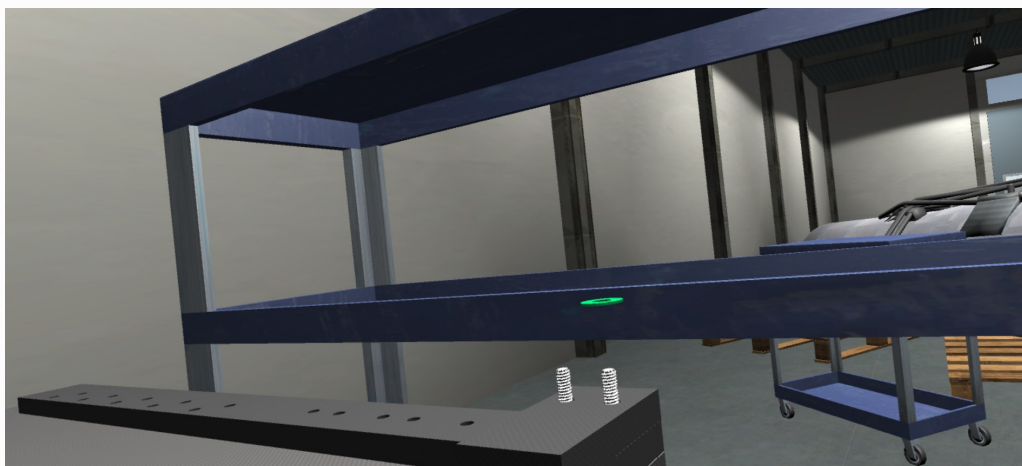
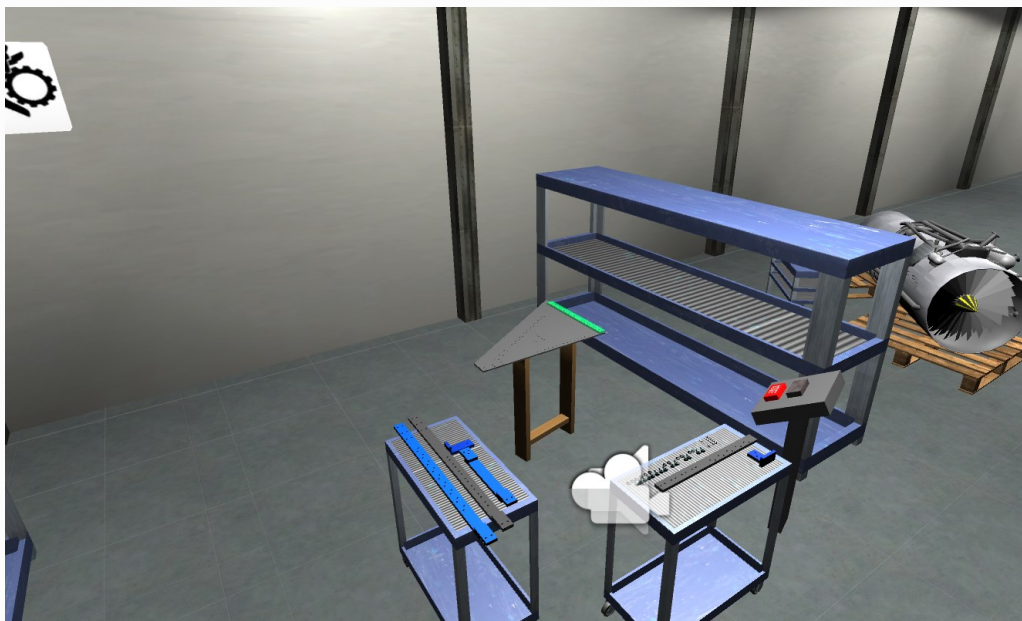
## Thirty First Post



Saturday we went kayaking and that was a lot of fun! The water felt great, I probably could have just floated in the water the whole way with no kayak. I definitely want to try a more difficult river sometime, I'd like to get to a point where I can eventually buy my own kayak. Sunday, Jameel and I drove people over to Jordan Creek mall and just wandered around for a bit. I got a really comfortable pair of jeans and a nice hacky sack that may or may not have ripped open a couple hours later. On our way back we stopped by REI and Climb Iowa because Emma was interested in buying climbing shoes. Later, some of us watched Star Wars Episode IV A New Hope in the apartment because Brittney had only ever seen Rogue One.

As for the project, I've run into some issues that have slowed me down. The smaller parts such as screws and washers that need to go into another piece are proving difficult to get the tolerances to work. Also the collisions with other parts are throwing it off as well as the occasional error that breaks the hands entirely. I think I have a fix but we'll find out in the next couple hours. Eliot stopped by Friday and tried out what we have so far, he had some tips but liked where we were headed overall.

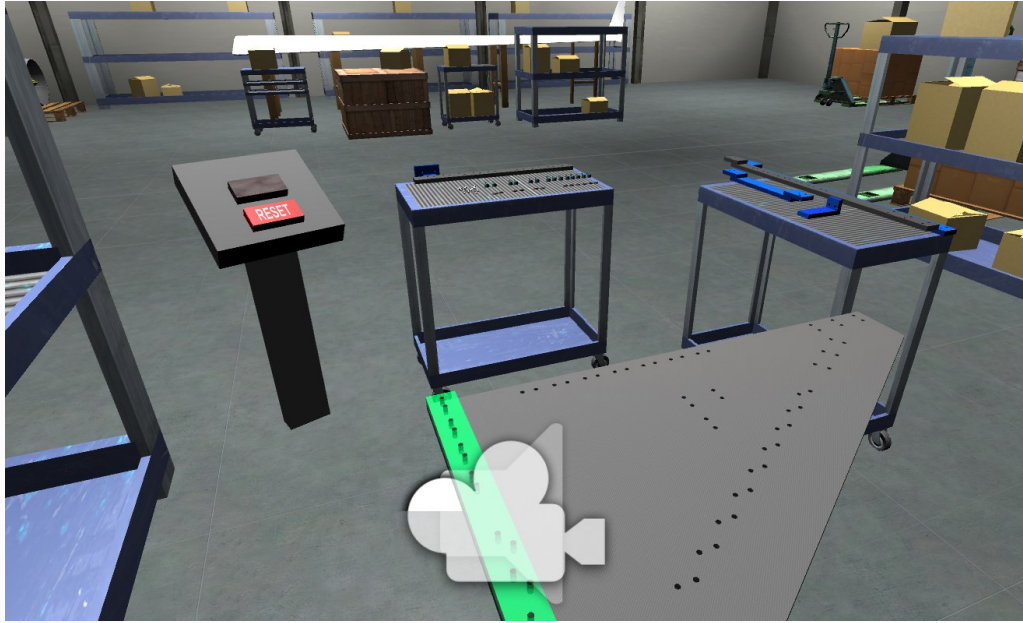
Here are the promised pictures:







^You obviously cant see the animation but the green pieces glides into place to indicate where they should be placed.



The pieces also glow when they aren't being held but not immediately so it's not annoying.

#### Daily Meme #77



Austin

Posted in Uncategorized | 4 Replies

## Thirtieth Post

Posted on July 21, 2017 by acgarcia

I don't have my final grade for physics yet so I don't feel completely done but as far as work goes I have nothing left. With that freedom, two nights ago I got the Oculus Touch controllers to work on my desktop and threw together a quick ball throwing game with not much to it. I think I have some cool ideas I could throw into it if I pursue it. Last night I went home to celebrate my mom's birthday. I got back really late because I waited out the storm at home and left about midnight, then when I got on the interstate there was a small accident so everything was at a standstill for a while. Also my card doesn't work to get into Freddy after the doors lock so twice now Sushi has had to come let me in.

As for the project, we have a final environment set up and I'm starting to get the steps placed into the final environment. My scripts are pretty easy to follow so setting up the steps shouldn't be too difficult but may take some time. I also learned a bit about shaders and materials today, though I don't think we will end up using any of it. We are getting a lot done on the actual development but I feel like our group will be pretty stressed to get out a poster and a paper in the next couple weeks.

I promised pictures a couple posts ago so maybe I'll have some in the next post.

Daily Meme # 74 (I should be an author)





Format: Paperback

\$290,000<sup>00</sup>

Only 1 left in stock - order soon.

Austin

Posted in Uncategorized | Leave a reply

## Twenty Ninth Post

1

Posted on July 20, 2017 by acgarcia

I NEVER HAVE TO TAKE PHYSICS FOR THE REST OF MY LIFE.

Austin

Posted in Uncategorized | 1 Reply

## Twenty Eighth Post

5

Posted on July 19, 2017 by acgarcia

The past couple of days have been work time so I've gotten a lot done on the project. I have a general structure for setting up animations, moving from step to step, and snapping. I'm currently working on making a tutorial and Emma and I are making the final environment where the assembly takes place. Maybe next blog I'll throw in some pictures. One issue I'm running into is snapping symmetrical objects because it requires me to loosen the rotational tolerances for the snap but then too loose of a tolerance is bad as well. Yesterday Dr. Stone gave us a lecture. I had met him briefly before but I didn't know much about him. Professor, deputy, recovery diver, and traveler. Also his use of a smart material that expands to use involuntary muscles to make intubating a patient easier was ingenious.

Other than working, I finished up my physics homework two nights ago, and I'm going to take the final tonight. Then I'm done! Last night I ran out to get my Mom some birthday presents (I also bought myself an ISU beanie cause it was super cheap) then tried to get Unity to work with my Oculus on my desktop so I could work from my apartment. I ran into more issues than I should have so I sent myself my current project when I got to the VRAC this morning so I can copy the working assets straight over. I'm so ready for kayaking on Saturday, and also my grandparents are moving up to my house starting this weekend so there's a lot going on! My mom may have tried to make me take my dog for the week in Freddy. I wish.

Daily Meme #73 (Don't worry, I still wanna go to grad school)



Osten

Posted in Uncategorized | 5 Replies

## Twenty Seventh Post

3

Posted on July 17, 2017 by acgarcia

Saturday- I spent nearly all day working on my physics labs and got all of them turned in! All I have left is to finish the homework problems and take the final and I'm done! That night some of us went to Hickory Park and then played some version of volleyball but instead of a volleyball we used water balloons. We eventually got out the actual volleyball and played with that too.

Sunday- I drove over to Climb Iowa by myself and met my girlfriend and one of my friends there and climbed and worked out for a couple of hours. Afterward I went home and had dinner with my parents and picked up the headphones I had ordered.

Today (Monday)- Today is a work day and I think I've already gotten a lot done in Unity. I nearly have the template for a full step done. An animation plays while the object is grabbable, when the object is close enough to the correct position the grabbable object is destroyed and immediately replaced by an identical object locked in the correct position that is nonconvex (has a more accurate mesh), and the animation is destroyed. Then the next step should start which is what I'm currently working on.

Daily Meme # 71 (Don't worry I wasn't late this morning)





Auston

Posted in Uncategorized | 3 Replies

## Twenty Sixth Post

1

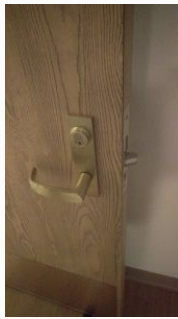
Posted on July 14, 2017 by acgarcia

I accidentally made Portal yesterday. I was working on building a snapping script and I made simple script that made a cube go back to its starting position if it went above a certain height. However I didn't reset the velocity to zero so if I threw it upwards it would it would spawn on the ground and continue going upwards a couple of times before finally stopping.

We had another really interesting ethics class yesterday, then I went back to my room and worked on physics. The internet went out a couple of times which was frustrating while I was trying to work on my labs but I did some homework in the meantime. I can't wait to get this last section of physics done so I'm completely finished, one week left! We are getting into working on our project so it's getting more exciting but I feel like it might be kind of a struggle to get some of the features, including snapping, completely nailed down with the amount of time we have left.

Here are the picture I gathered for the HCI class-

Bad Interfaces:



The key turns all the way but it never fully unlocks but only adds a deadbolt, why can't it stay unlocked?

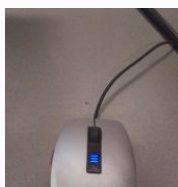


As someone not terribly familiar with all the options listed here, I just need a simplified option list, this is too complicated.

Good Interfaces:



Makes cubicles and offices easy to find with multiple signs pointing in the right direction.





Nobody taught me what the blue bars meant when you pressed the middle button but easy to figure out. Also the mouse in general is just great when it comes to widely accepted interface usage.

Daily Meme #67



Austin

Posted in Uncategorized | 1 Reply

## Twenty Fifth Post

Posted on July 13, 2017 by acgarcia

So when I came in this morning and opened up Unity, guess what worked? Everything. I spent most of yesterday trying to figure out why the update broke my projects when I should have just closed and reopened them. I'm assuming that's why but who knows. All that matters is that it works now so yay! Wasted a day though. Last night a lot of us went to get burritos and then went and saw the new Spiderman movie. Spiderman is one of my favorite superheros but I didn't have much faith going into reboot number 3. However it surprised me by being great so I can't wait for the next movie!

Our luncheon lecture today was by someone studying education methods in the vet med department here at ISU. It was interesting to see how he showedcase all of the data and seeing the different ways it could be interpreted. Somehow something that he was talking about spurred a completely unrelated idea, so if I decide to do it maybe I'll talk about it some. Back on track, between yesterday and today we developed a storyboard for how our application will look and behave. I think there are a lot of features we could incorporate depending on how much time we have so I'm excited.

Also when I was working it took me about 10 seconds to make a flashlight in Unity. I took a cylinder and attached a spotlight to the end. It works perfectly but probably has more of a place in a VR horror game than an assembly trainer.

Daily Meme #66



Austin

Posted in Uncategorized | Leave a reply

## Twenty Fourth Post

Posted on July 12, 2017 by acgarcia

I have good news and bad news. The entire project that I've worked on up to this point stopped working because of the new Unity update. The good news is that I got the Oculus to work again, BUT only in a new project. All of the settings are exactly the same but it just depends on whether it's a new project or not which is really annoying. As for the presentation we are about to give, we finished are slides and already practiced it so I'm feeling pretty good.

Yesterday we met with our group and I feel like we are finally getting somewhere (other than Unity being dumb). We started planning

out the actual program and it now seems like we are more free to actually develop so I'm excited.

Daily Meme #61 (I refuse to explain this)



AUSTIN

Posted in Uncategorized | 2 Replies

## Twenty Third Post

1

Posted on July 11, 2017 by acgarcia

Yesterday everybody presented their MCA's and it was really cool to see what everybody had done. I think two of the coolest things I saw were Sushi's shader that lets you see through an object when you get close to it and Jameel's Unity app that let you text from within Unity. Jameel had showed me it a little earlier and my response was something like "I cant what how". Those words exactly. There's a lot you can do with something like that, it reminds me of the thing with I think directTV where the caller ID for your phone would pop up on the TV, except it would pop up in VR. You would need an intuitive way to type quickly in VR though. Maybe the new Vive controllers will be able to do a full keyboard for all fingers but I doubt it and there are way too many issues with not being able to feel keys under your fingers.

Today we worked on our slideshow for the presentation with the other REU program that we have tomorrow. We then had a lunch lecture with Eliot and it was really interesting (no I'm not just saying that because he's my mentor). I had a question about conflict of interest between the research he did and how he started his businesses but I had to wait until the end to ask because Sushi was full of such wonderful questions. I never really thought much about it but if I came across the right idea I think I would be interested in starting a company or at least joining some friends on an idea.

Austin

Posted in Uncategorized | 1 Reply

## Twenty Second Post

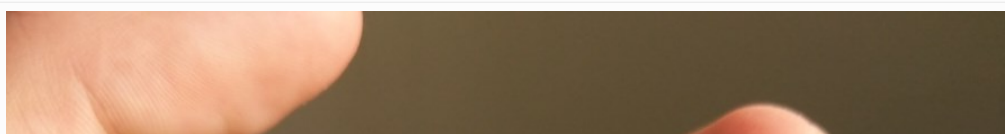
1

Posted on July 10, 2017 by acgarcia

Last Friday we finalized our abstract and Emma submitted it for the REU Symposium so we're all set there. As for today, I got my MCA to work in the C6 with a lot of help from Jon so that was really cool to see. Hopefully when we present our MCA's later I can show it off in there rather than on the Oculus. I still feel like its a more complete experience on the Oculus but the C6 would let everyone experience it rather than one person at a time. I got to use the glasses that control the view in the C6 for the first time and they were pretty cool to use.

This past weekend was pretty busy, I had to move all of my stuff into a storage unit and that took about 3-4 trips to the storage unit and back to my house with a tiny trailer holding probably more than it was supposed to. While I was home I did a cardboard boat race and the group I was in won the "Titanic Award" which means we sunk the best. The heat made moving furniture awful but the water felt great in the heat.

Daily Meme #55(@3D printer group)







aUsTiN

Posted in Uncategorized | 1 Reply

## Twenty First Post

2

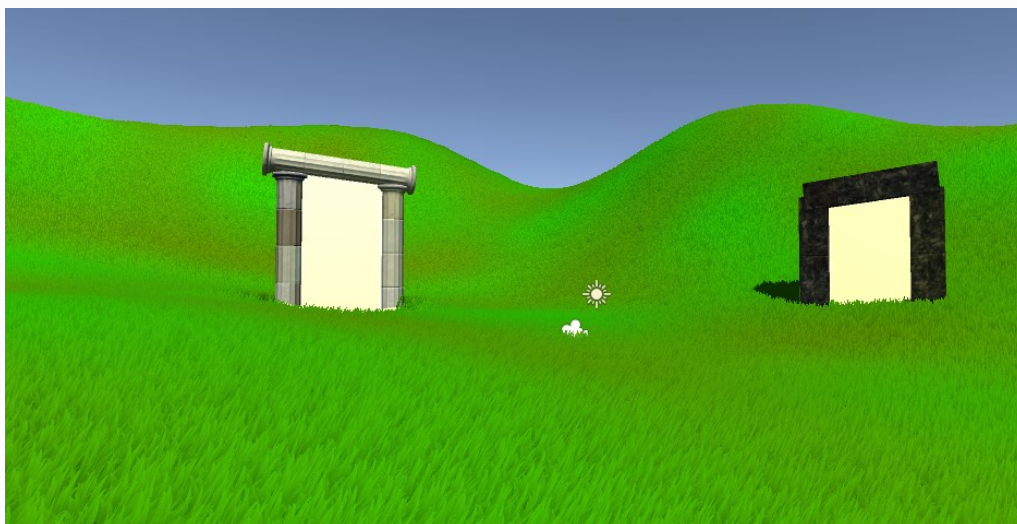
Posted on July 6, 2017 by acgarcia

Today I built a non C6 version of my MCA so that I had a working version for the Rift. I tried to follow the instructions to convert it for the C6 but I ran into issues on almost every step and finally gave up when the step it told me to take kept breaking. I worked some more on making the manufacturing environment for the assembly project and I think it's looking decent.

For lunch today we had an etiquette lecture and I had thought it was going to be boring but I actually found I really enjoyed it. It's now instinctive for my pinkie to stick out every time I drink something and when I tucked my napkin into my shirt and asked if it was socially acceptable our lecturer told me to do whatever I wanted and proceeded to give me a hug. His name is Stewart Burger and I found out he teaches a class called Introduction to Wine, Beer, and Spirits that is supposedly a lot of fun and I want to try out (once I am 21 of course). Maybe I can take it in grad school because my schedule is already pretty full for the next couple of years.

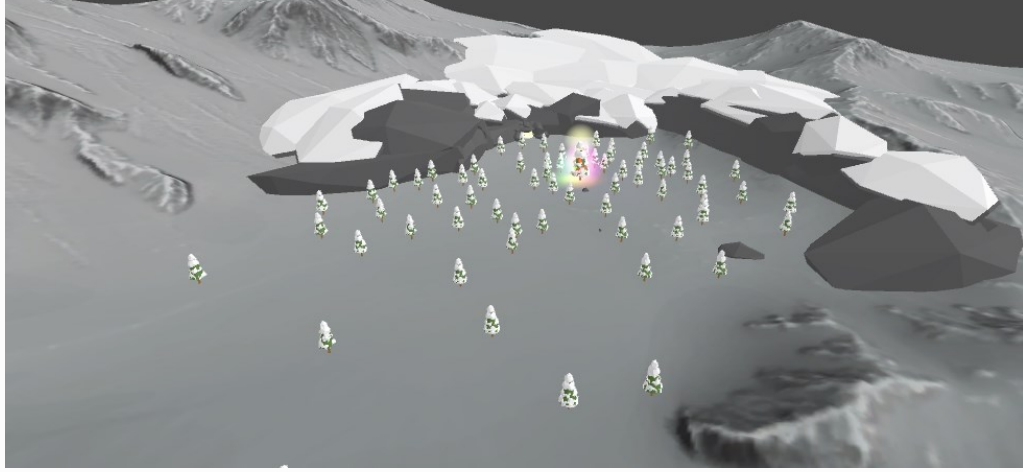
Pictures, as promised:

MCA work:

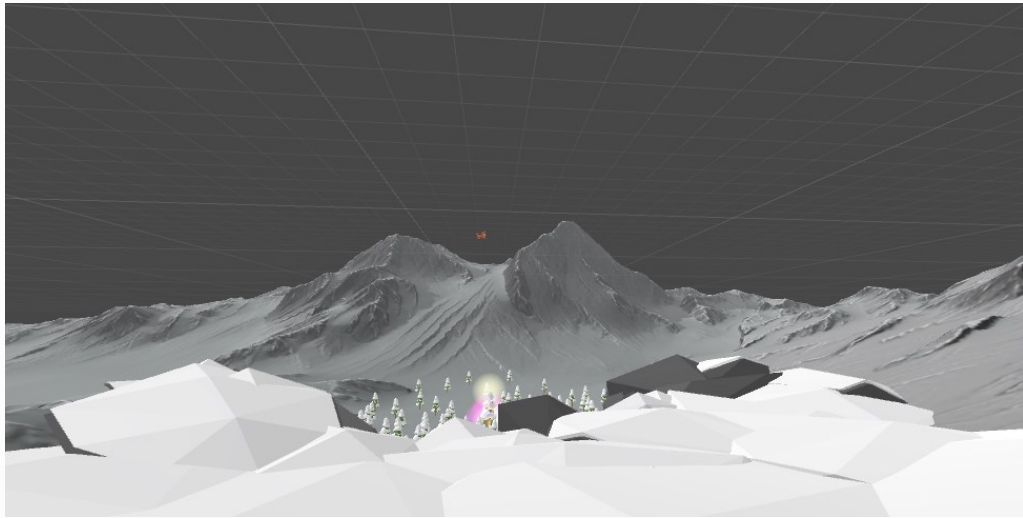


Windows xp + stonehenge

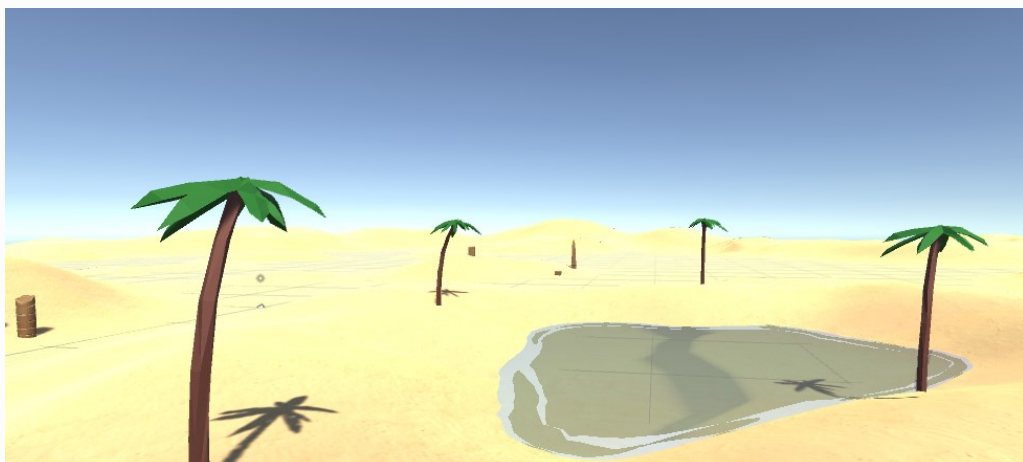
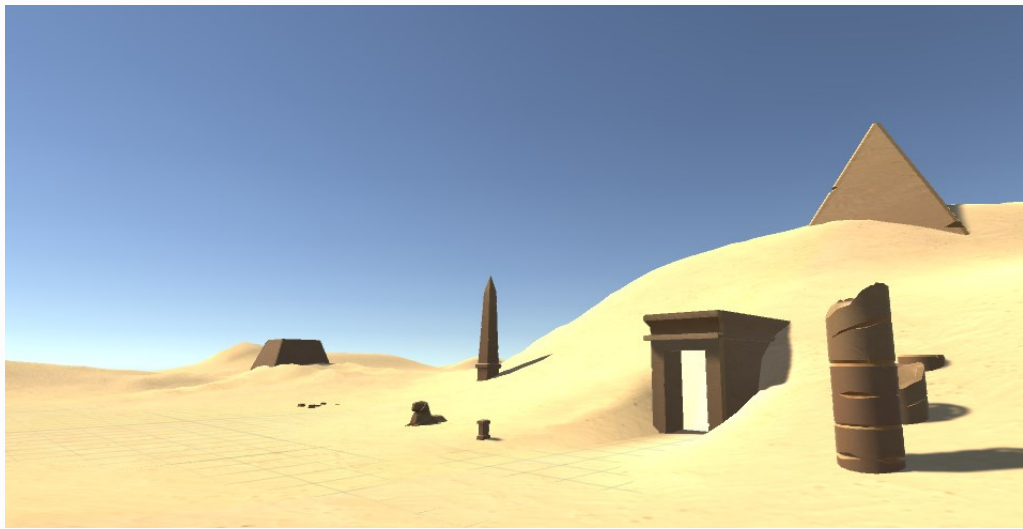




Yes that's a Santa sleigh that goes in circles and a spinning xmas tree

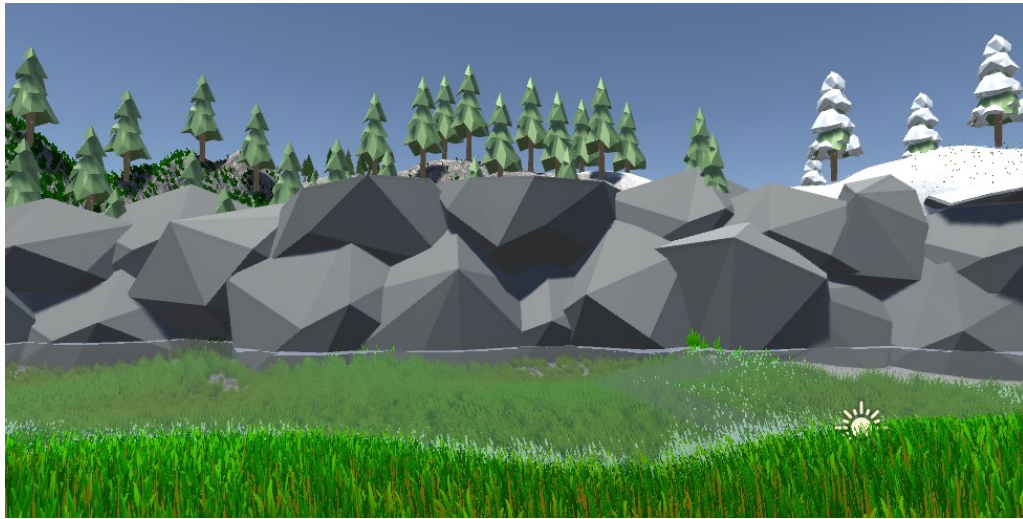


It snows when it runs

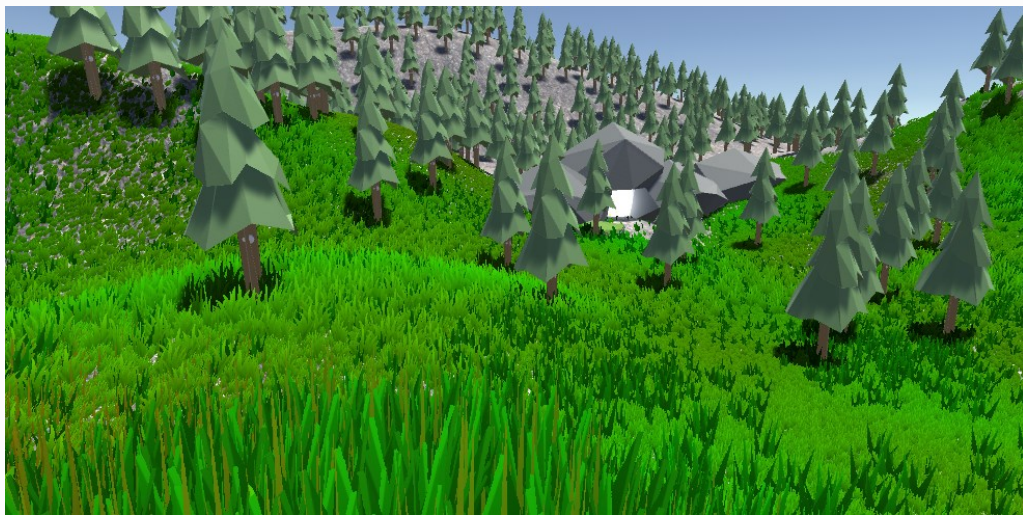




The water turned out better than I thought because it detects terrain and objects to ripple off of



The mixture of grasses and water makes this section the hardest to run smoothly

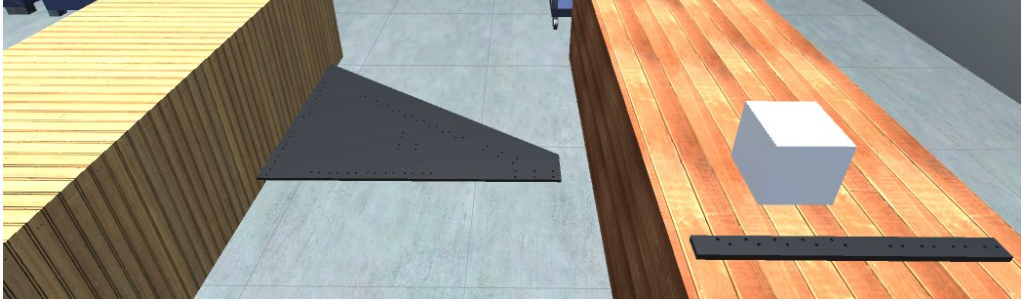


Assembly project:

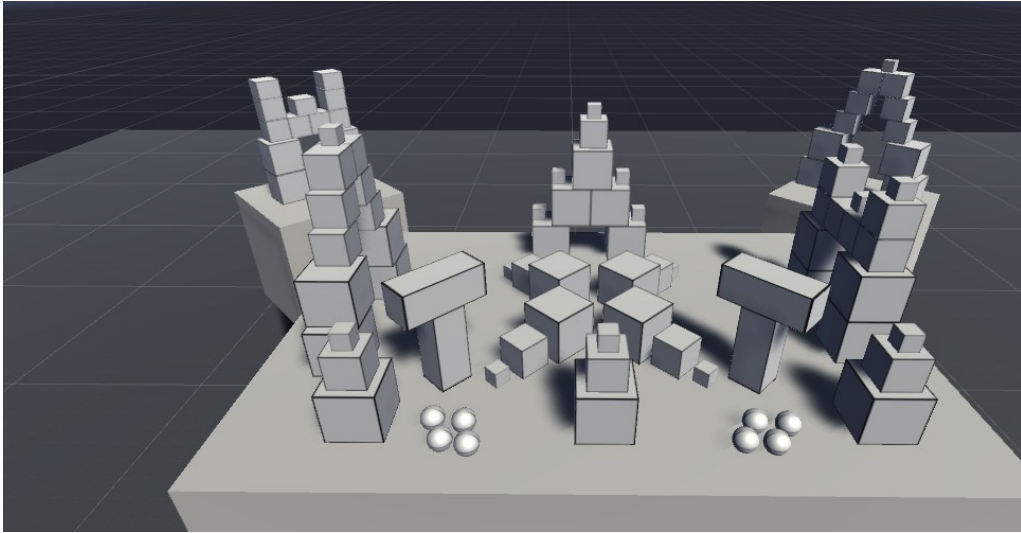


First draft of factory





Getting parts into environment



Thank goodness for this sample scene that helped me figure out how to get the Oculus Touch hands working fully

Daily Meme #54



Austin

Posted in Uncategorized | 2 Replies

## Twentieth Post

1

Posted on July 5, 2017 by acgarcia

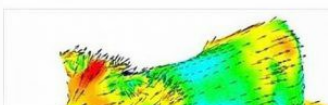
This weekend was a lot of fun, I went up to clear lake and got to use a jet ski for the first time, tubed, went to a carnival, and more. I didn't end up working on physics at all over the break so I spent some time last night working on that. I'll probably end up doing physics each night the rest of this week. In other news I found out my grandparents are moving in a couple of weeks so that means I have to go home next weekend and move all of my things for my apartment next year into a storage unit in Ames. So as soon as I finish up physics Friday I'm going to be busy again right away.

I'm almost done with the Unity project I want to hopefully put in the C6, I just have one environment left and need to follow the instructions to start converting it. The touch controllers work perfectly for grabbing now so we can pretty much start development for our manufacturing assembly right away. Hopefully I can spend some time getting the factory environment to look nice too. Stacy sent all of the files with the parts for the wing assembly so maybe I can start putting that together.

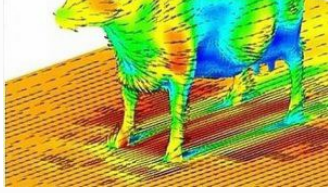
I'll put some pictures in the next post, hopefully I'll have all of the environments finished by then.

Daily Meme #53

Aerodynamics of a cow.







Thought you might be wondering

Austin

Posted in Uncategorized | 1 Reply

## Nineteenth Post

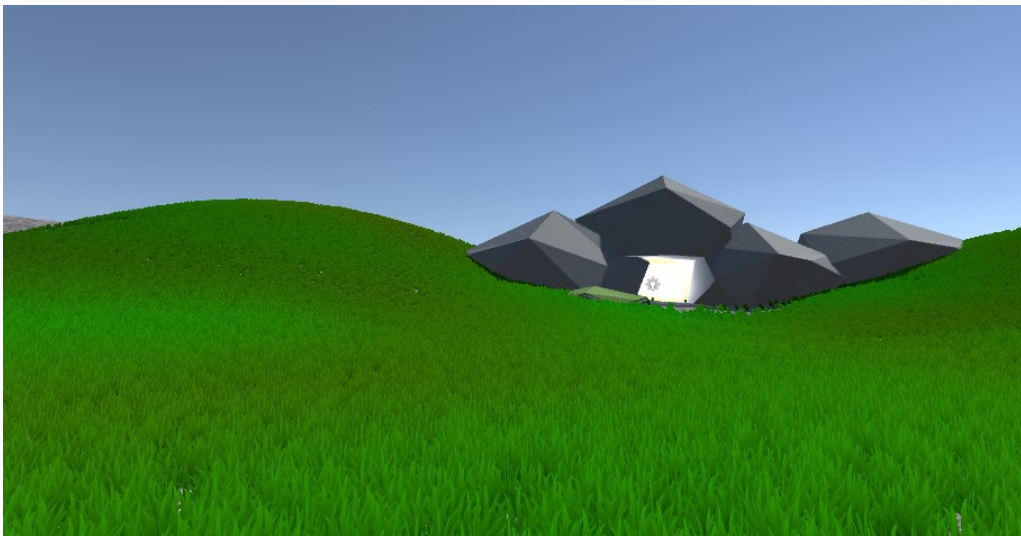
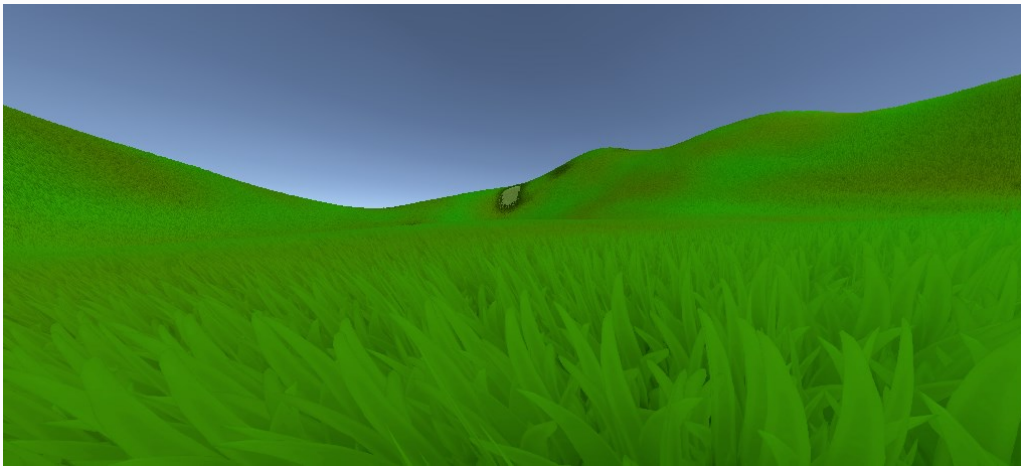
1

Posted on June 30, 2017 by acgarcia

Right now I'm upset with myself because we spent so long trying to figure out to get the hands to work correctly and I realized there is a sample in the OVR Unity package that works perfectly. But at least I found it now. The hand controllers worked but I think I can get them to work better now and probably need them to for the VR/AR manufacturing project. I've also worked a lot on the MCA(major course assignment). The teleporting between scenes works and I have an idea for a stone henge esque menu screen. I'm trying to make something that would look cool in the C6 but I also need to start leaning towards what my actual project will be on, which is putting parts together in Unity. I do really enjoy making environments with Unity, maybe I can work on making a factory setting for the manufacturing setting.

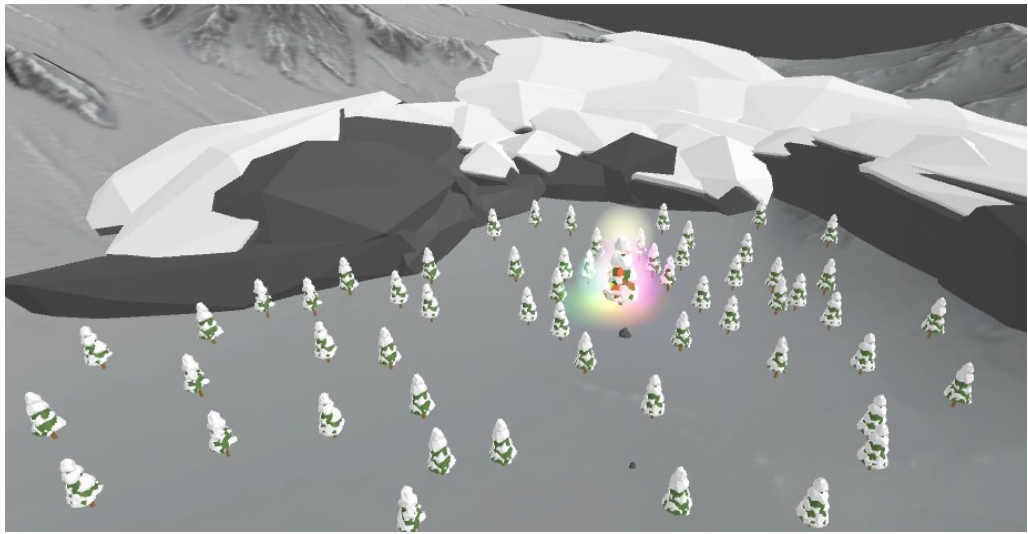
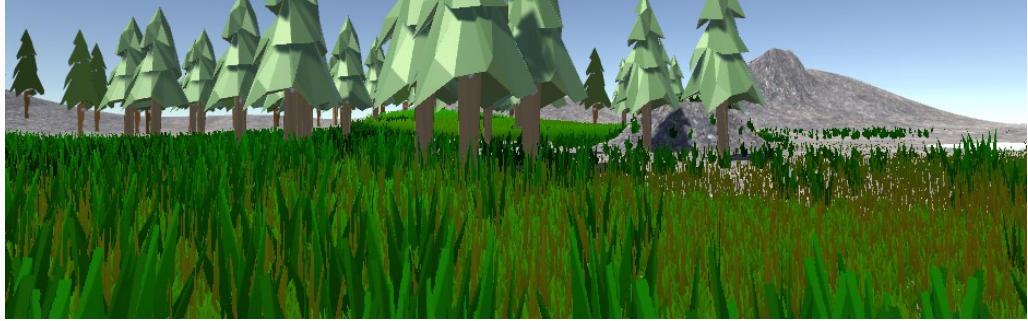
I climbed some last night, the new routes at state are fun to work on and fairly difficult. After climbing, physics, bed. I've gotten pretty far on the labs which is nice.

Some pics of what I've been working on:

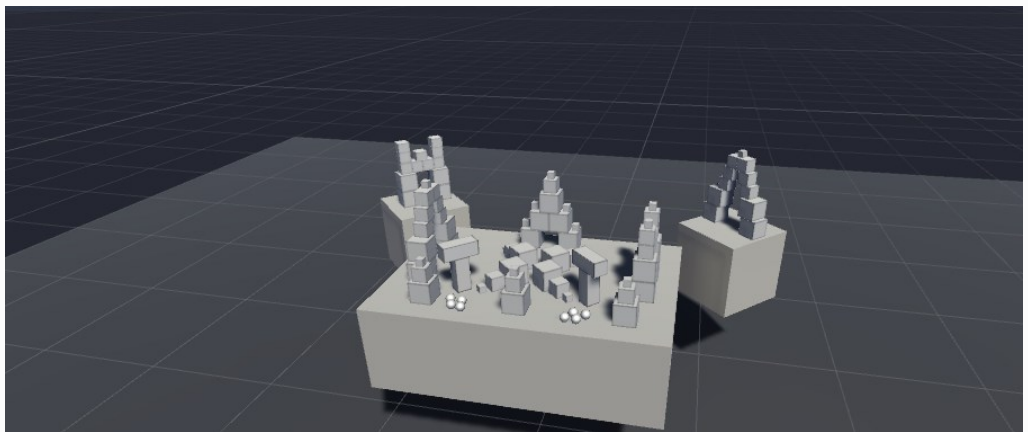


Windows xp





^Yes the xmas tree spins



Austin

Posted in Uncategorized | 1 Reply

## **Eighteenth Post**

Posted on June 29, 2017 by acgarcia



Since the last post I've worked a lot more on the immersive Unity deeper dive. Jameel made an awesome arcade game that works

in VR so I think we will split up what we are making. We can use Jameel's idea for the Oculus Touch project and I'm working on a multi-environment C6 app that I may try adding some animations to. I'll have to get some pictures for the next blog. Today Dr. Lee gave us a lecture about wearable technology and body scanning. I also found out that she used to work at Florida State University so hearing her impression of Florida was amusing. She spoke about her experience teaching in South Korea and it was really interesting hearing about the differences between school here and there.

Last night I work on physics until about midnight when I quit to play a game. I think there's only one more two week period for physics so I'm excited that it's going to be over sooner than I thought. I also found out that we have Monday and Tuesday off so I'm trying to get more physics done this week so I don't have to do anything over the weekend. I'm going to go to a lake and jet ski, boat, etc. which I've never done before so it should be fun. Tonight I'm going to try out the new routes at state gym because I feel like I haven't climbed in a while before doing more physics.

Daily Meme #53



Austin

Posted in Uncategorized | Leave a reply

## Seventeenth Post



Posted on June 28, 2017 by acgarcia

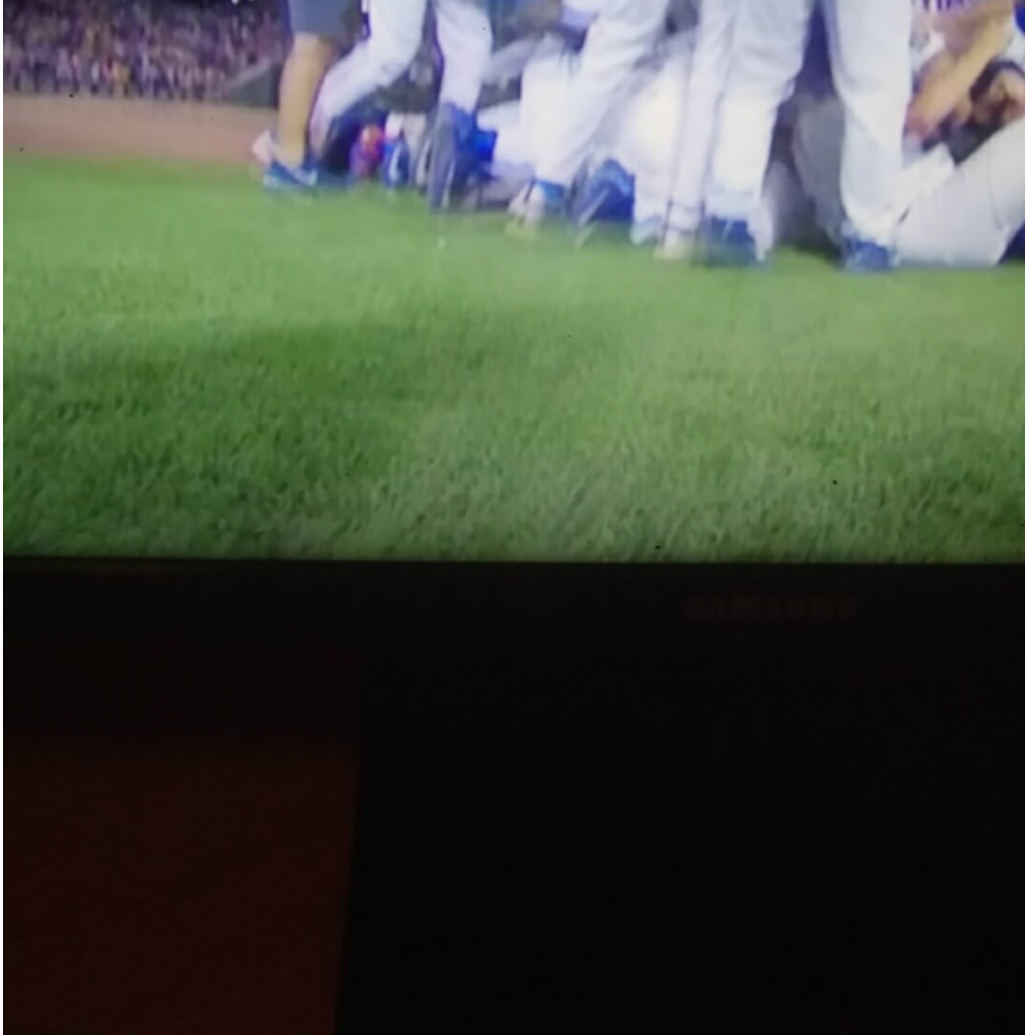
Yesterday we presented our defense for why we were picking virtual reality over augmented reality to Eliot and everyone else in the WATCH group. I had just finished writing my part of the defense when I left to go the ALC meeting. While I was in the meeting Emma and Brittney were smoothing things out and moved my parts to the beginning. I went straight from the ALC meeting to the WATCH meeting and when we began our defense I realized my part was first. I hadn't really thought out verbally presenting it because I had been so focused on writing it. I stuttered different versions of the same sentence like three times, which wasn't a great way to start it off. Luckily they liked the writing so I now know that I have a base to work from in any upcoming writing.

I've been really enjoying the immersive Unity deeper dive. Right now I'm doing a mixture of working more with the touch controllers and making an app for the C6. I'm not sure exactly what I'm doing as a project yet but I've got some ideas.

Last night we watched Moana as a group in our apartment. It was pretty good but I'm glad the subtitles were on (in English) because I don't know if I actually heard a word with so many people in our living room. After that I did some physics and played some Black Desert Online with Masashi. Oh, and I watch the gators WIN THE BASEBALL NATIONAL CHAMPIONSHIP! I'm not really a baseball fan but my cousin is a manager on the team so I saw him on a lot on the screen.

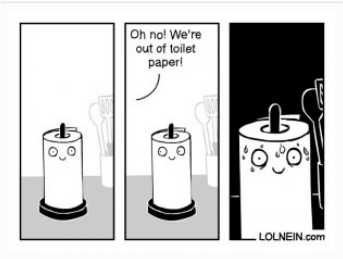






My cousin is the one in blue ^.

Daily Meme #52



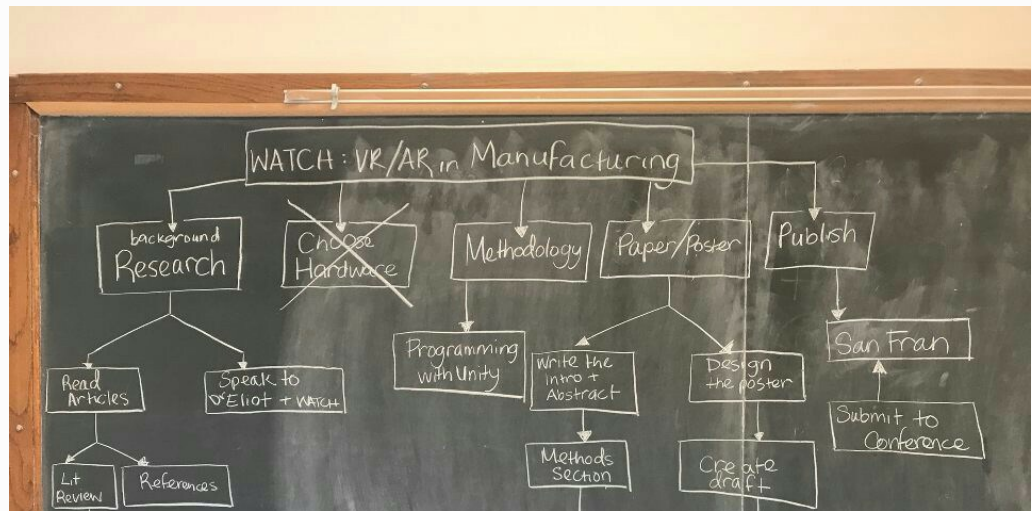
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Posted in Uncategorized | Leave a reply

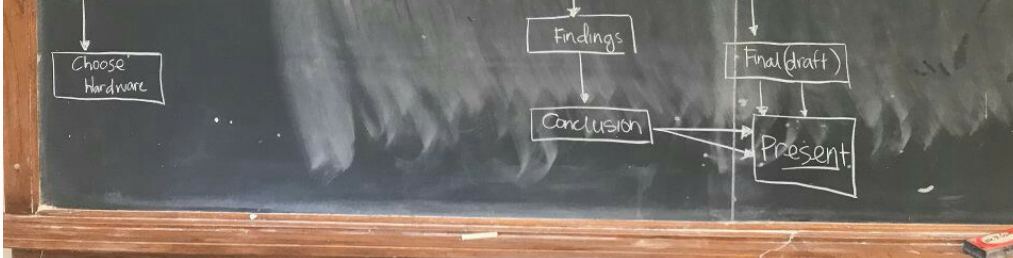
## Affinity Diagram



Posted on June 26, 2017 by acgarcia







This is the affinity diagram the VR/AR Manufacturing group put together.

Posted in Uncategorized | Leave a reply

## Sixteenth Post



Posted on June 26, 2017 by acgarcia

The past couple of days have been super busy. After finding out Saint Motel was in town I knew I needed to do all of my hw thursday night. After getting back to my room I found out that in the process of updating, my computer had gotten into the automatic repair loop so after trying every possible option I eventually had to do a factory reset. Finished most of my physics much later that night and the last few problems the next day. Then a bunch of us ate sonic and went to see Saint Motel, which was awesome. We hung out for a bit after then headed back to Ames. The next morning we all went straight back to the Art Festival downtown and ate at Krunkwich Ramen House. The food was great and I got the Kim Jong Philly. My parents were coming to the Art Festival so I just stayed and met up with them and went home afterwards. There I took advantage of the Steam summer sale. The next day I came back and tried to continue reinstalling stuff onto my computer. While downloads were going on I went and worked with Emma and Brittney. By the time I got back... Automatic repair loop. Spent the next couple of hours dealing with that again while reading through some articles simultaneously.

Today we worked more on the deeper dives and I finally got the hand controllers to work. That's pretty much what I'm working on right now.

I'll let you find the daily meme on this wonderful place called the internet.

Austin

Posted in Uncategorized | Leave a reply

## Fifteenth Post



Posted on June 22, 2017 by acgarcia

Yesterday we did some more Unity, this time working with UI. I made great buttons. There was a duck. It was great. After this we got assigned our deeper dives. I got Immersive Unity so I'm pretty excited though 3D printing would have been fun. I have a friend with a 3D printer so I guess I can do that in my free time. I put immersive Unity first because it's probably what I'll end up using more of in the future. Everyone in my group got a different deeper dive topic so I think that will be great because we can combine all of our newly learned skills. We should have a busy week or two with our research now that we know what conference we want to submit to and what we need to do that. Electronic Imaging 2018 right next to San Francisco so I'm crossing my fingers we get in!

I finished up all of the physics labs last night but I still have some more to do. I found out Saint Motel is coming to the Des Moines Arts Festival tomorrow night so now I need to finish all my physics tonight! If anyone wants to go, let me know. Also last night, I also found out that my puppy somehow opened up a childproof Ibuprofen bottle and ate 15. I think around 3 is toxic for his size. So he had to get his stomach pumped but should be fine. If anyone has any idea how a dog can open that kind of bottle, let me know because I don't.

Daily Meme #49 (↓ I have that helmet)

alright Elon, this is called a 'zipline'.  
"and the humans, they enjoy this?"  
they enjoy it very much Elon  
"then I shall enjoy it as well"



AUstin

Posted in Uncategorized | 1 Reply

## Fourteenth Post



Posted on June 21, 2017 by acgarcia

After the last post, our group met with the WATCH group to discuss where we were at with our lit review and what direction we were thinking about going. Currently we have narrowed down to using VR for assembly training. There's a 99.9999% chance we will be using Unity for this so I can't wait for us to get started. As for learning scripting in Unity, everything is going great EXCEPT COLORS.

I don't know why I'm having so many issues with colors but I'm sure I'll figure it out.

After getting back to the apartment last night I just did a lot of physics. That's about it. There was a dog barking outside and I almost barked back. That was pretty exciting. After quitting for the night I started making something in Inventor for the heck of it.

Daily Me(Interesting picture)me # 48



Building a PC? Why pay for a case when you don't have to?

Austin

ps. does anyone play 7 days to die?

Posted in Uncategorized | 2 Replies

## Thirteenth Post

Posted on June 20, 2017 by acgarcia

Since the last post we've worked more in Unity. Yesterday we go to some more difficult stuff but I'm enjoying learning even though I get occasionally frustrated. Our group is staring to get an idea of how to narrow our topic down so I feel like we are actually getting somewhere with the papers that we have been reading. My latest idea is to design a safety warning for a possibly dangerous manufacturing situations. It can't be too distracting but it also needs to appear as important to the user. The only papers discussing safety warnings were done using AR on a tablet so thus far it appears to be a hole in VR/AR research. A bunch of papers say that AR in manufacturing can improve safety but none really demonstrate how. We also discussed audio and other sensory feedback. I'm curious how much these other things can improve or detract from the experience.

Last night I ended up climbing some and getting a difficult route I've been working on for a while. I then went to the store and got bagels, ramen, and powder sugar donuts. Now that I have a toaster I can eat bagels that have actually been toasted. As for the rest of the night, I worked on physics labs. Today we had a luncheon lecture and the speaker, "Birdie" was very enjoyable to listen to. She made a topic I'm not normally interested in fascinating.

Tomorrow we begin the deeper dives which I'm really excited for. All of the topics are things I want to know more about but I'm mostly interested in immersive unity and 3D printing. I've done a little 3D printing and I like Solidworks so getting to make something real is always fun but I also want to work more with VR/AR in Unity so I don't really know which one I want to choose.

After sitting and thinking about things I could make I kinda want to do 3D printing now even though I feel like career wise I'll end up closer to the Unity deeper dives.

Daily Meme #47

\*hacker voice\*  
I'm in



Austin

I almost forgot, I was dad for a day but then I shaved my mustache. More than one day and the situation may have gotten a little hairy.

Posted in Uncategorized | Leave a reply

## Twelfth Post

Posted on June 19, 2017 by acgarcia

Today we started using Unity. I've used Unity previously but that was before I knew how to code so I'm excited to get back into it now that I have more knowledge. I had followed the survival shooter tutorial and just copied the code in without understanding what it meant at all. As for our research we are still doing lit review and will go over what we found tomorrow. I feel like I've found some holes in the research (which is what we are looking for) but I'm not sure if they are something we'd be able to work on. We need to narrow down what we are doing because I think we are still looking at it too broadly.

Last night we all went and saw Wonder Woman, and if you haven't seen it yet it's great. I climbed at Climb Iowa this weekend but I forgot my gear in the apartment so I ended up climbing like 3 5.11's in rental shoes and harness. As for physics I just have to do all the labs, homework, and test by Friday so yay.

Daily meme #46 (I lost count and I'm too lazy to look)



austin

Posted in Uncategorized | Leave a reply

### Eleventh Post



Posted on June 16, 2017 by acgarcia

Since the last post we've worked some more with SolidWorks and read more journals. After working we all went to State gym to climb, found out they were resetting the boulder area so I finally got to climb some new routes. There's not much up yet but they are still in the process of setting. I put in a request for a cool dynoey route on the overhang so hopefully that happens! After getting back I went to Jeff's Pizza and got half spuds(hash browns) and half philly cheesesteak pizza. Both halves were delicious. I was planning on doing physics when I got back but I got caught up watching a show with Masashi.

We did more SolidWorks this morning and I worked on some of the harder tutorials which used some techniques that were completely new to me, so those were really interesting. For lunch today we went to the Memorial Union just so everyone could try something different. I got a delicious burrito so yeah. A new Portugal. The Man album was just released today and I'm listening to it right now. I think I have to listen to a song at least twice before I can really hear it so I'm currently on my second run through of the album and I'm starting to pick out the best songs. 3-4 good ones so far.

Daily Meme #7(In case any of you watched E3)



aUstin

Posted in Uncategorized | Leave a reply

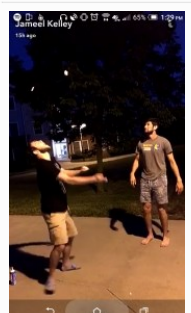
### Tenth Post



Posted on June 15, 2017 by acgarcia

Not too much has happened since the last post but here's a couple of things. We started working in SolidWorks and I found out it's nearly the exact same as Autodesk Inventor which I did a lot with in high school. And somehow I still remember how to do something from high school. I remember I made an entire flyswatter gun thing in Inventor that I had at my house; I didn't measure any of the arcs and it somehow ended up nearly exact. I enjoy using SolidWorks and I'm looking forward to working on some difficult projects using it.

Last night I did some more physics, messed around in VR, watched some youtube, and did this weird catch thing with whipped cream. You put some on your arm, throw it into the air, and try to catch it with your mouth. I think I still have some in my beard.



btw I had a perfect catch this attempt.

Today we had an interesting lecture with Dr. Jon Kelly about perception in VR. Afterwards me and Chris talked about getting scarred for life as a kid and games we used to play. I just gave him a dollar because I want to see if one of my worlds is still up in an iPad app. Cross your fingers.

Daily Meme #6(comic I guess?)



AUSTIN

Posted in Uncategorized | 2 Replies

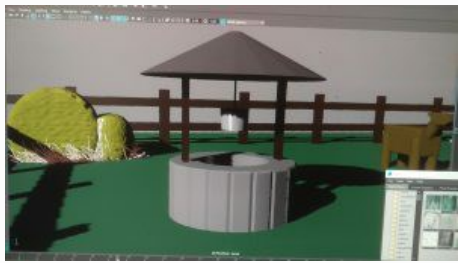
## Ninth Post

4

Posted on June 14, 2017 by acgarcia

After the blog time yesterday Brittney, Emma, and I met with Stacy about our project. We mainly discussed the lit review and got some more direction and focus with what we are looking for. We also informed her that we figured out what WATCH stood for, thanks to some sneaky detective work. Katelyn then gave us an intro to HCI lecture which was really interesting. Before leaving how we painted some light. Cool. Last night I worked on some physics, and I'm half way! through half of the quizzes :( I got some climbing in, I have 2-3 routes I'm really starting to work on and one has a hard move I've only stuck 3 times so I need to work on it. After getting back from Lied I fixed my bike (which ended up being a lot quicker than I had thought.

Some people had mentioned my well so here's a closeup. Please ignore the cow/robo dog.



This morning we worked on some more Maya and I got to mess around with some more of the detailing which was enjoyable. I messed around with the render settings a lot and also a little with the animation. I got my door to open! Couldn't figure out how to save it to post it here though.



Don't know why all these pictures are so blurry, sorry.

Daily Meme #5(Flour or pancake mix?)







austin

Posted in Uncategorized | 4 Replies

## Eighth Post

1

Posted on June 13, 2017 by acgarcia

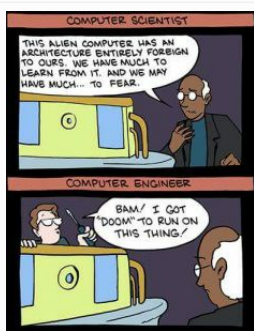
Since the last post we have gone more in depth with Maya and I made a cool little house scene.



Isn't it pretty? I got Maya downloaded onto my laptop so now I can mess around with it away from the VRAC. I know that the Witcher 3 used Maya so I'm excited to mess around with it some more. After I got back last night I was really tired for some reason and crawled into my bed for too long. I was just about to begin physics when I realized the Playstation E3 conference was starting. After watching that I then did some physics and then fell asleep.

This morning I was late because I started biking and the chain fell off. I walked it back to Freddy and then headed for the bus stop. After waiting a couple minutes for the wrong bus I decided that I should probably walk. After I got to the VRAC we listened to a lecture about using GPU's for various things which was interesting but I was hungry and tired and was finding it hard to focus. Luckily Jimmy Johns helped with that.

Daily Meme #4(found this one recently and too true)



ausTin

Posted in Uncategorized | 1 Reply

## Seventh Post

2

Posted on June 12, 2017 by acgarcia

A lot has happened since the last time I blogged. Friday night we celebrated Alfredo's birthday by having a bunch of people over to our room and ordering some Jeff's pizza. I recommended the one with potatoes on it, I wasn't sure but I had thought that it was breakfast pizza so I had really hoped we were ordering the right one. It was and it was delicious, I probably could have eaten it all by myself. We then played a VR horror game. Now I don't ever watch horror movies and rarely play horror games. So I didn't wanna. But they made me. I was pretty proud of how far I got but when I turned and ran from one enemy only to run into another, I was WAY done. But watching other people play is always hilarious so we had a lot of fun. Saturday morning we went to the ropes course which was great! Though I did kick Anna in the face, which wasn't so great. Accidentally, I swear. We did a lot of activities but My favorites were the giant swing, climbing the tower, and the trust fall platform. I'm perfectly fine with heights when attached to a rope, as with the first two activities listed. But falling backwards with no rope is generally something I try to avoid. But nonetheless I pushed myself and it wasn't that bad. I enjoyed the experience though Anna's jaw may not have. The tower climb was probably my favorite; climbing on a rope net swinging in the strong wind felt awesome!

After the ropes course I ran home and brought back a TV and blue-ray player so we can all watch movies and random videos on the big screen. I think we might try to get through all of Star Wars which will be fun for the fifthish time. This weekend E3 started so I watched the Microsoft conference and part of the Bethesda conference on the TV, Sony will be tonight and Ubisoft might be running tonight. After starting dinner we realize we had a lot of extra pancakes, chicken, cookies, cake, etc. so we told everyone to come over for free food. We had a lot of fun and I had more ghost pepper salsa than I'll probably ever have for the rest of my life (it did taste pretty good but WOW it burned). We ended watching random youtube videos on the TV and I think I found my new favorite stand up bit kudos to Masashi. Bert the Machine. I'll warn you so you can't say I didn't warn you but it's hilarious.

This morning we began working in Maya which I've enjoyed thus far. I made a house, fence, well, and a really really bad cow. I'm looking forward to learning more this week. I also found out that my girlfriend made into graphic design here at ISU so WOOOHHOO!



AuStin

Posted in Uncategorized | 2 Replies

## Sixth Post

1

Posted on June 9, 2017 by acgarcia

Currently my group is doing a lot of research of related literature as well as trying to figure what hardware we are going to use for our project. We've narrowed it down a lot but we still have a lot of directions we could go. We had a lecture about hyper-realism that new tech has introduced and what issues it could cause. We got free lunch along with lecture and I "may have" eaten 3 brownies, I'm not admitting to it. After some more work time we all yelled at each other some until we figured out what t shirt design we wanted. That was fun. I then went climbing with Sushi, Chris, Jameel, and Natalie. Got one new route and a couple moves further on some others so it was a pretty successful session. We then played racquetball and I nearly nailed Chris a ton. Bet you can't guess what I did when we all got back. Physics. Almost done though so that's nice. We learned some more C++ today and it took me a sec but I'm starting to get a hang of the differences in inheritance and class based stuffs.

Daily Meme #2 ( a nice history one)



Austin

Posted in Uncategorized | 1 Reply

## Fifth Post

Posted on June 8, 2017 by acgarcia

Yesterday was picture day. We wandered around campus taking pictures by all of the major landmarks and took one where we were all laying on the floor posing which should turn out cool. Worked on more C++ as well, wasn't difficult just took a bit to adjust to some more syntax changes. After we all finished at the VRAC, the rest of the night consisted of physics and memes. I got a lot done, finished the last of the labs, took the test, etc.. The only thing left is the homework, and yes I took the test before I did the homework. I heard Natalie fluting out my window while I was working which was nice to listen to. Thinking about going climbing tonight but that's currently the extent of events in the last day.

Daily meme #1

When Obi-Wan doesn't have the high ground but cuts you in half anyway:



Austin

Posted in Uncategorized | Leave a reply

## Fourth Post

1

Posted on June 6, 2017 by acgarcia

So yesterday we finally got into our first course and the C++ began. I'm familiar with C and Java but I've never looked at C++. I was unsure of how different the syntax was going to be but I was happily surprised when I adjusted fairly quickly and it didn't seem too difficult. It was only the first day but I'm feeling pretty good in that department. While sitting around I thought up an idea for a VR game so maybe I'll be able to work on that some when I get a chance. After we finished for the day I bike to State gym with Alfredo and Natalie joined me for some climbing. Don't know why I struggled some but I was either tired or the routes I was working on were very difficult for their rating. Probably a mix of both. After that I went back to my apartment, ate some dinner, and worked on physics for the rest of the night. Found out my grandma fell and has surgery today, hopefully that goes well.

Austin

Posted in Uncategorized | 1 Reply

## Third Post

2

Posted on June 5, 2017 by acgarcia

It's currently Monday and after a busy weekend we have just finished the first C++ course. I spent some time afterwords to repeat everything on my laptop so that I can work from my apartment too. As for this busy weekend, Friday night I ran home and got my Oculus and desktop so that we could set up two person VR in mine, Masashi's, and Alfredo's room because Masashi has his Oculus here. I also brought some pans, more clothes, and more food to keep me going. Oh and a trashcan because we had been lacking one up to this point. Saturday morning we went to Perfect Games and played laser tag(I got third), pool, and bowled. Jameel got enough tickets to get everyone prizes and some of us got hacky sacks which we used to play three sack wack. I then spent the rest of the evening working in my online physics class and realizing how much I still needed to do. Sunday morning Emmanuel and I tried to catch a bus to go get bikes but missed it. We ended up sprinting half the way to catch another bus headed in that direction. We found the bike place and went inside. It was about 90 outside so it must have been about 100 inside of the building. After attempting to help work on bikes, I eventually found one that didn't need a bunch of work. Before I left I got to see a real gun that had been hollowed out and turned into a water gun. After working on some more physics we all left to go to the REU welcome dinner where we enjoyed Hickory Park and a couple games of volleyball. After that I crammed in more physics. Fun.

Posted in Uncategorized | 2 Replies

## Second Post

2

Posted on June 2, 2017 by acgarcia

So today is technically the third day here. We just got the technical tour of the VRAC which a lot of fun and very informative. Getting to watch people try VR for the first time is always hilarious and there has been a lot of that recently. Yesterday we learned about the specifics of our project for the first time. Since then it has been a lot of researching and reading journals and building base information about what we will be doing. We started off with a hololens demo that was similar to what we will be doing. It was really cool to see it in action but sadly that means we have to pick a different system to do our project on. That is exciting though because we can pick which system and programs work best for us as a group and we aren't confined to a specific one. I think we will end up using Unity a lot which I am excited for because it's one of my favorite tools to work with and I can't wait to improve my skills. Last night I got the slackline out for bit which was fun but harder than I remembered. Other than that I've been trying to spend my free time working on my online physics class. I can't wait to see what's next.

Austin

Posted in Uncategorized | 2 Replies

## First Post

Posted on June 1, 2017 by acgarcia

So far I've had fun, I've met a lot of new people with similar interests as me and had in depth conversations with them. Dinner from last night was ramen (of course) and I worked on my physics online class that started at the same time as this program. I haven't started my project yet but I think that starts later today. Though I am not a morning person and right now it's earlier than I'd normally be awake, I'm excited to learn the details of the AR/VR manufacturing project.

Posted in Uncategorized | Leave a reply