

#### Goodbye!

🚞 August 4, 2023 🛛 💄 Allison Arnold

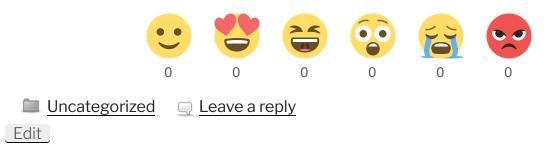
This is my last blog post, so I'll just wrap up a few last things. Thursday morning before the symposium we went to the basement of the Innovation Center to film some reflections about the REU program. I was a little nervous but having the teleprompter helped a lot. The studio itself was very cool, too. I can't wait to see how the video turns out!

The symposium went well. We got a lot of attraction to our poster, but I think that was mostly from the VR headset. We brought along a monitor and headset for people to try out one of our prototypes. In the virtual environment, we uploaded AI versions of ourselves programmed with knowledge on our research project and added in our physical poster. Basically, as we presented in real-life, our AIs presented in VR, which I think was pretty cool that we were able to do that. We received a lot of good questions about the AI software and NPCs, too. The poster session went a lot faster than I expected, and I'm a bit disappointed that we didn't get a chance to look at the other presenters' posters.

Later that day, our team met up at VRAC for one last debrief meeting. We ordered Mr. Burrito (what we ate the day we all first met!) and got to play some games on the VR headsets. It was lots of fun, and I will miss our team.

Of course, I need to add some thank yous as well. Thank you to all the session teachers for taking the time to teach us new software or more about research; thank you to our crossmentors (Heliya and Imtiajul!) for looking after us during the summer and being so invested; thank you to Sarah, Lynn, and Tiffany for keeping things running smoothly and answering all our questions; thank you to Paul and Glen for IT help and catching all those wonderful pictures; thank you to Dr. Gilbert and Dr. Winer for putting this program together and providing expert advice as we continue our educational journeys; thank you to April and Dr. Dorneich for being amazing mentors, guiding us through our research, and just being overall fun and kind people; thank you to all the other interns for being a great group to work, learn, and hang out with. If I missed anyone else, thank you, too!

I appreciated my time here at the VRAC this summer, and I'm going to miss spending time with everyone! Goodbye!



# Almost Done

August 2, 2023 School Allison Arnold

I've been struggling to decide what to write for my last two blogs: something funny, maybe more reflective, what lessons I'd share with future interns? In the end, I've decided to just be open about my experience this summer.

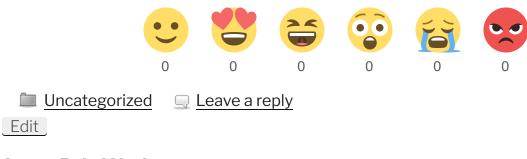
At the start of the program, I came in with the mindset that I was here to earn skills for my degree (Software Engineering) and to get to play around with virtual reality stuff. Immediately, I was overwhelmed. I was learning software I never knew existed at a speed that was way too fast for my introspective self. I was thrust into a new environment with a bunch of strangers and expected to spend every waking moment with them. Literally, the only time I got to be alone was in the bathroom, which creates a very stressful situation to an introvert that NEEDS alone time to recharge. It was my first time moving out and my first time with a roommate. I drove home every weekend for the sense of something familiar and a chance to breathe.

Then the first few weeks passed, and things got easier. I grew closer to my roommate and learned that she is an amazing person. Kris, you are one of the strongest and sweetest people I know. You've experienced so much, and you've used both good and bad to grow. I bonded with my teammates, and I'm going to miss them so much. Ayman, you are incredibly skilled in design and software. You're not afraid to be yourself, and you're a dedicated worker. Nadya, I enjoyed doing our MCA project together, sharing birthday treats, and just chatting. You are so smart and creative, and I hope your future plans pan out as you hope.

I survived the software sessions, and now I can say that I have "experience" in those programs. I settled into a daily routine and found my research work stimulating but never impossible because I always had the help of my team and mentors. I got to ride a bike again, learn how to cook for myself, explore campus, and meet a diverse group of people.

I knew the internship would have to end eventually, but now that it's here...I don't know. I guess I'm ready for it to be done; things have been starting to wrap up lately. But, that means school starts soon with new classes and classmates, I'll need to move again to a new building with new stranger roommates, and I'll have to experience Iowa State as a transfer student. I'll miss my team, the other interns, the VRAC faculty and staff, the lab, and the consistency that I've built up here. It's not like I'm going far; I'll be back on-campus in a few weeks for class, but it won't be the same.

Change is hard to accept, but I'm glad I spent my summer here at VRAC.



# Just a Brief Update

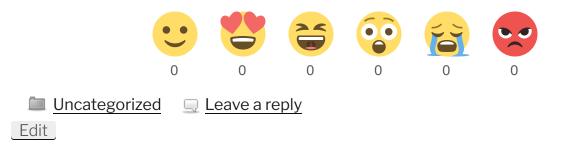
🛗 July 28, 2023 🛛 🛎 Allison Arnold

Next week is the last week of the REU. We are nearing the end already! Source Work-wise, we don't have too much left to do. We turned in our poster today, which I think turned out amazing. By Wednesday, we need to have the paper finished. On Thursday, we will present at the symposium. In the meantime, we need to practice our pitches and finish the virtual environment by adding in a lot more AI NPCs. Once the virtual environment is completed, we can take a video of it and upload it to a website that is connected to a QR code on our poster.

Here's more of a Star Wars fun fact than a meme, but it's still pretty cool to think about. (It's referencing the duel between Ahsoka and Maul in the Siege of Mandalore arc of The Clone Wars series.)



Still can't get over how they actually got Ray Park to do mocap for Ahsoka vs Maul like IMAGINE being SO inhumanly good at choreography that the animators of one of the most beautifully animated shows out there can't quite recreate your moves on their own so they ask you to come in for mocap just to make sure it's as perfect as possible because you STILL got it even though the movie you originally learned that choreography for was over 20 years ago. IMAGINE.



# **A Productive Week**

🛗 July 27, 2023 🛛 💄 Allison Arnold

This week has been going well so far. We presented a demo of our poster on Tuesday and received lots of good feedback. Our content was the right amount; we just needed to reorder it in an easy-to-follow format. We picked out a color scheme (purple and light beige surprisingly) and are working on finalizing the visuals.

The lunch and lecture on Tuesday with Wesley Lefferts ranked among one of my favorites. Even though the content was medically-related research (personally not a huge fan), it was explained in easy-to-understand terms that I couldn't help but find the material fascinating. Plus, I totally fell for the fake accent; I thought that was very amusing! As always, the lectures provide a supportive message that life is rarely a straight line, but all your experiences along the way are still worth it in the end. I found the Thursday lunch and lecture enjoyable, too. Dr. Elena Cotos provided some great resources and tips about graduate school. A few other happenings: on Monday morning as I was leaving for work, I discovered my bike had a flat tire! I was able to get ahold of Dennis, and he helped replace the damaged tube for me. Much better!

Also, on Wednesday night, a group of us interns went to watch the new Barbie movie. It wasn't what I expected according to the commercials, but I still enjoyed the movie and thought it had a good message.

Here's a rather specific Star Wars meme, but I find it hilarious.



# Week 8 Combo Reflection

July 26, 2023 & Allison Arnold

Last week was incredibly busy for my team! We had to prepare for a virtual presentation with another REU group at CUNY. We have a lot that we can say about our project, so it was good practice making the slides to help slim down our content. It was interesting listening to the CUNY group present as well. They had a shorter timeline, and their project were done solo. I was quite surprised on how far along their projects were compared to ours even with all the work we have been doing. I've decided that we have just been having more fun!

After the presentations, we shifted our focus to our poster. All of us are beginners to designing academic posters, so it was confusing to understand what was expected of us.

It would've been nice to have concrete examples of "good" and "bad" posters to get an idea. I've definitely been able to see a need for our virtual environment in this area!

While balancing the poster design, we worked on wrapping up our A/B testing. Our conditions were analyzing whether a subtitle or chat bubble text interaction format feels more natural in VR. We recruited the other interns and cross-mentors to be participants where they engaged in verbal conversations with NPCs that modeled the two text formats. Then they completed a survey asking about the level of immersion, cognitive workload, satisfaction, among other things.

All of our participants were continually blown away by the NPCs. Either they were unnerved by having a regular conversation with an AI that reacted to them, or they were thrilled with the unique experience. We received several impressed comments on the amount of work we have been putting in to create such a fascinating trial. Thank you to all the participants who helped us with the testing! We really do appreciate your time and supportive comments.

At this point, my team was exhausted. We only tested eight people (the other two people never rescheduled...), but it felt like 50. And, we hadn't done any data analysis at that point either! Combine running repetitive testing with creating a presentation plus our last professor interview, oof. The weekend was welcomed for sure.

On Saturday, us interns made a plan to hang out and relax. We went to the pool nearby Freddy for the afternoon. I came by later after grocery shopping, but it was so nice to just chat with everyone. I offered to drive the group to get food, and Kris suggested B-Bop's. Everyone really enjoyed the food and the retro atmosphere. I got a chocolate shake which was delicious.

Our lunch and lectures for the week were Holly, a past REU intern, and Dr. Beiwen Li, the scanning team's professor. It was neat to hear about Holly's experience as an intern and her journey since then. Dr. Li's work was very interesting to learn about as well. The scanning team definitely has some great experience on their side!

There has been a request for more Star Wars memes, so here you go guys.



statictay

sohaliatalitha

king.

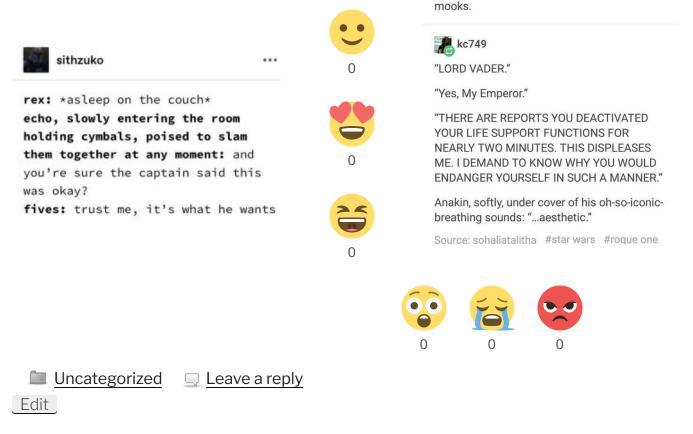
okay but Vader *literally* turned off the lights on his chest panel to make an impression on the Rebels. That whole emerging from the

darkness by the light of his saber thing? That

was intentional dramatic effect. What a drama

Leia got away because he wasted 30 seconds scaring the crap outta those poor rebel

once again i love how star wars takes place in a massive galaxy with thousands of planets and billions of people, and yet every bounty hunter knows each other personally



#### **Additional Updates**

🛗 July 14, 2023 🛛 🚨 Allison Arnold

Alright, part 2 then. Moving away from our research project work to cover other weekly happenings: we had some amazing lunch and lectures this week. Debra Kumar joined us on Tuesday to talk about her journey as a UX Researcher. I didn't even know UX research was a thing; I had heard of UX design, though. It was cool to have a different perspective from someone who had more industry experience than academia. Kumar had worked at Google for several years and is teaching at ISU as a professor for the time being. I really want to look into UX research and learn more now!

On Thursday, we had an equally interesting lecturer: Sarah Bentil. While her field wasn't as fascinating to me (more medically related), she was a wonderful person to talk with. I liked hearing about her academic and professional journey. She never really decided what she

wanted to do until after her PhD. She spent most of her time exploring options, whether that be industry or more schooling. It's always nice to know that you don't need to have your plans nailed down as soon as possible. Bentil mentioned that even though she had a wandering path, she would do it again the same for the experience.

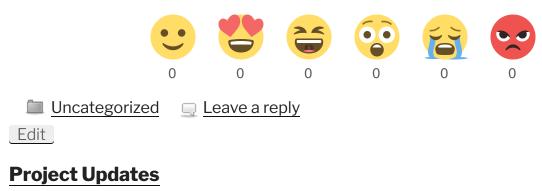
Bentil also had us do a fun activity during lunch. We worked in teams to complete a brainrelated word search as fast as possible while listening to her giving facts about the different parts of the brain. My group finished first, and we won a neat little brain eraser.

We had another HCI session this week which covered topics on GenderMag and how to give a talk. GenderMag provides engineers with common "personas" that they can use to test the usability of their designs. For example, an engineer might think their design is very intuitive, but someone with a different perspective (i.e. one of the personas) might not. This ensures the engineers are providing a product that is beneficial and easy to use for everyone.

In the same session, we also discussed tips for giving a talk. We then paired up in groups to give short practice talks about a randomly selected topic and then receive feedback from our audience. I was with Rebecca, and we ended up with the topic "what makes a good weekend." It felt very difficult to plan an outline in a just a few minutes, but we settled with what elements make up a good weekend: level of relaxation, choice of activity, and time spent with others.

It was a rather full week, but we had several very compelling activities that I enjoyed.

Star Wars update: the full trailer for Ahsoka came out this week. Give it a watch!

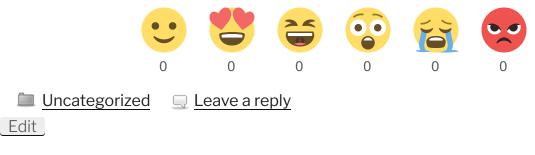


🛗 July 14, 2023 🛛 🚨 Allison Arnold

It's the end of the week, and we are back to our (fairly) normal schedule. The MCA projects wrapped up last week, so our team has returned our full focus to our main research project. We spent this week conducting interviews and working within Unity. We interviewed our first couple of graduate students to use their answers for programming our virtual "novice" conference goers. We received some very interesting and thorough answers that will give us an excellent starting point. Early this morning, we interviewed our first "expert" as well (thank you Dr. Gilbert!) which gave us a great professor's perspective of a conference. We have a few more interviews to conduct then we'll analyze the answers in a way that we can translate into the virtual avatars.

Besides interviewing, our research team has gotten into the coding of our project. So far, we have a conference hall and some static avatars. We are now working on the avatar interactions which is tricky at times, but it's nice to collaborate as a group on any issues.

Stay tuned for part 2 of my weekly wrap up.



### **Crossing the Finish Line**

🛗 July 7, 2023 🛛 🚨 Allison Arnold

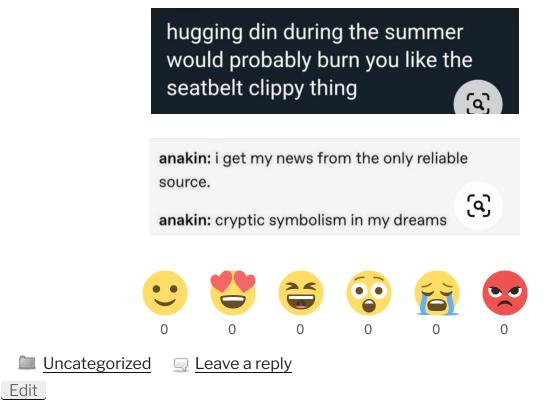
We had this past weekend off for the 4th, and it was soooo nice. My family went camping at Ledges. It was very relaxing to just sit outside in the shade, hang out with my family, and not think about our research projects. On Wednesday, I came back refreshed and ready to put my full effort into finishing our MCA project. Speaking of...

Today we presented our MCAs! It was a mad rush to the finish line, but we ended up with a completed project. I am very proud of the interactable tools I was finally able to code. I was also able to make a very basic mining mini game by utilizing game object visibility scripts. Nadya put a lot of work into the NPCs and the text bubbles (they look fantastic). Both of us stayed late several days to get work done, and while I am extremely pleased with what we were able to create with our limited knowledge, I am ready to set this project aside for a bit and return to our actual research project.

On Thursday, we had a lunch and lecture with Carmen Gomes. I found her research scope very interesting, and she has a very fun personality. That evening, we walked to the Food Science building and learned how to make fresh pasta. I rolled out some dough, cut it into squares, and folded it into bowtie shapes. It was fun and some of the shapes actually turned out fairly good! At the end, we got to eat our creations (delicious) and even season our own sauce.

Also on Thursday (it was a very busy day!), we meet with our research team to do a design session. We planned a rough storyboard ranging from player goals to what the avatars will say to how to view a virtual poster. As of now, we have big plans, and I hope we can incorporate as many of them as possible. Also, I am excited to be able to use the knowledge I gained from the MCA on this project.

I was reviewing my last blog post, and I realized I forgot to include my Star Wars sign off. So, I'm including double the fun in this post. See ya next week.

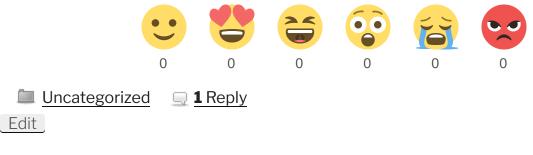


# **Deeper Dive Chaos**

🚞 June 30, 2023 🛛 👗 Allison Arnold

First off, I'd like to thank the all the VRAC folks who planned the lovely birthday celebration today! It was so nice to celebrate with the group with some yummy ice cream. Thanks for the treat!

Now, about this whole Deeper Dive thing. We were too ambitious. Nadya and I had a fun storyline and lots of interactive elements planned. But, working in Unity when you barely know anything about it is a challenge. We were able to import an amazing Wild West environment, though. Nadya worked on adding an interior to the General Store while I worked on importing NPCs. I got a character in, finally fixed its material, and tried to animate it. It came rigged and with animations, but no matter how many YouTube videos I watched, I could not understand how to get all that to work together. So, we scrapped the wandering NPCs ideas and are trying to import some static characters instead. We still wanted interactive components, so I watched some videos on how to make the VR controllers and items grabbable. After several vague tutorials, I tried to test out what I did, but the VR headset had disconnected from the computer. Oh well. Historical facts were supposed to be a big part of our project, so we trying to get some sort of text box with historical quotes from the NPCs. I hope we can get it to work. Also, working collaboratively on a Unity program is incredibly difficult. You can't actually work on the same thing at the same time otherwise there are some complex save errors ... I just hope what we worked on today saved correctly!



#### Rush

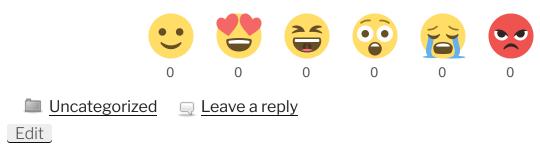
Our Deeper Dive projects are really picking up. Nadya and I are collaborating on an educational VR game about the California Gold Rush. The player engages in simulated activities with historical significance and is also presented with real historical facts about the Gold Rush. Since our timeline to complete the project is incredibly short, we created a very simple storyline and are utilizing lots of online assets. The biggest thing we still need to do is the coding. We are working on importing all the features and writing dialogue, but then we have to make our scenes interactive. I am very excited about our project, and I enjoy working with Nadya. I just hope we can get the game functional to where we want it in time!

<sup>🛗</sup> June 29, 2023 🛛 🚨 Allison Arnold

Besides the Deeper Dive project, we are still working on our main research project, which is picking up as well. We are starting to get into the design phase, and I am realizing how much work we still need to do on that aspect. We are also ready to gather our real interview data as that is crucial to programming the avatars within our virtual research conference.

Regarding sessions, we recently had a class on plagiarism. It was a good refresher on things to avoid when writing with sources, and it was interesting to hear real-life stories of seemingly renowned people falsifying data to gain more recognition. Our lunch and lecture on Tuesday was with Kimberly Zarecor. She had an interesting academic journey regarding architecture and Czechoslovakia. I think it is neat how most (if not all) of the professors who have spoken at these lectures had "different" academic journeys in regards to where they started in their schooling, discovering what they actually love to do, and finding a career or research scope that is tailored to that. It's not always a straight path, and that is okay.

Star Wars fun fact: did you know that some of the backgrounds of scenes in the original trilogy were paintings? Since the original trilogy movies were produced before realistic CGI was used frequently for movie effects, they instead created oversized matte paintings with oil paints and plexiglass as elaborate set backgrounds. Then the live-action shot was projected over the painting to complete the scene. Pretty neat, right?



# **Another Post About Deeper Dive**

🛗 June 23, 2023 🛛 🚨 Allison Arnold

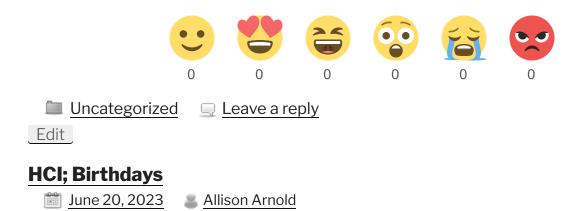
The end of Week 4 approaches, and the Deep Dives begin. I am in the XR group (the two other groups being 3D Printing and Machine Learning). I chose XR because I wanted to explore more of the virtual reality realm beyond my research group's project. So far, our group has covered some XR basics, tested some headsets, and discussed some project ideas. We are unsure where we want to go right now, but we will do a brainstorming session on Monday.

Last night, we had a movie night for our extra-curricular activity. We were supposed to visit Reiman Gardens, which many of us were looking forward to, but it was closed. We couldn't get the projector in the auditorium to work, so we spent the evening in the JB Conference room watching Coco.

Yesterday morning, we spent the first part of the day taking promo pictures in our matching yellow t-shirts. It was unbearably hot, we got a lot of strange looks from campus visitors, but the pictures turned out amazing. The new website banner photo makes us interns look a lot friendlier!

Our two lunch and lectures this week were with Stephen Gilbert and Cody Fleming. I have been enjoying learning about the professors and the various research projects they have been working on.

Going back to Star Wars favorites, favorite tv series? I guess I have two but for differing reasons: Clone Wars (for the lore and prequel setting) and The Mandalorian (for the visuals and live-action).



HCI Homework: Bad User Interfaces

It didn't take that long to find some examples of bad user interfaces. I didn't realize how common and how much of a problem they are in daily life until I really started to look for them. The two in particular that I picked were the Aldi shopping carts and the Cyride bus doors.

So, I went grocery shopping at Aldi over the weekend. If you have ever shopped there, you know that you need to insert a quarter into a slot at the top of the cart to unlock it for use.

When you put the cart back, you insert a tab that is hanging from the cart into the cart ahead, and it pushes the quarter back out for you.

I could not understand what the tab was for. My first thought was to try to clip it into the cart ahead to lock the carts together (which is what you are supposed to do), but the chain on the tab wasn't long enough to reach the next cart. Something was preventing the carts from sliding together close enough. Also, the cart ahead of mine was not locked into the cart ahead of it, so I couldn't clip my cart in anyways (obviously someone else was struggling too). I couldn't reach that cart's slot to fix it unless I pulled out the next two carts, clipped them, and then clipped my own cart. At this point, I just left the quarter in the slot. Best case scenario, I paid forward someone's quarter; worst case scenario, I'm out 25 cents.



It doesn't look like it would be that difficult!

My second example is regarding the exit doors on the Cyride buses. I haven't been here for very long, but I've already gotten stuck in those doors twice. Those two times as I was leaving the bus, the doors started to close, and I had to rip my backpack out of the doors before they completely shut. The doors have clear instructions on how to open them ("wave to open"), but the problem is how long they stay open (I've seen anywhere from a minute to barely 10 seconds). I think one way to help fix this is to have the doors ding right before they start to close. Think of a subway train: there is always some sort of warning before the doors shut. Sometimes when the door is open in front of me and I start walking it starts closing and I've gotten hit by them before so I'm kind of paranoid now.

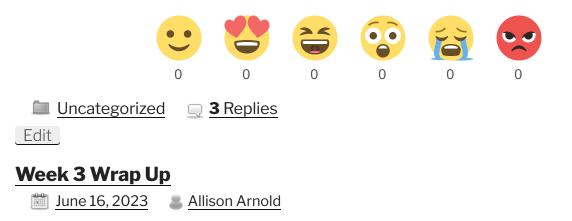
Thanks random Internet person's comment. I'm not the only one!

With the homework out of the way, I can share the latest updates on my team's project. We are continuing to progress with our interview stuff. Amy has kindly agreed to help me pilot our interview questions. We will take her feedback and that of other volunteers to edit our interview questions before we start conducting our actual interviews.

Classes wise, we started learning Unity yesterday. It certainly feels like a combination of everything we have learned so far: coding and modeling. It's very interesting to be able to see the building blocks of a game. There are lots of components to keep in mind such as lighting, gravity, and movement. For example, if I forgot to turn the gravity off on the ground, then it just started to fall to infinity (which was very amusing but not very helpful).

Also, birthday acknowledgements! Yesterday was my birthday (yay!). I went home after work to celebrate with my family and enjoy some cake. And, today is Nadya's birthday. Happy birthday!

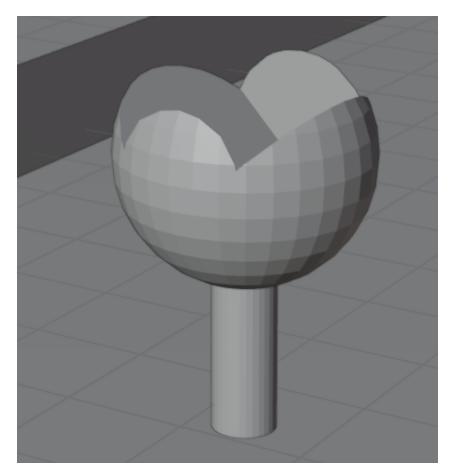
Obligatory Star Wars quip: favorite character. I have a top three: Captain Rex, Obi-Wan, and The Mandalorian.



One more blog to close out the week. We finally have our extra-curricular activity for tomorrow selected. We are going to another park, Ledges, for some hiking. I've been to Ledges before because it's pretty close to where I live. My family has camped there a few times, but I haven't really hiked there. I just hope the weather is nice.

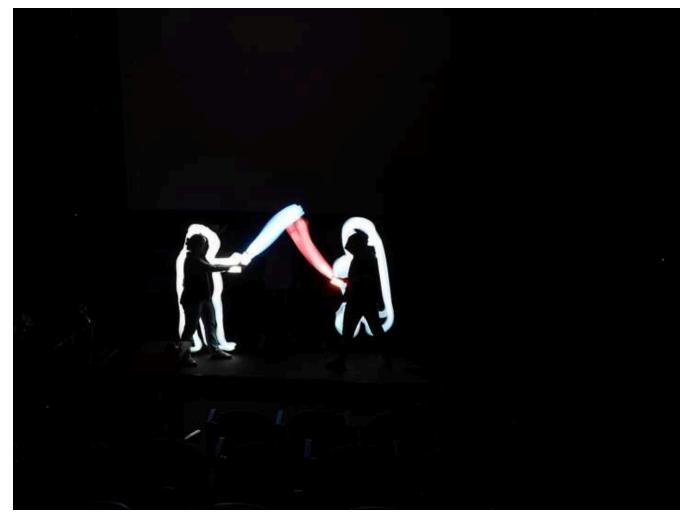
At our team's project meeting yesterday, we worked on developing interview questions to ask people to help flesh out the avatars that will be within our virtual environment. Also, we are still on the hunt for the perfect headset to use to test our VR environment. One fun thing of note: our graduate student, April, opened our meeting with "High, Low, Hippo". It's where you say something that was a high of your week (or day), something that was a low, and then hippo can be anything you want to mention. I thought this was very clever, and I want to try to use it to structure my blog posts in the future.

Our Blender sessions wrap up today. I've been having fun creating a scene of a house. It's taking a while, and I know that I'm not doing it the most efficiently. But, I'm enjoying exploring the tools and ways I can manipulate shapes. This project is entirely my own, nothing from YouTube tutorials, just what I am learning.



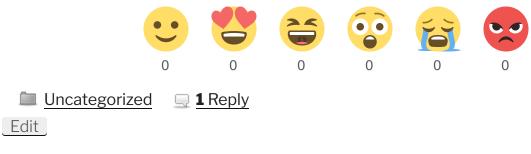
It's a little flower! (kind of)

As promised, more Star Wars. During our light painting activity yesterday (incredibly fun yet tricky to master), one of the scenes we created was of a lightsaber duel, and it turned out wonderful.



Luke and Darth Vader, perhaps?

See you next week!



### **Coding, Projects, and more Star Wars**

June 15, 2023 🛛 👗 Allison Arnold

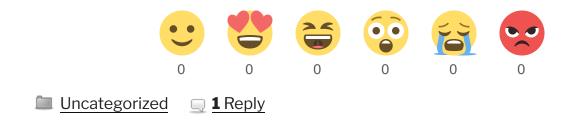
It's been a bit since I've posted something. Things are picking up, and I've had more things to do. We wrapped up C++ last week and are now venturing into 3D modeling with SolidWorks and Blender. So far I've enjoyed these sessions significantly more for a couple reasons. I am a visual learner, which means that I need to physically see what I am learning.

I love lots of examples and step by step tutorials. In SolidWorks, compared to C++, I can see exactly what I am doing which is incredibly helpful. Also, the interface is very intuitive. The buttons tell me exactly what they do, and I can view my project from any angle. I really liked working through the tutorials because they were descriptive and slowed down the course to going your own pace. We have just started Blender, and I am quite intrigued. It looks like it has more cosmetic features than SolidWorks, so that will be fun to explore.

Our team's project is progressing well. We have a meeting later today where we will start focusing more on the VR component and do some headset testing. Us interns have a new project as well: t-shirt designing. I won't say much yet, but I am very excited about our designs so far. Our team bonding for the week has consisted of visiting Ada Hayden for a nice stroll, a debate on the definition of a sandwich (is a phone technically a sandwich?), and taking the scenic (read: way too long) route on the bus back from lunch (my bad, guys).

At this point, I feel obligated to mention Star Wars. Ever since the movie night, Star Wars fans have come out among the blog posts, and I must keep the momentum going. I, myself, am a proud Star Wars fan. I have watched all the shows and movies (expect for Bad Batch season 2, still need to catch up there), played some of the games (Lego Star Wars The Complete Saga, Lego Star Wars III The Clone Wars, and Lego Star Wars The Skywalker Saga...see the theme yet?), and I would like to get into the books soon (the Thrawn series has been highly recommended due to the upcoming Ahsoka tv series). The prequels era is my favorite, and it's nice to see some of the other interns are fans as well. Might I recommend the Revenge of the Sith 4 hour Super Cut? A complete documentation of Order 66 and the Siege of Mandalore cobbled together from clips from ROTS, deleted scenes, the 2003 Clone Wars animated series, and the newer Clone Wars series, this movie will leave you emotionally destroyed. You have been warned.

To wrap up with some food for thought for you Star Wars nerds: what order should the series be watched in? Do you start with the Originals? Prequels? Do you count Rogue One and Solo? Are the Sequels dead to you and don't deserve the attention? That is up to you. More Star Wars musings to follow.



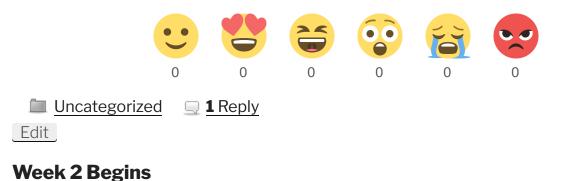
#### Sessions

#### 🚞 June 8, 2023 🛛 🚨 Allison Arnold

It's the latter half of the week, and I am exhausted. I've been taking in a lot of new information lately with little time to process it. Coding has been interesting. I'm excited to learn since I'm brand new to programming with C++, but it's hard to retain any of it since we are going so fast with hardly any review. I know it's just supposed to be a quick fly-by of the code before we move onto different languages. We don't need to have this mastered; it's just for exposure, but I would've appreciated something more beginner-friendly.

I'm still getting used to the program schedule, so my time management isn't great yet. Some days I'm just sitting at my computer for an hour waiting for the next session because I finished my daily tasks. At the same time, I'm tired at the end of the day from learning new information in the sessions and participating in extra-curriculars. I think once our team gets farther into our project things will balance out better.

Movie night earlier this week was lots of fun, though. The auditorium definitely felt like a movie theater. I'm enjoying the lunch and lectures as well. We have heard from Jim Oliver and Eliot Winer so far. Some themes I keep hearing about are failure and imposter syndrome. I thought this was kind of odd at first. Surely when you get to graduate school, you know what you are doing by then and have your skills figured out. That doesn't seem to be the case. During graduate school is when you fail the most because of the research.



# June 5, 2023 🛛 🛎 Allison Arnold

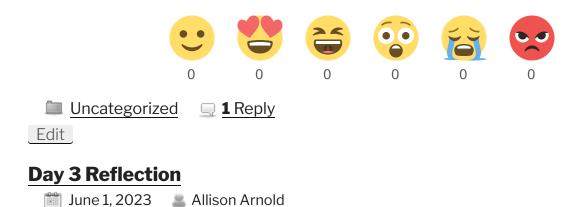
I'm still getting used to this blogging thing. Everyone has such nice and detailed posts (some with pictures!). I never know where to begin, so let's segway into the most recent development: coding.

We started our first coding session this morning and will continue after today's blog time. Honestly, I'm pretty intimidated. Even though my major is Software Engineering, I have yet to take any coding classes (my first one will be this fall). I wish I knew what all the symbols and shorthand meant. But, I'm a beginner, so I'm not supposed to know yet, right? Maybe I'll make myself a little glossary to start learning the terms better.

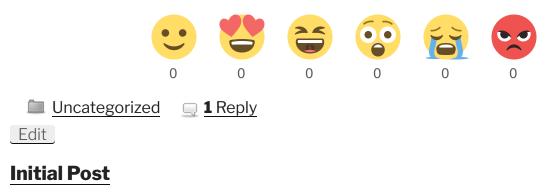
What else is new...? We got a tour of the VRAC and some of the current projects going on. I was super excited to finally be able to try out different VR headsets. My favorite demonstration was the aircraft carrier "tour". It felt the most immersive and had an open world exploration feel to it. It's incredible to think that our research team will be creating something just like it.

\*checking the calendar\* Weekend activities! We went to an escape room in Des Moines and got bikes to borrow over the summer. The escape room was pretty neat. It was my first time participating in one. It wasn't quite what I expected, but there were some neat elements like the bookcase being a secret door. I am happy to have a bike now. It gives me another transportation option. The bike I received is very nice. It came with a very useful little basket, bike lock, and helmet. I haven't ridden it yet because I wanted to double check the bike routes. There are certain spots on campus where you can't ride on the sidewalk ("walk your wheels"), and other spots have dedicated bike lanes. Anyways, it will certainly be faster and more enjoyable than walking.

We had our first research team meeting of the week today. We now have a Slack channel and Box set up. Our first tasks are to read some papers and start getting game ideas to help influence how we set up our virtual community. I am excited to be able to get back into VR and play around.



We just wrapped up lunch and are waiting for our next session: "Craft of Research." We learned more about the research projects we will be working on this summer and met the rest of our teams. After hearing more details about VRComm, I am even more excited to get started working. Our first task, as of now, is the review some papers with relevant background information on VR and theory. Tomorrow has a few more orientation sessions to complete; then, next week, we start our first coding session. Plans for this weekend include visiting an escape room in Des Moines. I have never been to an escape room, so I am excited for this new experience. I am looking forward to the weekend for a break to process all this new information being thrown at us, but I also can't wait for the technical stuff to start next week.



June 1, 2023 🛛 🚨 Allison Arnold

Good morning. Today is Day 3 of the REU. We are testing out WordPress and blogging. I think artificial intelligence is very interesting, and it is something that I would be very interested in researching.

