

Posts from me

Last day?!

Posted on [August 1, 2013](#) by [lanyab](#)

I can't believe this is the last day in the lab! I am going to miss our little pods. Demo and poster presentation tomorrow! And a few edits for our paper eep!

I am so thankful that I had this opportunity to experience research. VRAC felt like a friendly tight-knit community and I hope that other graduate programs will be the same.

art + code

Posted on [July 31, 2013](#) by [lanyab](#)

I've been thinking a lot about where I'll end up in life. As I reflected on the summer, I was thinking about the dynamics of our team (GO TEAM VR! WOOHOO). Craig is our quick-thinking programmer. Connie is our layout taming designer. So where do I fit in?

I like when things are pretty. I think that layouts and visual organizations come naturally to me. But I can't imagine myself making designs for iPhone games or being an artist for a video game. Just drawing forever? I would hate it. Being a professional photographer? Pft.

On the other hand, programming doesn't come naturally to me. I have the patience, dedication, and love to sit there for hours and hours finishing a project but it takes those hours. And while I know I'll get better at programming, I want to use it for something visual or something that can be experienced.

I've been looking for inspiration for my senior project. I want to create art but I want it to technically challenge me. You would think that photography and programming flow together naturally. I have been struggling to find innovative ways to combine them. Photography is hard to change because at its essence it is the product of clicking a shutter. Programming is commonly used to manipulate images. Photoshop, instagram.. It's all over the place. But they are just tools to change an image. You could take a photograph of something programmed, but then it is just a photograph of something programmed.

I came across [CV Dazzle](#). It's a series of photographs where the hair and makeup are used to trick face recognition algorithms. There is the photograph but then it interacts with programming. And although it's not a photograph, the [3d printed bracelets](#) by Alex Wolfe intrigued me. Why? Because they are modeled from a generative user-interactive particle system. From the hours that I've spent pouring over art and tech blogs, these are the only ones that jump out to me. I wonder why.

This ended up being a rambling blog post without much of a uniting thought. And again, I'm rambling about myself again. I guess I'm trying to say that I hope that art and programming will become a thing. Not just programming for the sake of art but programming that is part of the process.

Aaaaaaand if anyone actually happens to read this and comes across a cool art project that involved programming, let me know.

ps. poster down and time for the paper! Gahhhh.

The final week!

Posted on [July 30, 2013](#) by [lanyab](#)

Our poster has been submitted and now all that is left is our demo and the paper!

Congrats to the AR team for getting their poster into Grace Hopper ☒ Looking forward to seeing Franceley there!!

Sick :(

Posted on [July 26, 2013](#) by [lanyab](#)

I've been sick in bed for 3 days now. As I've been catching up in reading blog posts, I was so surprised at how many of my fellow interns mentioned me. Thanks guys ☒ I hope to continue sleeping in my cave and then get better in time for paint ball tomorrow. I briefly stopped in to VRAC to check in with my team and celebrate an early birthday for Craig. I tried unsuccessfully to get the wiimote configuration working (although thanks to paul the bluetooth is working). Jose caught me up with the etiquette lecture (33 chews, got it) and others told me about game night. I'm probably going to hobble home soon and go back to sleep again ☺ Here's to hoping I will feel better soon!

Adorable animals

Posted on [July 23, 2013](#) by [lanyab](#)

Quote of the day

Craig: "why do I have One Direction stuck in my head?"

Stay tuned for adorable pictures of lots of animals.

WE FIXED THE BUG AHHHHHHHHHHHHH!!!!!! YESSSSSSSS!!!!

Also, the Kinect now listens to you.

A whole weekend recap!

Posted on [July 22, 2013](#) by [lanyab](#)

I realized that I have not blogged since Wednesday so here is a massive recap post.

On Thursday, we were in the triangle conference room all day giving to and hearing presentations from the Perceptual Science and Technology Program REU at Rutgers and the General Robotics, Automation, Sensing and Perception REU from the University of Pennsylvania. Their programs were set up slightly differently than ours in that each REU student was working on an individual project (whereas we work in teams of three). The Rutgers projects were mostly related to cognitive science. I had a hard time relating to the projects since I don't have background knowledge on their topics and due to time constraints, they didn't have much time to fill us in.

We took a break for lunch and had Professor Debra Satterfield from the HCI and Graphic Design come and talk to us about her studies relating to Autism and various majors. I felt that her talk was rushed maybe because it was sandwiched between our other conference calls or maybe just because she was on a tight time constraint. I am still confused as to how her research fits into the graphic design department. Two of the graduate students showed us an application game they are building to teach letters to students with learning differences. I thought it was interesting that they purposefully incorporated animations of swirling letters to keep the student's attention. They also used a very simple layout (letters in gray and a white background with no other text) so that the students can't get

distracted or confused by external things (such as a game title).

After lunch, we heard presentations from the GRASP REU program. I loved hearing about their robotics projects although I really wish they hadn't been forced to keep their presentations so short. Again, the lack of background knowledge really played a part! For example, one presentation talked about modeling a bouncing dog robot. The questions that immediately popped into my head were, "Why was the robot developed to bounce when dogs really have joints? Were they modeling it because then they wouldn't damage the robot? What would be the practical applications for a bouncing dog robot?" With a little more background understanding, I feel that I wouldn't have been so stuck on the basics and could have asked more interesting questions. I think this will be very important to keep in mind for our own projects (although I think so far all of the groups at VRAC have done a good job of explaining the topics to people who have no prior knowledge of the topics). One project that really interested me was the project "Implementation of Kinematic Retargeting," by Jean Mendez from the University of Puerto Rico where he was interested in programming the robot to imitate the movements of humans. He was using the kinect with OpenNI and Numpy (although he didn't go into many details of how). I could see some kind of funky application for interactive art with robots using this set up. In any case, I loved hearing the presentations from the other REU groups. Even if I didn't understand every project, I feel that I have expanded my knowledge of what kind of research is out there.

On Thursday night, we went to our lovely mentor Andrea's apartment and had an REU dinner. Thanks to Paul, Andrea, and Lisa for cooking for us! It was nice to take a moment and relax. It was also fun getting to interact with people from VRAC outside the lab. Thanks also to Meisha for giving me a ride and talking through the anxieties I have over my future with me!

On Friday, we went to the Principal Financial Group and got a tour of their offices. We got to sit in a user experience lab and see how they test their website.

Afterwards, we went to the Science Center! We got to be on TV with their weather forecasting service. The trip made me realize how much I really love being around children. They are just so sassy! I definitely want to run around and experience industry/research/start ups and so on but maybe later in life I'll be able to share my knowledge with the next generation. Hm. More things to think about. We got to see the behind the scenes of the Imax. To my surprise, they are still running an analog machine! I hadn't realize that film is going through the same transitions as photography. Digital is slowly kicking out traditional analog. I'm still having a hard time being part of the tech industry while also being a student of analog photography. I think I'll talk about that in my next blog post. But anyways, I had a great time running around the science museum like a child. The planetarium was definitely a highlight. We scrambled for the floor as soon as the movie started and they all lay there. I feel like I had the first moment of peace in a while while I let my thoughts wander. The universe is incredible.

Yelling "Hello" at a Computer Screen

Posted on [July 17, 2013](#) by [lanyab](#)

Yelling "Hello" at a Computer Screen: an ode to Kiwi-VR

One.

Tried to say "hello"

The machine would not listen

Banging head with wall.

Two.

Sitting at my desk

Conversations with a screen

I look really dumb.

Three.

Suddenly there was
Magic guiding light (Patrick!)
Beep: "You said hello!"

Thanks to the members of the Haptics lab for always helping us!

Hitting walls and some other last minute frustrations

Posted on [July 16, 2013](#) by [lanyab](#)

I have struggled to stay motivated this week. We just found out that our application will not be used as a demo at a conference (ASME IDETC) after all. We have run into a wall of troubles with two configuration devices due to what I feel are matters outside our groups control. We can not find the proper bluetooth driver for the wiimote head tracker and the kinect is still under development. With only two and a half weeks left, we will have to program for those two configurations as well as write a paper comparing the three configurations. I'm not going to lie, at this point, my brain is asking, "so, what do we write our paper on if we don't get the other configurations working in time? And even if we get the configurations finished, will it be a fair comparison between devices if one interaction clearly doesn't work as well because of the difficulty in implementing the controls? *cough* kinect *cough*" And can we really call this research?

This is not to say that I haven't enjoyed or learned a lot this summer. I had an opportunity to code in lua, which is a new language to me. I have gotten to plan a project from start to ... hopefully finish? And I feel that our drawing application has come to life exactly how I envisioned it.

But, to be honest, I am still a little disappointed. I think that I'm disappointed because I don't think that our project will have much significant life or impact on a longer term. I'm not at all surprised that we haven't managed to make a mind-blowing discovery that will revolutionize low-cost virtual reality but I had hoped of starting or helping along a project that will make some sort of impact in the future. JuggLua is not well documented, which will make it difficult for other people to expand or maintain our project or JuggLua itself. There was an application created in previous years at Iowa State called Advanced Systems Design Suite that works with a mouse-and-keyboard to work almost exactly like our application (except with more features). I think that it would be more valuable to integrate ASDS with the low-cost devices rather than continue to work on our project.

It is frustrating to me that I don't have enough time to fix the situation. Maybe with a little more time, we could make a project that someone could build off of in the future or at least make our program run fluidly enough that people could take it home and play with at home. But as it stands, I feel that our project will just be a random summer demo that some interns did.

But enough whining and dramatics. I am going to change my mindset and work hard to make use of the last two and half weeks! Even though our application might not be polished, we can still try our best and make something really cool 🍷

Updates on the past few days

Posted on [July 15, 2013](#) by [lanyab](#)

I realize that I have been neglecting a lot of blog posts talking about my life here at Iowa State University's Virtual Reality Center in order to whine about my life so here we go.

We are in our seventh week and have finished up most of the core coding for our application. So far, you can use the one-hand hydra and head tracking configuration to open a library of shapes and colors, select a shape and color, then use the trigger button to drag the shape in a 3d environment. After the shape has been drawn, the user can

click inside of the shape to select it, then move the hydra hand controller around to translate the shape. I believe we are very close to being able to scale the shapes as well! The code for creating copies of shapes and deleting shapes is done but I haven't tested it with the one handed configuration.

We still need to work on the kinect (which might become a HUGE job). We are also still in the middle of getting permissions for the firewall to run the server for the two-handed hydra configuration (and wiimote headtracking).

On Wednesday, we woke up early for a tour at John Deere. I thought that the coolest part was the robots that were picking up parts and shaving off sections of them and then placing them in neat order for the next part of the process.

This past weekend, we went to Des Moines where we visited the Jordan Creek Mall. Shopping isn't my favorite activity in the world but I had a good time. The best part of the trip, however, was definitely our visit to Zombie Burger. Have you ever had a hamburger with mayo, bacon, mac-and-cheese that has deep fried mac-and cheese as buns? I have. And I survived (barely). Dear Mom and Dad, if you are reading this... I promise this is an unusual occurrence!



Then we visited this really cool bridge where I found some inner peace? Or at least got to digest in a beautiful spot.



What do I want to do?

Posted on [July 12, 2013](#) by [lanyab](#)

Our configurations are in a shoot with star photographer Paul (with awesome artistic direction by our very own Connie Lu), so I am cranking out my thoughts in a ton of blogs. In this particular post, I plan to blab about my thoughts on the future and hope that it will help me reach some clarity. This post comes from thinking about Eliot Winer's lecture to us last Tuesday at lunch where he reflected on how he never could have predicted his life path going in the direction it has.

Well, I guess I'm no stranger to bouncing around different paths. When I first applied to colleges, my sole criteria was that they had a good East Asian Studies program (with Chinese and an advanced Japanese program). As soon as I got to University of Maryland, I declared Japanese as my major, took Chinese, and was placed into an arts dorm. Somewhere along the way, I decided maybe I needed to back up my Asian languages with business since I had little interest in going into translation. I wanted to speak my mind, not just rewrite other peoples. Then, I decided that I really loved arts and that the Asian language classes weren't really that fun. Then I debated art and business. Business for the real work and art for funsies. Good plan. But then I worked at Mori No Ike, a summer camp in Minnesota (go Mid-west!!) during my freshman summer and discovered teaching. Around the same time, I started teaching rock climbing and leading outdoor trips with Maryland's outdoor program. Okay, so Art and Education. Then I could also teach Japanese and outdoor education on the side!

But then somehow, it all felt too comfortable. I had a set group of amazing friends. I knew what classes I needed to take to graduate. I had two jobs on-campus set in stone. My friends knew my love of photography and were always happy to be part of projects. It seemed all too perfect.

So, I transferred schools.

Transferring schools put me through the lowest and highest I feel that I have ever been. I am going to skip over the negative since it's not too relevant and focus on the high point: I discovered computer science.

This was it. The way to combine art (especially photography) with a reasonable money-making career. I hadn't wanted to make money off of fine arts anyways. Not only that but I LIKED coding. It was like one big puzzle. I could teach coding and feel proud of mentoring the next generation or I could create something that makes a difference in someone's life. Bam. That's just incredible.

And now I am faced with a problem I never thought I would have. There are too many things that I want to do. I love autonomous robots. I am both terrified and awed by the idea of robots having emotions. I am fascinated by the way that people interact with robots. How does one possibly teach a robot to think and navigate the world around them? It's mind blowing. How can robots learn? How will a robot see the world? But then there is also photography. Now with cell phones, everyone has a camera with them all the time. Google glass has been created, which whether it succeeds or not, brings a new way of capturing images that is instant and from the person's true view point. But somewhere along the way, I have also discovered video games again. I used to play so many MMO's because I could interact with others but in a fantastical world. And with that, I have been exposed to 3d graphics. It's completely different from photography. You don't use pixels. It's a lot of vector math. But it allows you to replicate the 3d of real world in a computer. How cool is that? Photo-realistic 3d rendering blows my mind.

So from here I feel like I have to choose not only what kind of field to go into but how do I combine art with computer science. I only have basic drawing skills. I modeled in maya for the first time recently. The last time I took math (Calc 1, hah) was 3 years ago and I have no time in my schedule. My understanding of design and interfaces comes from gut instinct and what I think is pretty. I know a little bit of a lot of things but I can't say I'm great at anything. But how am I meant to hone all of these skills at the same time? How can I choose grad school or not if I can't even decide what I want to do with my life?

Today I've learned that a lot of grad programs don't require GRE results for their applications. Phew. Although... I don't know why I seem to think that is the hardest part about applying to grad school. Hah!

The real struggle with research – knowing when to give up

Posted on [July 11, 2013](#) by [lanyab](#)

I have spent the last two working days fighting against eight lines of code for two different parts of our project. First problem: The menu system has been set up but I need it to draw in front of the shapes that we draw in our application. In order to do that, I thought I would just set the `GL_DEPTH_TEST` off so that all the objects draw in front of whatever has already been drawn. Whelp, that causes an entirely new object to magically get created and get flipped over the y-axis so that when I try to change the alpha layers, I get something beautiful like this: (can you hear my sarcasm?) The menu was working perfectly! And it was so beautiful!!!! What happened?!

[image to come]

The second problem is that for selection, since just making the objects transparent isn't enough of a marker, we wanted to implement wireframing. This should be three lines of code that translate perfectly from C++ to lua. Unfortunately, it doesn't. I get errors whenever the string enums are used because juggle doesn't recognize them and when I use the numeric enums, I don't get a single enum but the code also doesn't do anything. Womp, womp, womp.

So two days later and three mentors helping me later, I am still here scratching my head. But I think I am learning a valuable lesson. Sometimes, things don't work out. And especially with our limited time frame, I need to learn when it is time to move on. Patrick gave me work around code so that the objects will be outlined with a ugly white line. It's really ugly. But you know what? It works. We can also just make the menu come forward over the other objects

because there has to be some bug in the underlying code somewhere. Is our solution elegant? Not at all. But will it work...probably.

And I don't really regret the past two days of struggling through something that just isn't working out. Do I wish that I could have come up with these solutions that work during those two days? Yup. Do I wish I could have dumped my plan that I was trying to force to work for a new path? Yup. But it's all part of the learning lesson and I think I should be thankful I only spent two days before realizing this.

Anyways... when I get some of my other work done, I can always try again. Heh.

Lalala fourth of july

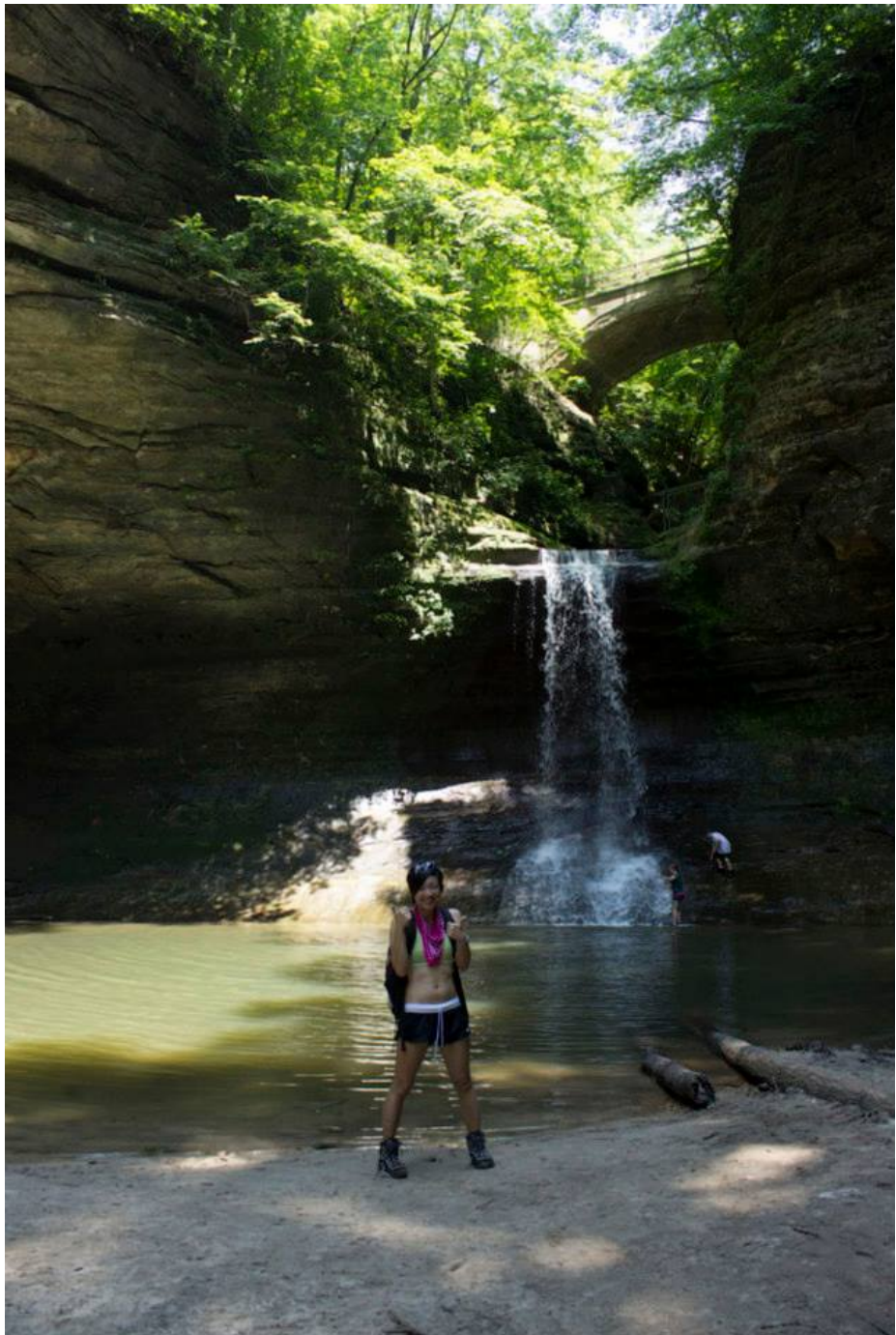
Posted on [July 9, 2013](#) by [lanyab](#)

I am always nervous about spending money. It's a characteristic, I gratefully accept from my mother. So I had to push myself to spend money for a four day road-trip camping adventure, not because I wouldn't love to go but because of the cost. I am so thankful that I did. Not to say that I won't be able to do fun things when I get thrown into "the real world" but I don't think that I will have the same blissful freedom that I do now. Possibly later today, I will write a blog post about my confusion about my future. In any case, the four day Iowa >> Illinois >> Indiana >> Michigan adventure was a great success.

I got to carry around a beautiful Canon Rebel T3i that i rented from ISU and take lots of pictures of friends and weird things we encountered along the way. Some of the highlights were running around the waterfalls around Starved Rock State Park, ending up camping next to a Motocross championship, and meeting Liat's friends from another REU.

Since pictures are worth a thousand words (har, har, super corny I know), here ya go 📷







Presentation time!!

Posted on [July 2, 2013](#) by [lanyab](#)

Yesterday, we had Ethics class with Elliot where he talked about the variety of input that comes into making a decision. It was one of the more uncomfortable situations I've been in since I got here but also a good reminder that everyone comes from different backgrounds and experiences and thus have different opinions. This is how it will be in the real world. I appreciate that he approached the topics so openly and candidly. I am excited to see what kind of discussions we get into next week.

Today, we have our presentation for Vancegroup! I feel like we have done a good job of preparing but I am still a little nervous. I keep getting caught up on my first slide but then from there it has been smooth sailing. Thanks to Meisha, Rafael and Lisa for giving us great feedback this morning!

Ledges State Park and Progress

Posted on [July 1, 2013](#) by [lanyab](#)

This past weekend, we went to Ledges State Park where we went through some easy hiking trails. It POURED. At one point, we had eight people hiding under two umbrellas, trying to protect our various electronics. I learned that the new DSLR cameras have some water resistance to them (although I don't know how much I would trust it...). I re-learned how to skip rocks and generally had a good time. ☼

The menu's for the demo are pretty much complete! It was a little bit of a hassle switching over to using the actual configurations (we're testing with one handed hydra and hydra head tracking) from using mouse + keyboard input

but in any case, it is done. We have been scrambling to find suitable articles for our lit review. Our understanding of how our paper and demo go together has changed over time and a lot of the articles were more about the demo rather than exploring the different low cost VR configurations but I think we're finally on the right track. We also made good progress this morning with our methods section. We have to really start preparing for our presentation! We present tomorrow in front of the Vance group. Eep.

Song of the day: Madeon – [Finale](#).

UX and Mid-summer check in

Posted on [June 26, 2013](#) by [lanyab](#)

I can't believe it's already almost July! Today, we had a few hours to work on our projects before going to our luncheon lecture. Since our guest was sick and couldn't make it, we had Pam who came to talk to us and check in about our impressions of the summer so far. I really appreciate how people here are really looking out for us. After lunch, we had our HCI class in which Chase talked to us about User Experience. Tonight, we get to go to The Spice. I am so excited for Thai food!! 🍛

Diving into our app

Posted on [June 25, 2013](#) by [lanyab](#)

Saturday was a ton of fun because we woke up super early to go to the farmer's market in Des Moines! It was huge! I got a block of cheese and got to taste a lot of yummy samples.

Yesterday, we started off with Stephen giving a talk on how to give a good presentation. I really enjoyed his examples and felt that I picked up a few good tips!

We are finished with our classes and are now diving into our projects. I have been working on setting up a menu so the user can select shapes and colors. I am having a lot of trouble with understanding the various coordinate and view systems. I'm so used to working in 2d with images that I find myself thinking in pixels and getting confused about vectors. I've run into a lot more roadblocks than I expected (even things like getting maya models compatible with OpenSceneGraph!!) but I think I'll slowly hop (crawl?) my way over those.

The one thing I felt good about today was that Connie and I got together and thoroughly talked about the controls for our application. We ended up using all of the buttons on the hydra (about 8 and the control stick). I think that we organized the controls in an intuitive way that people will pick up quickly due to muscle memory but I could see that many buttons being pretty intimidating. This just makes the menu and the few other visual cues we are implementing all the more important!!

Google glass and why I photograph.

Posted on [June 21, 2013](#) by [lanyab](#)

Today was our last day of modeling class. Unfortunately, I wasn't able to really concentrate. I am excited about our final project though! Our group decided to create a hydra (the mythical creature not the game control). We'll each create a head and be able to show off our own personal styles but then will have to come up with a creative way to combine it together (just like we all have our individual personalities but come together to form a group!).

GLASS



This morning, Stephen walked through sporting a shiny new pair of google glass and I got very (possibly overly) excited. This is the third setting in which people have casually been around me with a glass on but the closest I've been to maybe being able to try them on. As a lot of my friends have stated, google glass might not catch on. Every time someone is wearing them, heads turn. It's not subtle and you look like a weirdo (some may even say pretentious). You wonder, what is that person wearing around their head? Cool electronic accessories draw attention and not necessarily in a good way. But I'm going to try explaining why I get so excited over google glass and why you could be too.

Since I was young, I've hated to be alone. Maybe it's because I'm an only child with an attention span shorter than a butterfly's. I'm that kid who would eagerly chat up the bar tender while my parents sat in a booth far away talking about serious adult stuff. I'm also that kid who would run up to other children at the beach, smile wide, and introduce myself, "Hi! My name is Lanya. L-A-N-Y-A. Want to play?" The stories, as my parents love to remind me, go on and on.

As time has gone on, my affectionate energy has been channeled into my photography. Now, as an adult (hah, adult), photography gives me an excuse to approach random people on the street "for the sake of art." More often than not, I get approached by random people who are curious about my projects. But more than just an excuse to interact with people, photography has become my visual diary. A photograph is a visual diary of people, places, and a moment in time. And for someone as high-energy and easily distracted as I am, photography allows me a peaceful moment of reflection.

A photograph will never fully be able to reflect real life. The image captured in light gets bounced through a series of mirrors onto a two-dimensional plane. You will never be able to interact with a person captured in a photograph. The moment a photograph is taken, it has already become a part of the past. With the development of smart phones, it is easier and easier to have photographs that show "every day" life but you still hide behind a chunky piece of metal. You still might miss opportunities to capture a beautiful moment because you're busy looking for your phone.

Google glass offers an incredible opportunity in photography because the image you are taking, is what you are seeing. There is not tiny glass box to look through and no bulky pieces of metal that get in front of your face. You are directly facing and interacting with the scene that you are photographing. The photographer is exposed to the world. Google glass isn't perfect and it may not catch on. But to me, it suggests an incredible change in the method and purpose of taking photographs.

edit: After getting to try on the glasses (Thanks Stephen!!!), I am even more convinced about how awesome these are. Sure, it took a little bit of getting used to but I was pleasantly surprised at how little the screen distracted from the line of sight. It was really amazing that the photos took what you looked at and there was barely any time or way to focus on a specific frame to pre-plan the shot. I am looking forward to seeing how the photos and videos turn out. There didn't seem to be too much motion blur from what I could tell, even when I was moving around and taking video. I do think they have a learning curve to getting used to them though. Having to tilt your head up all the time when it goes blank looked pretty unnatural.

Creepy faces and true grad student life

Posted on [June 20, 2013](#) by [lanyab](#)

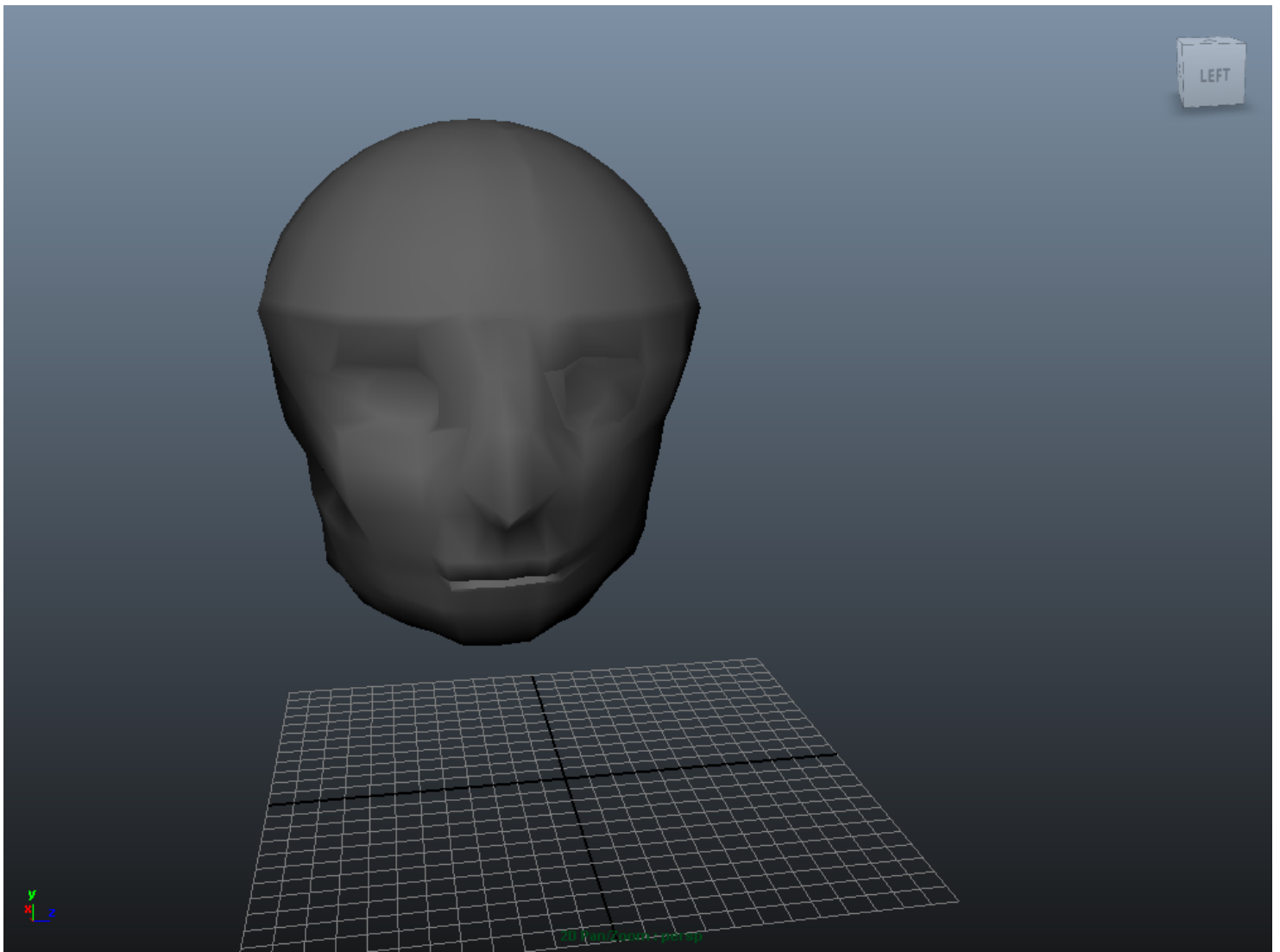
Yesterday, we got to sit into Jordan Herrema's Defense of his masters. It was particularly interesting to hear his results because most of us interns participated in his user studies. I was a little surprised at how few people he got to participate in his study but I also remembered back to how much time it took to do his experiment. It must have taken a lot of preparing and planning.

We also had a short HCI class where we talked about some bad user interaction designs (such as doors that you expect to pull that you have to push).

Our evening activity was the driving range where I took a lovely nap among the gentle whacking sounds of balls being hurtled across a green lawn.

This morning, we had our second to last modeling class. I really am disappointed that I can't spend more time modeling. Rafael was telling me that if I have time (sigh), he'll teach me how to texture the models. I really want to learn at some point. The more I think about it, the more I feel that there may be a place for me in the game industry with my background in art and programming. At the same time, this program has taught me that there are a lot of other places I could fit in!!

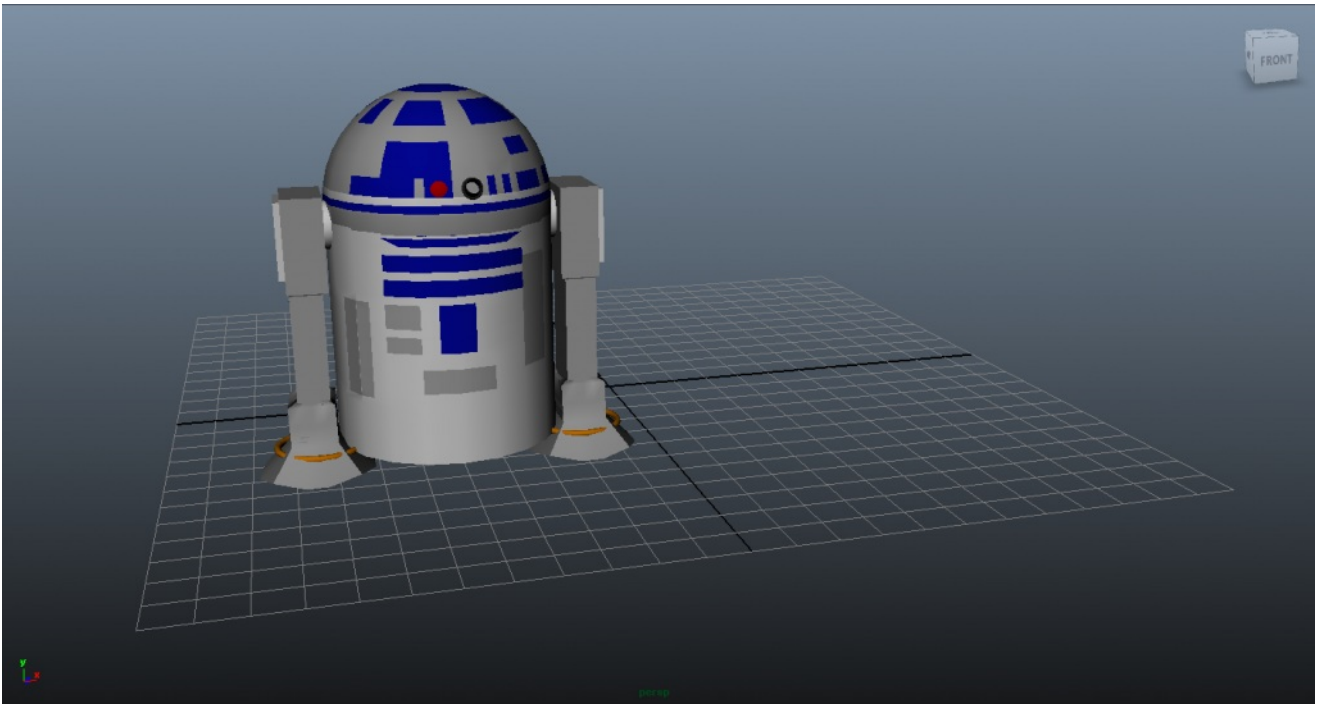
Here is my super creepy head.



R2D2 and indie games

Posted on [June 19, 2013](#) by [lanyab](#)

Today in modeling class, we learned about how to put in fine details into our models with techniques such as splitting up the faces to add more polygons or chamfering the vertices. We were assigned to create a character for which I modeled R2D2. I would have liked to spend more time on it but I decided to limit the amount of time I would spend on it so that I can keep focused on our main project. I definitely hope to do more complex modeling in the future though.



The coolest part of class today was that Ted Martens, our modeling instructor, revealed that he is an indie dev and artist! He talked a bit about working as an indie game artist and showed us some of his work and the games he has worked on. He also encouraged us to attend Game Developers Conference (GDC), which takes place in March in San Francisco. I hope to volunteer next year and maybe run into some of the SPIRE-EIT interns there too!

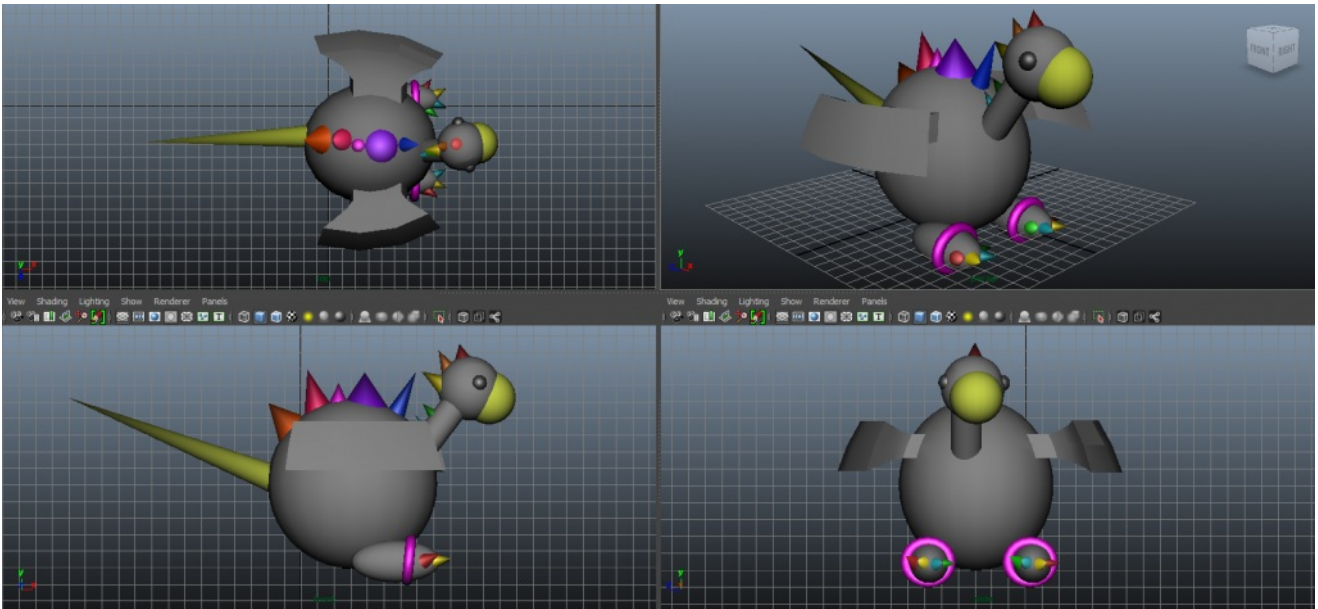
In other random news, I also discovered that an acquaintance's brother is co-creator of the Oculus Rift. I guess this just proves that networking is incredibly important because you can find random connections anywhere!

A wild Dinoracken appears!

Posted on [June 18, 2013](#) by [lanyab](#)

Yesterday afternoon we all went to the water park and splashed around. The weather was beautiful and sunny and it heated up just in time for us to go. It was a relaxing way to start off the week. I really appreciate all of the the hard work and planning that goes into these recreational activities!

This morning, we had our second modeling class where we learned some new tricks including extrusion. Our assignment was to create an animal. Here is my creature...



The mystical Dinoracken (Dinosaur/Dragon/Chicken), easily identified as cousin to the Mantis Shrimp by its distinct scale colors, lives somewhere in the corny fields of Iowa and spends its time chasing down bunnies and eating chocolate chip cookies. It can easily be identified by its distinct mating call.

For our luncheon lecture, Connor Schenck, a masters student in developmental robotics came and talked to us. Although I've studied a little bit about robotics, I had never heard too much about the developmental side so I was excited to hear what he said. This afternoon, I hope to get the Kinect set up and continue to work on our project.

French toast, trampolines, and Snowmen!

Posted on [June 17, 2013](#) by [lanyab](#)

This weekend, we did a lot of group bonding. A bunch of us got together and made fish tacos on Friday night, then got up the next morning and made french toast. I didn't know that they had thick bread (as they have in Japan) in the US! Apparently this type of bread is called Texas toast because it is popular in Texas and surrounding states. I still think the name is funny because people were calling it "french toast" bread. But I digress.

After french toast, we all hopped in our huge vans and went to Skyzone! I had a ton of fun flipping around. I was really worried that I would be too scared to jump and really have fun or that my knee would give out but I ended up having a great time and managing some front flips! Then, sweaty and exhausted, we headed to Trader Joes (to the delight of Connie) and then back to the apartments to make spaghetti.

This morning, we had our class on Maya and 3d modeling. I played around a lot with colors and lights! It was a lot of fun. Here is my beautiful snowman scene (with unknown furry creature).



I'm still a little frustrated at how we don't have any time for our real project but at least even that we are slowly making progress (one permission problem solved at a time).

Song of the Day: [Diamond Thrones \[Rihanna vs. Game of Thrones!\]](#)

Balloons and Autonomous Cars?

Posted on [June 14, 2013](#) by [lanyab](#)

Yesterday, I stayed late to work on our Graphics course final project. We are trying to create a mini-game where balloons will randomly be generated and float up at different speeds. The objective of the game is to pop them. I want to make the balloons look moderately realistic and have some shine and color. So far, I've got the lighting working but am struggling to work with the materials.

We had a hilarious discussion about animals yesterday in our Crafts of Research class, which admittedly was a lot of me shouting that manatees and mantis shrimp are the best...

Today, we got in a lot more of an intellectual discussion about autonomous cars in our Journal Club. I was surprised that for a techy group, people are pretty hesitant about autonomous cars.



Why mantis shrimp are (arguably) the coolest animals :http://theoatmeal.com/comics/mantis_shrimp
Song of the day: [Racer](#) by [Giorgio Moroder](#) (aka the google chrome experiment song)

Light Painting and Ponies

Posted on [June 13, 2013](#) by [lanyab](#)

Yesterday night, we had our group light painting activity! I gotta admit I was tired and dragging my feet a little bit but it ended up being so much fun! We had a ton of fun goofy moments and I got to swing some light sticks around 🌈



Today, we had a Jared Danielson, a professor at Iowa State who teaches and researches HCI in the context of Veterinary medicine as our Luncheon Lecture speaker. I thought it was so interesting to hear about how HCI works in a really sciency field that I don't know anything about.

Song of the Day: [Sean Paul yo](#)

Reflecting on women in STEM and Leaping forward

Posted on [June 12, 2013](#) by [lanyab](#)

Judy Vance (Our project mentor!) was our Luncheon Lecture presenter yesterday. She went over all of the cool projects that she is mentoring (haptics, immersive VR environments, and so on). I really appreciated her insight in being a women in the STEM industry. Since we have such a large majority of women in this REU group as well as my school for comp sci, I sometimes forget that the trouble that women in the industry talk about are still real. I'm glad that she acknowledged that being a woman has also given her unique opportunities. I sometimes feel that women in the tech industry just drone on about how awful their experiences are. It is discouraging and a cycle of negativity. But as much as I hate to admit it, even this NSF program is to help minorities (including women) get experiences they otherwise wouldn't get. So it's a blessing and a curse, I suppose. So although my classmate's, "You only got the REU because you're a girl," was infuriating, there is some truth to it that I need to acknowledge. I really do love the group of students who have gathered here because of the diversity. As corny as it is, we bring a lot of unique experiences and interests to the table. I think we all work together well though. Craig and I have a good laugh at least once a day because of our differences in interest with coding. I love making things pretty and he really enjoys the math and technical aspects behind it.

Yesterday, we met with Dr. Vance and Meisha and had a group meeting. We finally brainstormed to have real ideas to get started on our project. I have been feeling a little uncomfortable because some of the other project groups have jumped in and are already panicking about their work while I felt like I was sitting around doing nothing. However, this has all been figured out and today we got an okay from Meisha to get started with our project ☺

Song of the Day: [I can't get this out of my head Jose!!!!](#)

Frolicking through fields of... dog poop?

Posted on [June 11, 2013](#) by [lanyab](#)

Yesterday was a very slow moving day. I read through journal articles and tried to work on understanding JuggLua. I had trouble concentrating because I was tired and really needed to move around. I ended up eating a lot of sweets at lunch and bounced back though.

It was the first really nice day since we got to Ames. The group went to Ada Hayden park and had a cook out. The highlight of my day was getting to run around and play ultimate. I was glad that people who were hesitant to play jumped in ☺ Yesterday Kayla directed my attention to a poster that said that there are pickup games on Thursdays and Fridays. I am excited to go check those out. I hope that I don't get intimidated and maybe if I play for the rest of the summer, I'll have enough confidence to play with the team at Colby. I feel great about how much exercise I'm getting this summer. Maybe it's because I spend so much time sitting at a desk all day. Anyways, back to the cook out. I think we all had a great time, albeit the dog poop.

the usual life and catching 'bees

Posted on [June 10, 2013](#) by [lanyab](#)

Friday was a pretty typical day. We had our last day of programming class and then had journal club where we talked about a popup 3d coloring book. It was a weird paper where they talked about its educational uses but the focus of the paper was definitely the technical aspects. I was exhausted by Friday afternoon when Meisha had us participate in a user study. Right afterwards, we got into groups and talked about our project some more. Apparently today we'll get to play around with the Kinect a bit. I am a little worried because I feel like our group hasn't gotten a start on our project while everyone else has already jumped in. I'm sure once we get started we'll be charging ahead too though.

On Sunday evening, we had a picnic with all of the other REU programs on campus. There were groups researching molecular biology, energy, math and so on. We started a game of ultimate, which was a ton of fun!

This morning, we had our first graphics class. The OpenGL we did today was very similar to drawing in python's turtle graphics package, which was what the intro cs class at my school works with. I spent most of my time playing around with color gradients. I can't wait to get started in 3d AHHHHHHH.

[Real-time 3d modeling and screaming goats.](#)

Posted on [June 7, 2013](#) by [lanyab](#)

Yesterday, Nik Karpinsky came in for our Luncheon Lecture to talk about his research on 3d modeling for real-time scanning. I had never thought about teleconferencing particularly needing a lot of work but he made a point that whenever we skype, we can never actually have direct eyesight because the video camera is mounted above the screen. We continued to talk about this at lunch today.

Our group has continued to make progress with the game. I got the ASCII art all figured out this morning so we will have beautiful art.

Today at lunch, we showed Franceley the screaming goat music videos. I love the Taylor Swift one but by far the best screaming goat video is...

Song of the day: [What do you think?](#)

[Space, Staplers, and Stuff](#)

Posted on [June 6, 2013](#) by [lanyab](#)

Yesterday, we had another day of computer graphics. I learned about structs, dynamic memory and other things that I only had a vague understanding of. We had a short homework on making planets a struct and then putting them dynamically into an array. I had it mostly figured out except for pointers. Gah, pointers. Then, over the course of the next four hours, I on and off tried to figure out what was wrong with my program. As it turns out (Thanks, Craig), I was missing a semi-colon. Well, humph.

I got a start on the main function for 'Sole Sweeper, our programming game project. I eventually need to integrate with Craig and Connie's sections of code but I think that will go fairly smoothly.

I finished up the reading that Meisha (our grad student mentor) had given us and found another paper on using the Kinect for navigating Google Earth. I'm going to read it today and see if it might be helpful for our project.

Last night, we went to the movie theater. We ended up splitting up to see Great Gatsby in 3D, Fast and Furious, and Iron Man 3. I saw Gatsby in 3D, which admittedly was pretty weird. I haven't seen a 3D movie in a few years and only for action movies. I thought it was a great movie over all (I got pretty immersed into the world) and the 3D

effects weren't bad.

Oh, also I found a stapler on our desk, which was exciting.

Song of the day: [click](#)

For Loops, Giant Cookies, and the Future *dumdumdum*

Posted on [June 5, 2013](#) by [lanyab](#)

Yesterday, we had our second day of programming class. I felt comfortable with the material. At 11:00, we had our first luncheon lecture, in which James Oliver, one of the directors of VRAC came and talked to us about how he got involved with VRAC and outlined his own career path through life. I thought it was really interesting that he said that getting a PhD doesn't hold you back from an industry job (since that is an idea that I think a lot of people have/have had). I also enjoyed that his career path wasn't linear and he has bounced around with a lot of different careers. I hope to take his advice and go for some crazy entrepreneurial job while I am young. I also hope that my career path ends up as nicely as his did ☺

In the afternoon our project group met up with Professor Vance and got to go play around in the METaL (Multimodal Experience Testbed and Laboratory). It has three sides and only one projector for each wall, unlike the C6 with six sides and four projectors per wall. Some past undergraduates students had modeled a Hogwarts (with Ron, Hermione, and Harry) that we could walk through. Pressing the triggers on the wii mote that we were using to navigate through the scene allowed us to draw in 3d space!! We had come up with a similar idea for our own application. I hope that we can get an equally cool (or even cooler!) application for our demos. I definitely hope to expand upon what we already know is possible in these VR environments.

JuggLua and more climbing!

Posted on [June 4, 2013](#) by [lanyab](#)

Yesterday, we had our first programming class. It was pretty straight forward but It was nice to have some time to get used to using new programs and computers (Windows and Microsoft Visual Studio!!). We had lunch at the UDCC (the salad was delicious) and met in our project groups in the afternoon. Miesha had us go outside because (finally) it was such a nice day out. We brainstormed the different applications we want to build as part of our project and had a brief introduction to VR JuggLua.

Our group bonding activity for the day was going to the State Gym. Liat and I sat outside for a little bit to digest before going inside. The gym is pretty large and we spent a good half an hour walking around looking for people. I had an awesome time rock climbing at their bouldering wall 🧗

Spider webs, flying, and Myers Briggs tests, oh my!

Posted on [June 3, 2013](#) by [lanyab](#)

On Friday, we had our first journal club where we talked about the differences in class room behavior between men and women. It is interesting to note that we have 8 girls and 4 boys in our program, which is pretty unusual for a STEM program. I wonder if it is weird for the guys to be in the minority. We also read a (arguably) badly cited robotics paper and learned the proper methods for reading an academic technical paper.

In the afternoon, we talked about the Myers Briggs test that we had taken earlier in the morning. Not so surprisingly, I was the only extrovert. I think I had already figured this out from just being around everyone but it was nice to have a moment to reflect on the different personalities that make up a team. Now I just have to make sure that I stay out of peoples faces ☺ I finished up my user study and then played around with Maya for a little bit.

Saturday was the big ropes course day! I loved the pendulum swing thing. I wish that I had been able to flip upside down but it was super cool seeing the world fly by. The spider web challenge (in which we had to get all of the people across from one side to another through a “spider web”) was the hardest. We needed a lot of team work and communication but we got everyone through! Another highlight was the climbing wall. I didn’t feel comfortable actually climbing the tower but enjoyed helping people to climb the tower and to teach proper belay techniques. Shout out to Craig and David for being spiders. I definitely want to start climbing again. I miss the sport a lot and need to get over my stupid fear of heights!

edit: Also, would like to include a shout out to Christian for being a monkey, Jose for being a squirrel, and everyone else for being awesome.

ps. It was awesome to see what everyone thought their spirit animals were. Some of them definitely fit!

So it begins...

Posted on [May 31, 2013](#) by [lanyab](#)

Our every day schedule has been packed so far with tours and introductions to various aspects of the program. Although I was worried about how strictly scheduled our time is while I was applying to various REU’s I think that it will be beneficial for me. I am excited to fill in the gaps in my knowledge about C++ and learn graphics programming as well as 3d modeling.

Yesterday, we got together with our research projects. My group, the Interfaces for Virtual Reality, gathers in the haptics lab. We got to see a cool stereo head tracking display demo that used tactile feedback to help the user connect pieces of a puzzle together. We also got to see a part of the head mount for our project being printed in 3d. I am looking forward to working with my team to put together a really cool demo for the research symposium at the end of the summer.

First Day at Iowa State!

Posted on [May 30, 2013](#) by [lanyab](#)

Yesterday morning we went through a lot of necessary administrative tasks like getting access to the VRAC lab, setting up our Iowa State emails, and getting a general orientation for the program. During the afternoon, we had a team building exercise involving spaghetti and gumdrops. We had to work in our project groups to build the tallest tower possible. Our group communicated well but rushed in and because of the time pressures, our tower couldn’t support itself. I’m not worried about the group dynamic in the next few weeks though.

In the evening, we participated in a user study of some of the graduate student projects. It was nice to get an idea of the kind of projects that students at VRAC work on. The experience I participated in had some hardware issues. I’m going to be honest, it was a relief to know that graduate students run into the same kinds of problems we might in our projects.

I can’t wait until I get in the swing of things and don’t have to worry about little things like navigation so I can dive into working on our research project!