

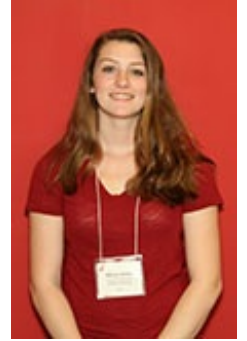
Allison Smith

 projects.vrac.iastate.edu/REU2015/

What I learned at this REU is.....

Posted on [July 31, 2015](#) by [asmith4](#)

Well, it's over. We just had our symposium and it was a lot of fun actually. Everything went really well and it was a nice experience. There were a lot of posters there that didn't really interest me, but there were a handful that did. Only two of those had their authors there so I talked to them. One of them was studying nanotech in Wisconsin and he worked on additive manufacturing user lasers this summer. The other person I spoke with is transferring to ISU and he worked on detecting faults in heat sensors. I am glad this is over, but just as sad. I am so blessed to have been here and to have learned so much this summer. My brain definitely did not rot away. I had an amazing team to work with, and all the other interns were just as amazing. I am looking forward to doing another REU and pursuing a career in research. I also can't wait to present the research I did this summer to my fellow students and faculty at my school. Moral of this REU: make as many spongebob references as you can in life.



I also just want to say thank you to everyone who made this experience one to remember: Fellow interns, Eliot Winer, Stephen Gilbert, Anna, Desmond, and all the graduate students who taught us classes or gave us lectures, and all the faculty.

Thankful Thursday: T minus 1 day

Posted on [July 30, 2015](#) by [asmith4](#)

With one day left, I am certain that I have gotten the most out of this experience that I could. Yesterday I received some incredible news that made me so proud of my accomplishments and really made this whole experience worth it. I am so thankful to have had this opportunity to come here to Iowa. I got out of my comfort zone, was able to learn about the graduate process, expanded my knowledge about a variety of things, and was able to network with some amazing people (faculty, mentors, and co-interns).

Last night we played some more card games. I taught everyone how to play rummy, and then we played my Super Munchkin game. I finally won a game of hearts too! woo! This morning, we finished up our paper and sent it to our mentor for him to read before we submit it. Now it is just preparing for tomorrow. I am super proud of our team and everyone else here and what we all have been able to accomplish this summer.

Full Day of Writing

Posted on [July 29, 2015](#) by [asmith4](#)

Last night was spent playing different versions of Munchkin.. These games get so intense but they are a lot of fun! Good thing I bought my own Super Munchkin game. I can't wait to see how my family is while playing it and my friends at school. Today is being used to finish up our article. There's still a bunch to write, but we are getting through it. Hopefully someone will be willing to peer review it for us today at some point or even this evening, depending on when we finish it. Tonight I need to start packing... :(and then hopefully we can play more card games. This group of people is so much fun, and I'm going to miss just being able to get people together to play games. Anyways, back to work!

The Last Luncheon Lecture

Posted on [July 28, 2015](#) by [asmith4](#)

Today we had our last luncheon lecture and our speaker was Dr. Daniel Spikes. His talk was so empowering because he had such a strong story behind what he is studying. I have a passion for what I want to research, but not a personal connection to it (or at least not yet). This was definitely a great last lecture to have. He also gave us advice about the application process for graduate schools and for contacting professors that we have an interest in working with.

My team and I still have a good amount of work to do before Friday so I am getting back to work.

The Last Weekend

Posted on [July 27, 2015](#) by [asmith4](#)

This weekend was a lot of fun! On Friday, most of the squad went to Indianola for the Hot Air Balloon Festival. There was a live band that was really good, and then after the festival we went for ice cream. We then proceeded to take a car-tour of Sarah's college, and then stopped at a playground. It was definitely an adventurous night. On Saturday we went paintballing (yayyyyyy!!!) and it was so much fun! I had always wanted to go and it was definitely worth the pain and almost passing out. My bruises are huge, but that's fine by me. I did get hit in the knuckle though and that seriously hurt. Later that night I watched Anchorman finally, but I fell asleep..... I was so tired from paintball. On Sunday, my team and I came to VRAC to finish our poster and then later, I played some smash bros and learned how to play Munchkin (Adventure Time themed). It's a pretty awesome game.. I might have to buy one for myself.

This morning we worked on our paper a bit, and started planning for our REU reunion next summer.. I cannot believe that we only have 4 more work days.. Better get back to work!

9 weeks later

Posted on [July 24, 2015](#) by [asmith4](#)

Today we received our letters that we wrote to ourselves 9 weeks ago about what values were important to us then. My values from then are the same as they are now. If anything, my decision of valuing these things in my life was strengthened. My family has always been, and will always be the most important thing to me. My education is a close second. I would not be who I am without it. It is how I define myself, and I am so proud to be female in the science/math/engineering world.

This morning, we finished our testing for our research (hopefully). Now we just have to analyze all our data, and draw conclusions. I am hopeful that everything will get done, but our posters need to be submitted by Monday morning at 6 am, a.k.a Sunday night. Off to work I go.

10 days left...

Posted on [July 22, 2015](#) by [asmith4](#)

...That is crazy to admit, but this experience is almost over. Not going to lie, I am ready to go home, but I also have really enjoyed my time here and will miss it. I forgot to mention in my previous blogs this week that I have participated in a few research studies. One is for a grad student, one was a pilot test for Affect-Aware, and I will have another today for Detecting Threat since they got their IRB approval, yay! Also, on Monday night, we went bowling which was pretty fun.

Also on Monday, we built our computer (I may have mentioned that yesterday, but yay).

Today has been spent finalizing our Intro and Methods, as well as fixing up parts of our poster. We have a lot to do, so back to work!

Busy, Busy

Posted on [July 21, 2015](#) by [asmith4](#)

This past weekend, on Friday, we played some video games and relaxed a bit. On Saturday, I finally went to the water park with Alex, Maya, and Ogue, and then that night we played some card games which was fun as usual. Sunday morning, I went to a lake with Mak, Alex, David, Sarah, Gabe, and Ogue, and we played some frisbee to warm up because it was a little chilly when we got there. Later on I rented a hydrobike which was pretty fun. The weekend was pretty fun, and it is crazy to think we only have one more weekend left.

On Monday, my team and I experimented basically all day. We finished our tests for the wooden ball, and the tests for multiple metal balls. We did not do multiple wooden balls yet just in case there is no significant difference between a single steel ball and a single wooden ball. After we got back to VRAC in the afternoon, we built our computer, yayy! That was an interesting experience, and pretty cool.

Today's luncheon lecture was very entertaining. We had two speakers, Dr. Rover, and Dr. Gentile. It was nice to hear from Dr. Rover because she worked on embedded systems, and I just get excited when I hear about electrical engineering things, especially when I understand them, which I did. Dr. Gentile is a psychology professor and it was more of a discussion than anything else. He studies the effects of violent video games on children and we heard some pretty cool information.

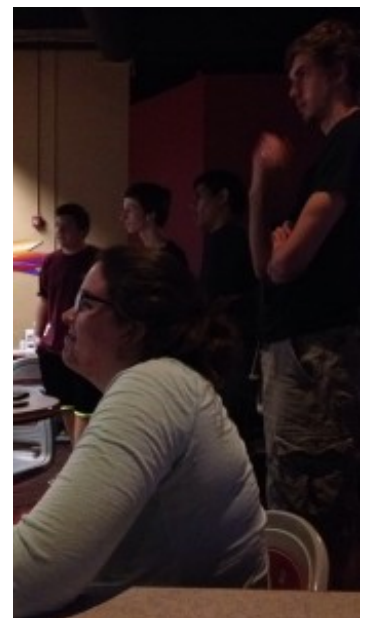
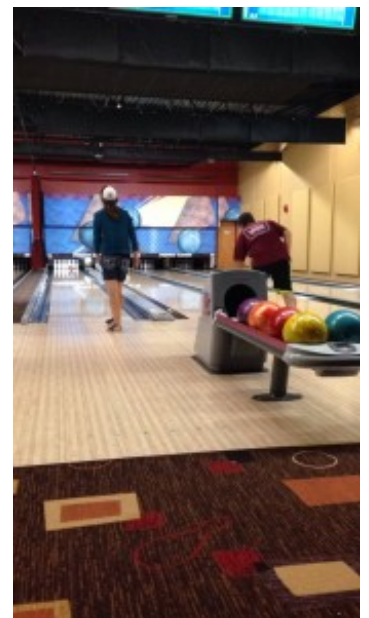
Science Center of Iowa

Posted on [July 17, 2015](#) by [asmith4](#)

This morning we went to Des Moines before coming in to work. We went to the science center and got a tour of the facility from the CEO. It was a really great opportunity. They have a lot of different exhibits there such as: nano materials, a planetarium, and a bunch of different activities for kids. They also have a preschool there at the science center, and the CEO mentioned that they teach the preschoolers how to code using a program called BeeBot. Overall it was a really cool experience, and now we have Journal Club, where Detecting Threat will be presenting. Hopefully I can relax a little bit tonight.

Busy day

Posted on [July 16, 2015](#) by [asmith4](#)



Yesterday afternoon, after the video conference, my team and I worked to get our abstract done and our poster. We ended up staying until almost 6, but that was ok. This morning, I came in early again at 8:30 to convert our videos from testing to individual frames, and then recorded some information. We worked this morning on editing our intro as well, and then we had another luncheon lecture. Again, it was very informative and it was cool to hear about someone's experience that is in industry after getting their masters. We have Craft of Research at 2, and then building a computer part II later tonight and them smores!

One Presentation Down...

Posted on [July 15, 2015](#) by [asmith4](#)

... One more major presentation to go! Today's video conference with USC was really cool. I was nice being able to explain our project to other people outside our REU program, but it made me a little concerned because no one had any real questions for us, which made it seem like it was too hard to understand, or it was a boring presentation. This is something I want to work on in the future. One project that really stood out to me from the ITC REU was the Holocaust Hologram. They also used Kinects, but they used them to track people's positions around this hologram and then calculated the projections according to that. It was pretty awesome to see what other research has been going on this summer that involves the Kinect. The other project that interested me was the one about redirected walking. I read about it briefly in an article, and it still amazes me (possible research interest??).

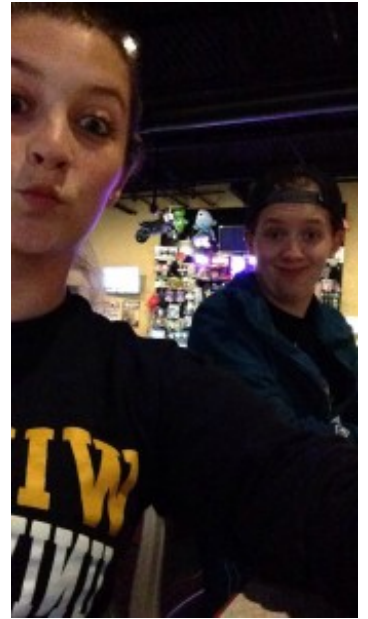
The stress has not yet gone away, because it is 4:30, and today was used for nothing besides preparing for this presentation, and now we only have tomorrow and Friday left to get so much done. We still have to write an abstract for tomorrow's CoR class, our poster draft is due to our mentors today, I need to post in the CoR Keywords google doc, email Anna my useful writing product, and our Discussion/Conclusion section is due by the end of the day on Friday. On top of this, my team and I need to continue reading, do physics calculations for our first condition, create a latency graph for our final poster, start accuracy calculations, and test for our second condition. So much to do, with so little time.

12.5 Work Days to Go

Posted on [July 14, 2015](#) by [asmith4](#)

My title kind of scares me. I feel like we still have so much to do, but I am confident that most, if not all, of it will get done. We may have to stay late some days, but that was expected from the beginning. Yesterday morning, we worked on our poster and presentation, and then after lunch we got feedback from everyone on our presentation. It was all very helpful, and we made those edits this morning. After we presented, my team and I went to the lab to test a new method. Instead of displaying the video output of the Kinect, we decided to display the frame number of the Kinect because it would be easier to back-track and find the time difference in terms of frames. We are all very hopeful for this method, and we will discuss more at our team meeting today. Also, I created a Solidworks model of our experimental setup for the positional accuracy so that we could put that in our powerpoint for tomorrow's presentation as a visual so people may be able to understand better.

MOA:GROUP01 ALLIE + JUSTIN + MAYA + NANCY + OGUE



Posted on [July 13, 2015](#) by [asmith4](#)

Example of bad UX – The words overlap the picture, even though there's plenty of space for the words.

Example of a good UX- this reminded us of the MiRAGE because it tracked the different pieces and gave you hints about how the puzzle went together.

Example of bad UX – This tower is wobbly and likely to fall over. You also have to move the top game in order to pick a game from underneath.

Example of good UX – Although Urban Outfitters is extremely expensive, their floor plan was set up very well. There is plenty of space to walk, and it is light and bright.

Example of good/bad UX – This is a picture of one of the diagonal crosswalks. This is good because a diagonal is the fastest way to get from one end to another, but if you want to go to a store directly across, then you have to backtrack your steps anyways. MOA has both diagonal and straight walkways.



Comparing to the essay:

- It was super crowded and people kept bumping into other people
- We enjoyed it even though it was crowded
- A lot of overpriced items

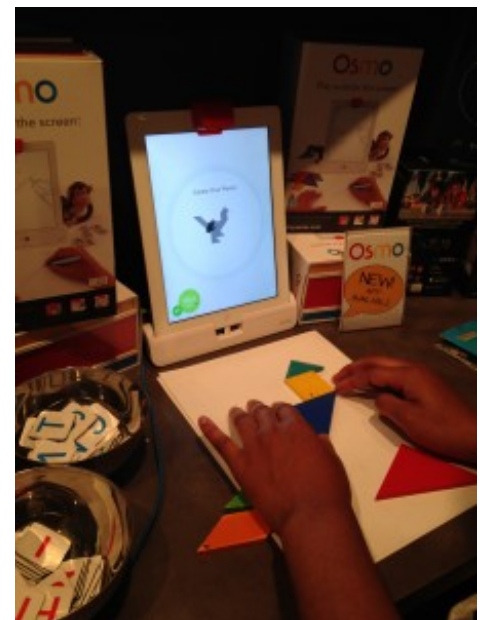
MOA:GROUP01-FUNCTION

Posted on [July 13, 2015](#) by [asmith4](#)

Floor 1 near Starbucks

Floor 2 outside of Hardrock Cafe

Nancy ditched me, so Floor 3 with Ogue and Justin



How can the Kinect project help in a place like MOA?

- A networked system of Kinects could be set up in stores to track people and make sure they're not shoplifting.

It's Friday?

Posted on [July 10, 2015](#) by [asmith4](#)

Wow, this week has flown by so fast! I'm not ready for this week to end though because that means we only have 3 more full weeks until we leave. This week we recorded multiple videos for our experiment, but this weekend/early on Monday, we need to determine if they are useful. I am worried they are not because when the video was playing

frame by frame, I could not make out where the ball was on the output of the Kinect on Justin's laptop. This morning we went right to the lab to do a few quick tests, but each test only take a minute to run, but the saving time of the files takes about a half hour because we are using a Windows 2000 computer. In Journal Club today, my team and I presented an article and it went really well. We got some good feedback from Desmond and everyone seemed pretty engaged. We tried to make it relate-able to everyone. We all talked very fast, faster than we expected to, but it is good to know that we do that as a whole, because now we know how to prepare for our presentation for next week. This experience in JC was very helpful.

Tomorrow we are going to Minnesota to the Mall of America. I have never been there so I decided to spend the whole day there instead of going to the Twins game. I don't know when I'll ever be back here, so I want to experience all that I can, and I have been to MLB games before, so I'd rather go to the mall and see what they have to offer. This program is coming to a close very quick, so it is going to get even more busy.



The Thursday Slump

Posted on [July 9, 2015](#) by [asmith4](#)

Thursday... Aye, aye, aye. This morning started off very slow, but my team worked on what we are going to say at our presentation next week and got some thoughts together. We had a luncheon lecture today as well, and it was very informative. We got to hear from a lot of different Graduate students from many different areas. Hearing about other research projects outside of the HCI program was really interesting. We heard from students that did research on Materials Science, Meteorology, insect agriculture, Mechanical engineering, and one student from the HCI program. Some useful information that I gathered from them was:

- Don't let your adviser tell you that the coursework isn't important, but take classes that will help you reach your end goal.
- Check to see if the programs do rotations
- Ask if professors plan on transferring within the next few years to try to avoid having to change advisers.
- Ask questions to the staff/program coordinators because department chairs may not always have the best information.

All in all, this was a very useful luncheon lecture to have. Now it is on to the rest of the day.

Prototype_HCI_Smart Coffee Machine

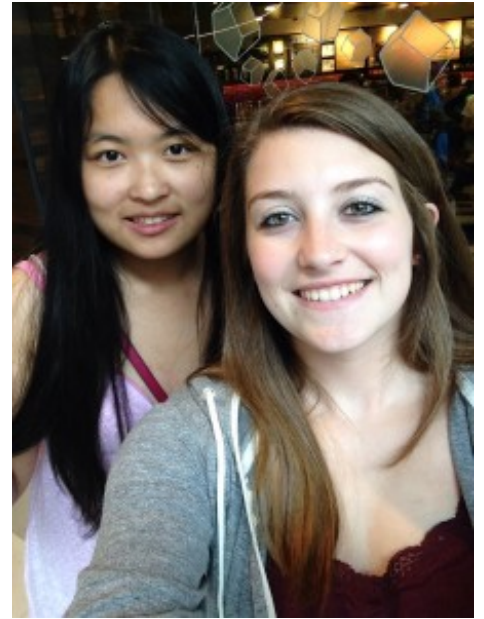
Posted on [July 8, 2015](#) by [asmith4](#)

I apologize that they are sideways.



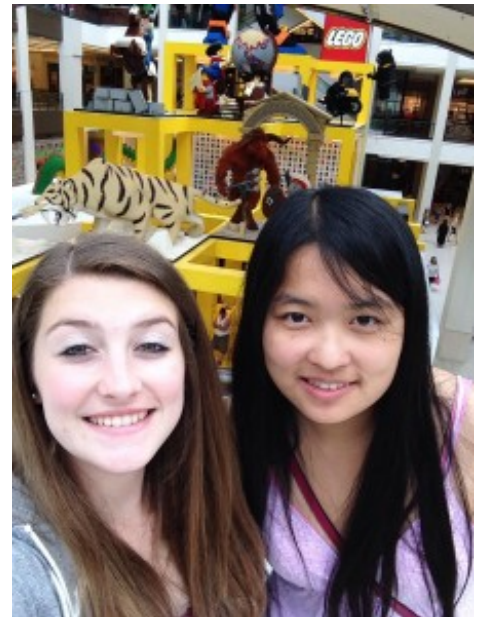
In order to test our Smart Coffee Machine, *Coffee Your Way*, we had our participants do the following:

1. Fill out a background questionnaire about their coffee preferences and their exposure to touchscreen technologies
2. Complete a given order using the interface
3. Fill out an Ease of Satisfaction questionnaire for the order
4. Cancel a given order that had already been started
5. Fill out an Ease of Satisfaction questionnaire for the canceled order
6. Change a given order
7. Fill out an Ease of Satisfaction questionnaire for changing an order
8. Fill out an Ease of Use, Satisfaction, and Likelihood of Use questionnaire



The feedback we received from these was as follows:

- Add “Order of the Day”
- Use check boxes instead of radio buttons for the Extras because you can choose multiple options
- Cancel button is always visible, and is good if you change your mind; could be a more vibrant color to stand out like red
- Easy to change items; When changing a previous option in your order, are your other selections remember or do you have to re-enter them?
- Overall, the machine was understandable and simplistic, it is likely for participants to recommend it to a friend, the machine would be useful in workplaces or schools, the design of the interface was understandable, and the overall experience was high.



Graduate Process and Research Project Progress

Posted on [July 8, 2015](#) by [asmith4](#)

Yesterday morning, we went to a session about the graduate application process with Thelma Harding from the Graduate College. This was very helpful because I learned a lot more about the timeline of things and different tips to help with the process. I learned that the summer before my senior year, I should be researching graduate schools/programs and finalizing that list, while also studying for the GRE. I should be taking the GRE in the fall of my senior year, and applying at that time too. I found out that the ETS material produce the best study materials because they are the makers of the test. I have plenty of questions to ask when I start contacting schools, and I have a lot more research to do on programs. We also had a luncheon lecture yesterday, and as usual, that was interesting.

This morning, we went over to METaL to work on our experiments and started to figure out how to use the high

speed camera. It is going to take a lot of time to get these files though because the computer we are using is running Windows 2000. After lunch, I did my HCI testing and that was really interesting because it was different from what we are doing with our actual research and I got a taste of what user testing is like. I really enjoyed this exercise and I am looking forward to going through the data that we collected. We just took some pictures in our matching polos and Jordan got stung/bit by something (yyikes!), and now it's off to the lab again for an hour.



The Adventures of a Long Weekend

Posted on [July 6, 2015](#) by [asmith4](#)

Last Thursday, I was not able to sign in so I could not blog. As if I didn't already have enough to talk about, I have more now.

Last Wednesday we went to Thai Spice for our mid-summer dinner. The food was so spicy for me, although it was the least spicy of the spicy options. On Thursday, my team and I just worked on our JC presentation all morning, and then we got to leave after lunch which was really nice.

On Thursday night, most of the interns that did not leave went to High Trestle Bridge. We parked at a bar that was near the bike trail and started walking to our left because it looked like it was away from civilization. Turns out, it was, but it was the wrong direction.. We ended up walking probably 1/2 a mile in that direction before we turned around. We got back to the bar and kept walking towards what we thought looked like civilization, but I can assure you, it was not civilization either. We were 2.5 miles away from the bridge, and we decided to go for it anyways. After almost getting hit by bicyclers and trees and signs, we got the the one mile marker from the bridge, and there was a dirt parking lot.... So we walked an extra 1.5 miles more than we had to (in both directions, might I add).. We pushed on. Eventually we got to the bridge, however, only half of it was lit up, and it was the half that was further away from us (go figure). Oh, we also wanted to get to the bridge to watch the sunset, but when we got to the trail, we had already missed the sunset and we didn't make it to the bridge until about 10 PM. We turned back around after taking some awesome pictures, and walked back for a longg time. It was definitely a nice sight to see, but I would definitely do it different next time!



On Friday, the 3rd of July, everyone that was still here mostly relaxed, but Sarah, Alex, Justin and I went to play some volleyball, however the sand was on fire (temperature wise, not literally). So we just messed around on the basketball courts and eventually found ourselves at Goodwill. I bought a rain jacket (wooh!) and then we went to Hy-Vee to get some food and charcoal to barbecue for dinner. We found out that Maggie, Sarah and I were the only ones left here that knew how to barbecue which was interesting. It was definitely an experience. We also went to the fireworks later that evening at Reiman Gardens. **Jolly good show**

On the 4th of July, we went to Des Moines to the Valley Junction which has a bunch of antique stores. We got there and, as you may have guessed, almost every single store was closed, yayyy! So we decided to go to Raygun... which was also closed! From Raygun, we decided to walk to the Capitol Building, I mean really, what better way is there to spend 4th of July than to go to the Capitol Building of the state you are in? Ogue and I took some glorious pictures.



Sunday, July 5th, was David's birthday, yayyy happy birthday! I spent the day cleaning the apartment and relaxing, and then went to Applebee's for half-apps that evening. Today is rainy, yet productive. I guess with the sun being gone, I have no desire to be outside doing anything, so work it is!

Julyyyy

Posted on [July 1, 2015](#) by [asmith4](#)

July is typically the busiest month for me in the summer, regardless of what I am doing. I'm sure that will be the case while I'm here as well. I am ready to tackle July though! There are so many birthdays in July that I have to remember as well.. Yesterday we had our team meeting, and I feel like we are really on track to produce some great work. We have a lot of experimenting to do though in the the coming weeks, but we have a lot more time available during our days to do that. The stress level has gone down this week, but I am still working hard. This morning was spent working on our JC presentation. It is just about finished, but we need to practice it a lot to make sure it will take the whole time. I have really been missing my time at the beach in Jersey, but hopefully we can go to the lake on Friday! Tonight we have a mid-summer dinner with all of the spire-eit program (mentors and interns).

Luncheon Lecture 9

Posted on [June 30, 2015](#) by [asmith4](#)

This morning we had a session with Dr. Gilbert about how to give presentations and how to format them and posters. It was very informative and I feel a little more prepared for our [not-so-]mid-summer presentation that is coming up in week 8. After that, we had another luncheon lecture. Sherry Berghefer was today's speaker, and she is a lecturer in the Greenlee School of Journalism and Communication. She is currently a PhD student in the HCI program because she is interested in visual hyperreality, which is



High Trestle Bridge



blending realism and fiction until there is no distinction between the two. She was a very interesting speaker because she took a lot of time off between all of her degrees and took time to work in industry. She also recommended that you do something other than school if you plan on going straight to academics, because then you can bring things in to your work from your life and get a different experience. She also shared with us that she was always a non-traditional student, because she had her first child right before entering undergraduate school. It is nice to know that it is possible to raise children while in school, but it still is not for me.

The rest of today will likely be spent on our JC presentation and writing code for our project. We also have our team meeting later today.

Week 6

Posted on [June 29, 2015](#) by [asmith4](#)

On Friday afternoon, my team and I went over to Black Engineering and to set up our experiment station. We were able to move the ramp from the MiRAGE to METal. Using the ramp, we rolled metal balls down and recorded that with the Kinects. This data was looked at this morning and we were trying to convert the XED files to video files so that we can look at the separate frames. Friday night was just used for relaxing for me, because on Saturday we had to get up early. We went to the Des Moines Farmer's Market and the Art Fair. The farmer's Market was pretty fun. I have never been to one until I came to Iowa, so I didn't find it as entertaining as some other people. They had a lot of fresh produce and a lot of different food tents and homemade goods (clothes, metal art pieces, etc.). There was also different entertainment there like live musicians/singers, and even some acrobats. After a few hours there, we went to the Art Fair. There were so many beautiful paintings and glass sculptures there. We spent some time walking around and then found some shade to relax in.



My patriotic picture



Des Moines Capitol Building

When we left the Art Fair, we went to an HCI student's home. It was very nice of them to open their home up to us for lunch (thanks Norene!). We had hotdogs for lunch and played some volleyball and corn hole. Volleyball was.... interesting haha. At first, it was just Gabe, David and myself playing and that's when the chaos started. The ball shot up to the balcony where everyone else was and luckily that hit it back down. Later though, David punched the ball and this all happened in slow motion for me. It went up to the balcony, hit the ceiling and then came down and landed in Maya's plate of food. I could not stop laughing and even now I am laughing. Justin also got hit pretty hard in the shoulder when someone threw the ball back down another time. It was a lot of fun to say the least. This group knows how to have fun with everything and that's one of the reasons why it's so easy to be here and not miss home.

On Sunday my team and I wrote our Methods section and sent that out. This morning we attempted to analyze the Kinect data and convert it to video files. I also started to look at our team's article for JC that we will be presenting next week. I am trying to get ahead of the game since we do not have anything due this week. This afternoon we have another Ethics class and then after work today we have a Smash Bros tournament at Desmond's house. I know I'm going to lose, but I love playing because everyone gets so intense. Get your game face on everybody!

Oh yeah! Our 3D models are printed! Our battery holder came out really well!

(Sorry that it's sideways)

The Busy Week...

Posted on [June 26, 2015](#) by [asmith4](#)

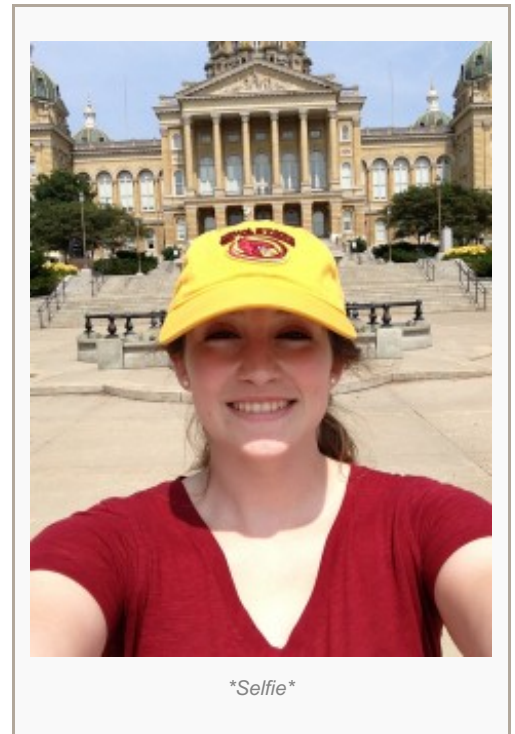
... is coming to a close, finally! Although there is still a lot to be finished, mostly everything is done. Last night I started editing our introduction and started thinking about our methods section and how to start that. We won't be able to write it really until tonight because we are starting our feasibility testing at 4. This morning we finally presented our 3D models from a few weeks ago and they will be printed soon. Everyone chose a different object from the given choices which I thought was cool because that just shows how diverse each group is. Everyone did a great job with their products and we all had great input for each other's projects. I love hearing the constructive criticism from everyone because it makes me think about things in a different light than I normally would, and that is a skill that I want to take back home with me. This afternoon we have our HCI class and then we will be doing our testing in the MiRAGE. We need to send out our finished intro and method sections tonight as well, and then the stress will be off. Since we don't have JC next week, the only homework we will have will be for CoR and our Ethics class. Because of the lull in workload, I want to get started on our article analysis for our presentation for JC in two weeks. I don't want to have to work on that last minute, so getting started asap would be very beneficial.

I am looking forward to relaxing a little bit this weekend and going to Des Moines tomorrow. Every time we go to there I take note of how much the corn has grown lol.

What day is it?

Posted on [June 25, 2015](#) by [asmith4](#)

It feels like a Monday, but I really am not sure why. It is pretty frustrating though because I keep thinking we have so much more time this week to get things done, but it is Thursday.. I still have to finish my Methods paragraph with my team for tomorrow, finish reading for Journal Club, read part of my book for JC, and write a short story for Intro to HCI. I will also have to clean up our Introduction after today's CoR class. I am hoping that tomorrow we can work on our feasibility experiments. This morning we finished up some last minute details in our introduction, and then we did some other work. We had a luncheon lecture with Dr. Jon Kelly who is an Associate Professor in HCI and Psychology. He studies cognitive psych and spatial cognition, specifically depth perception in VR. I think that was really cool because that is related to our Kinect project. He had a lot of wise



things to say about being in academia and it was nice to hear about the bad things that are associated with that.

Whats-her-bucket

Posted on [June 24, 2015](#) by [asmith4](#)

Yesterday afternoon we had our team meetings, and I feel like my team and I are heading down the right path. I feel like we are going to start moving really quick, and I hope that feeling has truth to it. This morning we started to work on our intro paragraph before our Ethics class with Eliot. The ethics class was intimidating, because I don't always like stating my point of view on controversial topics. Hopefully I can get over that intimidation for next time because I want to be able to stand up for my thoughts while seeing other peoples' perspectives. We also had an etiquette lunch today where we learned about manners that we should use when invited to a lunch interview, an important dinner, etc. It was very informative and good to learn about. The food was pretty good, too. This afternoon I plan on getting our introduction paragraph done, no matter how long it takes, and I also have to finish reading for Craft of Research and start working on our assignment for HCI.

Luncheon Lecture 7

Posted on [June 23, 2015](#) by [asmith4](#)

Yesterday afternoon we presented our OpenGL projects. Congrats to the Wearables team, your Pacman game was awesome. I was just glad that we got what we did, even though it wasn't fancy by any means. I read some great articles and found some more from the references, and I am looking forward to reading some more today. We had our last Modeling lecture today and learned the basics of MAYA that we missed out on yesterday. It was a little easier today because we learned the "hot" keys. Today's luncheon lecture presenter was Dr. Caroline Hayes and she is the department chair for the Mechanical Engineering program here at ISU. She told me about one of her projects she worked on which involved making software to help soldiers with things that they miss/don't catch in training. It was a very interesting lecture and I enjoyed it. I always love hearing about different professors'/faculty's insight on graduate school and academia/industry.

The Start of Week 5

Posted on [June 22, 2015](#) by [asmith4](#)

Let's go back to Friday afternoon, because so much has happened since then. On Friday afternoon, we concluded our Harry Potter challenge week. Gryffindor won (yayy, thanks Maggie and Nancy for being great team members). I can't wait to find out what my bro tank will look like, and I also got a book called "Freakonomics". This week's challenge is done in pairs and we had to create a product and I believe we have to create a short story to go along with it. On Saturday we went to Seven Oaks to go river tubing. It was really nice to be in the water and relax for a few hours without worrying about anything other than where we had to get off the river.. which seemed to pose an issue for some lol. Eventually though, everyone made it back to the bus with some help. On Sunday, I went to the lab to work on the OpenGL project with my team. It is now renamed as a Jet-In-The-Box. Later that night, Maya, Mak, and I made Hamburger Helper for everyone and we had family dinner and game night. I love that we are all so close because I haven't really had an experience like this at my school but I think that will change this year. This morning, we learned Maya which is a free-form modeling application and it was very frustrating for me. I was having trouble following the steps because the demonstration was behind me so I had to keep turning back to my computer and then I would miss the next step and the instructor was going pretty quickly so I fell behind almost immediately.

This is my sunburn from Saturday.. I hope everyone gets a good laugh because I sure did. I mean come on, I look like a cow, which is ironic because I heard cows through the trees while we were on the river lol.

It's Friday, Friday

Posted on [June 19, 2015](#) by [asmith4](#)

Last night was full of hard work and focus on today's presentation for journal club.. Ok, maybe it was "hard" work or really focus at all that got us through it, but it got done and it ended up being a pretty good presentation I believe. Way to go Gryffinpuff! This afternoon we have another HCI lecture, and then we will have an hour to be productive. After work, it will be relaxation time before tubing tomorrow, which I am super excited for! Sunday will be family dinner (thanks Maya) and hopefully I will be able to go to a yoga session in honor of International Yoga Day on Sunday night. Back to work for now until HCI class.



InterfaceHCI

Posted on [June 19, 2015](#) by [asmith4](#)

Exhaust Pipe

Task: Emits fumes from your vehicles so that they are released rather than staying inside.

Context: Used on automobiles. This picture was taken over the winter when I arrived at the slopes. The pipe had rusted all the way through and was hanging by a small piece, so I ripped it off.

What's Working/ Not Working: It worked to release the fumes, but with my car being a 2001, the exhaust pipe failed. It rusted (most likely) due to the weather conditions (snow and road salt).

Improvements: Better maintenance would probably improve the length of life, or weather-proofing it. It did its job.

Design Values: Supposed to be shiny and silver, and smooth

Conceptual Principles: Worked as intended until it fell off, i.e. released fumes and kept it out of the car itself

Behavioral Principles: Should stay on the car and be sturdy

Interface-Level Principles: It just comes with the car; no instructions or other info is required to make it work.



Weather Channel App

Task: To inform users about the weather forecast and weather news

Context: Used by smartphone/tablet/laptop users

What's Working:

- Interface is simple and clean
- Gives information about the weather (hourly forecast, weekly forecast, radar)

What's Not Working:

- Does not always give an accurate location
- Only gives weather alerts for your “Home”, not your current location

Improvements:

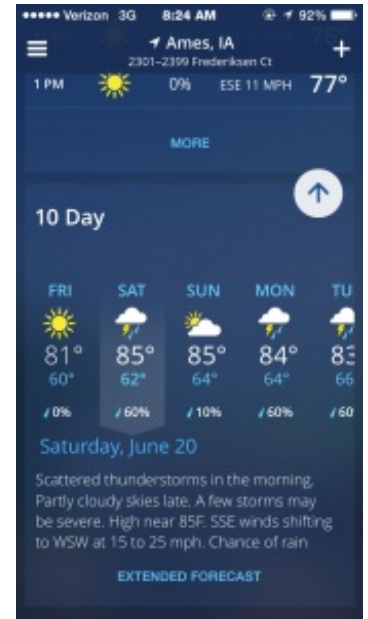
- Could add current location to receive weather alerts

Design Values: Text appearance is smooth and not squished. Graphics are not overbearing

Conceptual Principles: Supposed to be easy to use and the weather should be readily available, which it is

Behavioral Principles: There should not be lag and the location should be correct

Interface-Level Principles: Use a bright color to grab attention



“I Feel Like A Pilgrim”

Posted on [June 18, 2015](#) by [asmith4](#)

^^^ That was my thought when I left Freddy this morning. Last night I went to Des Moines to the Jordan Creek mall with Maya, Jordan, and Sarah. I had that thought because I bought a dress and it looks a little vintage and I just kind of felt like I looked like a pilgrim... I'm over it now though.

Today we had our last lecture for OpenGL. Again, I didn't work too much today on our in-class assignment (solar system) because there are more pressing things that I have to take care of first. We only have an hour tomorrow afternoon to work on actual research stuff, and it will already be Friday... This week flew by, and I am not happy about that, because the weeks are going to keep going by so quickly and I feel like we are getting nowhere. It is definitely starting to get stressful like everyone said it would.

We had a luncheon lecture today and Dr. Lee presented about her research. She researches about “Cellulose Fiber and Bi-polymer Composites” and it creates a leather-type material. She uses it to make clothes and hopes to replace the use of real leather, because this is more environmentally friendly and is not harmful to animals.

My Wednesday Titles are Boring.. But I Have Jokes!

Posted on [June 17, 2015](#) by [asmith4](#)

Yesterday afternoon we had our team meeting and I feel a little better about it. We have a lot to do by the end of next week though (i.e. Intro paragraph and methods paragraph). I am worried that we will be under a lot of pressure next week to get that done. Last night I was very productive and worked on a task that we had for or Craft of

Research class this week and I also started reading for Journal Club. Hopefully I will be able to finish that tonight (my article at least), after I read for CoR. This morning we had another OpenGL class; I don't feel as pressured to get that project done though because I have so much other stuff that requires more dedication of my time. This afternoon is going to be very busy with research stuff.

Laffy Taffy Jokes:

Where did the wind go? Ans: It blew away.....

What is the best way to keep water from running? Ans: Don't pay the water bill.....

My All-Time Favorite Jokes:

What do you call a bear with no teeth? Ans: A gummy bear 🐻

What do you call a cow with no legs? Ans: Ground beef bahahah

Luncheon Lecture 5

Posted on [June 16, 2015](#) by [asmith4](#)

This morning we had our second OpenGL lecture. It is basically coding in C++ but making a graphical interface. Today we worked on making a solar system with the sun and the first three planets, along with Earth's moon. We needed to make the planets rotate around the sun, and make the moon rotate around the Earth. It is a little difficult to get used to the coding, but it doesn't seem to bad right now. For our project, we decided that we would like to make a Jack-in-the-Box and hopefully be able to implement sound into it. We have our team meeting later today, so I am hoping that any questions that are still out there get solved. We just had our fifth luncheon lecture, and Dr. Eliot Winer was the presenter. I really enjoyed hearing about his experiences, and it was helpful to hear about his experience doing research for the military. Wanting to do that myself, I never really thought of the fact that I could ultimately create something that could be used for evil things, but that is why I want to make defense mechanisms rather than weapons. I want to create something that will protect our soldiers and keep them safe. Later today we will be learning about the IRB process.

Another Week

Posted on [June 15, 2015](#) by [asmith4](#)

Yesterday was used for some much needed relaxation. I did read a little bit though. This morning was our first class of OpenGL. I've never done anything like this so it is pretty neat. We will be making a project with our teams and I am pretty excited to do that. Everyone here is so creative so I can't imagine how interesting each project will be. This is going to be, yet again, another super busy week. My team and I have a lot of reading to do in order to pick up the pace. This pressure will hopefully help me get things done. Tonight I plan on reading more for our research.

A very late post

Posted on [June 14, 2015](#) by [asmith4](#)

On Thursday evening, the other interns and I went to a café called Stomping Ground to meet some graduate students. This was much more help u, then I thought it would be. I found out some useful things: 1) You can travel abroad as a graduate student. 2) Some universities only fund you for half of your masters, but all of your Ph.D 3) At some universities you can get your masters and then continue on with your Ph.D 4) We should reach out to the lab

members that work with the professor that we are interested in working with to see if the professor is accepting/looking for graduate students and to see if they have funding, and include a resumé and transcript in your email to a professor of interest.

Friday was a very, very busy day. We had a resumé writing class and it was helpful to hear the perspective of another professional other than the one at my university. Then we had our weekly journal club lecture and then lunch. After lunch, my team and I tried to finish up our problem area paragraph and we cleared things up with our graduate mentor. We then had our first Intro go HCI class and got to use the Oculus rift which was like playing a virtual video game. You were these goggles that show a simulation and you can mess around with the controller. It was pretty neat but it was also a bit disorienting. After that we finished out problem area paragraph.

Friday night we went to buffalo wild wings as a group and then we went to see Jurassic World which was very well made. We didn't get back until midnight and then Saturday we were up early to go to the ropes course. It was so much fun and I was so proud of everyone for pushing themselves. There was a rope swing (sat in our harness and everyone pulled a rope to raise you up as high as 30 feet and then you let go and dropped into a swinging motion), and we also climbed a tower. I think I am a little more afraid of heights than I thought I was. We also did some team building exercises and you could tell that this group of people is getting so close to one another and we really do trust everyone here which is a great thing. We are all motivating each other to push ourselves and be better than we think we are. I can't imagine having a better group of people to spend my summer with!

Hi Hoe, Hi Hoe

Posted on [June 11, 2015](#) by [asmith4](#)

Yesterday was a frustrating day. My team and I lost sight of what our research question was which was scary to me. I guess we never really understood the big picture and what the latency had to do with that. And we were also confused because the numbers for the latency are already known. We went to Eliot and talked about our frustrations and he helped us sort everything out. I feel behind now which makes me feel stressed, but hopefully we will get caught up quickly. This week has been very busy so far though, and it isn't getting any less busy. This morning we did not have a modeling class so I finished up our 3D model to be printed and started looking up articles that would help with our research. I was looking at topics that would help us understand the basics about tracking systems. Our luncheon lecture today with Dr. Veronica Dark was interesting. She studies psychology and I have always been intrigued by that field. It was interesting to hear her experiences. She also said that she strongly recommends going into academia. She said it was worth the extra schooling and getting paid well to do what you love outweighs the pressure of the tenure process. I am going to have a busy evening so off to work I go.

Locked out...

Posted on [June 10, 2015](#) by [asmith4](#)

So, last night I was trying to blog after the planetarium, but the system locked me out... So I am posting this morning instead.

On Monday afternoon, my research group and I were given an Arduino, thanks to Alex Renner, to use for experiments for our research. I also called home and had my mom send me pictures of one of my old Mechatronics labs (thanks Mom). We used an Arduino with a stepper motor in that class so I was hoping that the lab would help with implementing the same type of process in a new way. Yesterday morning, we had our second 3D modeling class. I really enjoy working with CAD programs, it is almost like second nature to me. I can't wait to find out about our project today and see what we will be able to 3D print. We had another luncheon lecture yesterday and Dr. Zayira Jordan was our speaker. She was a "Jack of all trades" some would say. Although I commend her for her knowledge of various areas, I personally would prefer to stay focused in my discipline and learn all that I can about that area.

After lunch we went to Enruo's presentations. For her Ph.D. she worked on a tutoring system for engineering classes like statics that use Block Diagrams (or Free Body Diagrams). This concept is very interesting and it was nice/intimidating to see that critiquing process. After that, we had a team meeting with the Kinect group (cue the frustration).. We didn't realize how much research we still had left to do, so we need to go back and read more articles before starting any experiments. So the Arduino and stepper motor will be put on hold for a little while.

Last night we went to the planetarium. I had never been to one before so I was excited to see one. I could never really understand constellations, but last night helped me. They projected a scene onto a dome shaped ceiling and pointed out different planets and constellations to us. We then went to the roof and looked through the telescopes. We were able to see Venus, Jupiter, and even Saturn and its rings. They just looked like little dots in the telescope, but when I looked at Saturn, I could not believe what I was actually seeing. This little speckle with a ring around it is a planet... That is pretty incredible..

Now on to today!

Starting Week 3

Posted on [June 8, 2015](#) by [asmith4](#)

This weekend was very busy. On Friday, we went to the Art Festival in downtown Ames and we walked over to the concert at Bandshell Park. There are concerts there every Friday so I am definitely going to look into going there again. On Saturday, we went to Des Moines to go to skyzone and then we went to Zombie Burger. The burgers were delicious. We also had a game of assassins going on throughout the day. I got killed pretty early and that was a bummer, but I was still paranoid throughout the day. Saturday night in Sunday, I binged watched Arrow on Netflix (very good), and then Sunday evening we had a picnic with all the other REU groups here at ISU. We met a few people and it was pretty cool to hear what other people were up to.

This morning we had our first modeling class. We will be using SolidWorks which I am pumped about because I have experience with it, but I haven't used it in a while, so this will be nice to get back into it. Our project presentations from our programming course will take place this afternoon. I am excited to see how everybody's project turned out. I have a feeling that this is going to be a busy week, so I better get back to work.

Tech Dependence

Posted on [June 5, 2015](#) by [asmith4](#)

Last night we did light painting.. I heard about it before but I never did it, but it was so much fun. Everyone was so creative and we ended up taking some great pictures.

This morning we had our last C++ class and learned about inputting and outputting files. It was a quick class, and then we had time to work on our projects. The only thing we have left to do for ours is finish up the power point presentation and get the diagonal win to work. I am really proud of my group for getting it to work (much credit to Justin for figuring out how to use QT). We had our second Journal Club today and talked a lot about phone usage. I wouldn't say that I am dependent on my phone, but it is definitely a convenience. If I didn't have it, I would use other technology as an alarm clock, to check the weather (internet), to check my email (computer), or find directions (internet/GPS). We created this technology so why should we not use it? It is making lives simpler, but the trouble comes when you can't find balance.

I am glad that it is almost the weekend, but I need to stay focused for the rest of the day on our project. I will be looking into stepper motors and arduinos in order to make our "flat Stanley" move.

Allie signing out!

Academia versus Industry

Posted on [June 4, 2015](#) by [asmith4](#)

This morning we had our second to last programming class, which got pretty confusing. We learned about pointers, the heap, and memory leaks... It was definitely interesting, but also hard to wrap my head around. We had another luncheon lecture today and Dr. Oliver was the speaker. He is the director of the VRAC and of the HCI graduate program. I got a lot of information from him about graduate school and about choosing a career in academia versus a career in industry after graduate school. I never really thought about going into industry with a Ph.D because I don't really know anyone outside of academia with one, but Dr. Oliver cleared that up. He seemed to have a lot of good things to say about academia, but it ultimately comes down to personal choice. Some of the pros for academia were: you can take sabbaticals, travel to different conferences, you can pick your schedule for the most part, you can research what you want, and you get tenure, but that could also be an intimidating process.

I Dislike Titles

Posted on [June 3, 2015](#) by [asmith4](#)

This morning was full of programming. We had our third C++ class, and then started working on our projects. I feel like we got so much accomplished, but there is still so much more to do. I am nervous that it may not be done by Friday, but I would not mind coming in over the weekend to finish it up. We have an assignment for tomorrow, that I can't forget about!

This afternoon, my group and I will hopefully figure out an experiment that we can do to get started on our research. It is difficult to come up with ideas of what to do, but Tim told us we can use methods that other people have used as long as we give credit to their methods. I didn't know that! And that will hopefully make it a little easier to get started.

First Luncheon

Posted on [June 2, 2015](#) by [asmith4](#)

This morning we had another programming class which went really well. I felt engaged and I felt like I was learning this material better than when my actual professors taught me. The questions I had about functions were cleared up.

I really enjoyed our guest speaker today for our first luncheon. Dr. Stone was very enthusiastic and seemed to have a lot of experience in different areas. I was really interested in what he talked about with military applications. He said he worked with Battlefield Air Space and detecting differences in the way planes were flying to determine if there were possible threats in the air. I liked hearing about his experience with travelling and it is nice to know that travelling was still in the plans of someone who is so successful.

We have our first team meeting today and I am looking forward to getting some work done on our project. Tonight I will be reading for our Craft of Research class on Thursday, and finishing up our programming homework for tomorrow, as well as reading through a few more articles for our research.

Starting Week 2

Posted on [June 1, 2015](#) by [asmith4](#)

This morning we had our first programming class for C++. I have a little experience with this language from a class I had freshman year, but I was getting extremely frustrated. My codes were correct, yet for some reason, they would not print out correctly and I had to keep closing and reopening the program to get them to work. I think this may have to do with the Windows 8 set up of my computer. Hopefully this doesn't cause problems all summer and for other

applications. I am excited to work on our programming project as well. I am going to be very happy if we get it to work properly.

This afternoon, my group and I will be writing up an agenda for our team meeting tomorrow. After that is done, we will collaborate about the articles that we all read for our research and then look up some more helpful articles/information, and hopefully get started on aspects of our research that would be more than just articles.

Tonight I will be going to the gym and then hopefully I will have enough energy left to finish up the assignment for our Craft of Research lesson this week.

Get Ready for JUNE

Posted on [May 31, 2015](#) by [asmith4](#)

Today, on the last day of May, we had the opportunity to sleep in! But of course, I was up at 7 because I passed out at 10:30 (typical). I relaxed for most of the morning and then went to the State Gym with most of the rest of the interns to climb the rock wall. It had been a while since I climbed so I was nervous that I would chicken out half way up the wall, but I pushed myself. I also tried Bouldering (climbing without a belay), which was much more difficult, but a nice challenge. After working up a sweat, we took a swim in the pool. I am so happy that there is a pool here for open swim, because I will miss my summers in Jersey where I could walk to a beach any day of the week. We played some in-pool knockout which was super fun and we spent some time in the whirlpool and hot tub. We headed out to get some food with most of the interns again, and got some delicious pizza at Jeff's Pizza (?).

I worked on our assignment for our Craft of Research session this week, and I just have a little bit more to do tomorrow. I am excited to start our programming class in the morning, and I am also looking forward to dedicating time in the afternoon to get some work done with my research group. I think it is going to be a long week, but I am definitely looking forward to it!

Our First Adventurous Saturday

Posted on [May 30, 2015](#) by [asmith4](#)

Today started our first weekend of the program, which was much needed already. I haven't stayed up past 11 on any one night since we've been here! It could be because of the 1 hour time difference from NJ, but it's most likely from the new schedule that I have to acclimate to.

We had an early start this morning. We went to the Farmer's Market here in Ames which started at 8 am. We arrived early so we went to a coffee shop and ended up playing board games. At my table we were playing Battle of the Sexes which is a game I have never heard of before. Of course, the women won 😊. I got some homemade apple pie at the market, which I am super excited about! When we left there, we made a stop at Petco since it was still early, and then we went to Sports Authority and then to Walmart. At Petco, I saw some awesome Bearded Dragons, some snakes and some toads (my "power" animal).

We were back at our building by 10:30, so I mainly relaxed all day until about 2:30 when I went to the gym. We were going to climb the rock wall, but they're open tomorrow instead. We played some basketball and volleyball, and we were actually getting pretty good by the end! To reward all our hard work at the gym, my roommates and I treated ourselves to our first helping of Insomnia Cookies... and they were delicious!

Now it's time to start doing a little bit of work. I am going to do some not-so-light-reading of articles for my Kinect project. Off to work I go!

Week 1 at a Glance

Posted on [May 29, 2015](#) by [asmith4](#)

After making it through this first week here at the Summer Program for Interdisciplinary Research and Education for Emerging Interface Technologies (SPIRE-EIT) at Iowa State, I can proudly say that I am excited to really begin this journey! Everything I have been hearing about this program and how elite it is, just makes me more and more glad to have been offered this opportunity. Until I came here, I did not know much about Human Computer Interaction (HCI). After learning about my research project yesterday, I cannot wait to start really working on it. I am hoping that this summer will help me decide if HCI is the right area of study for me. I am also hoping to get knowledge about research writing, the research process, and general knowledge about Virtual Reality (VR) out of this.

I am on the Kinect team and our task is to determine the latency between humans' movements and the actual Microsoft Kinect system. Our team mentor, Tim, gave us some articles to start looking at in order to set us on the right path and to help us learn the beginning steps of a research project. I am very excited to learn more about how the Kinect itself works, and I am actually excited about reading articles to see what other researchers have done in this field already. Monday cannot get here quick enough! I can't wait to get started. No matter how much work it will be, it will be completely worth every second of my time. Being able to put this experience on my resume is invaluable, not even for the purpose of it looking good to employers/graduate schools, but because it will remind me that I have (hopefully) accomplished something that not everyone has the opportunity to do.

Today we saw some applications of VR in graduate projects here at ISU. We were able to explore the C6. There are only two of these in the world; one is here at ISU (which has the highest resolution), and the second is in Saudi Arabia. We stood inside a six-sided, square room and four projectors projected images onto each of the six walls (a total of 24 projectors). In this room, we wore 3D glasses and were exposed to two applications that the university has. One was a corn plow for John Deere. We were able to virtually be inside of the plow and see all the parts. The second application was a project they did for Boeing, so we were able to see inside of some planes. It was almost like a video game, but it was 3D and we could interact with it. We also saw a project that used a Microsoft Kinect to virtually put together a model. There are some very unique projects here that I am excited to learn more about.

I am excited to see what the rest of the summer has to offer!

My Super Power

Posted on [May 28, 2015](#) by [asmith4](#)

If I had the choice to have either the super power of flying or being invisible, I would have to choose flying. However, there are positives and negatives to both. Flying could be advantageous in many situations, such as getting places faster (assuming you can fly faster than you can walk), getting away from dangerous situations, and to see the world from a different view. The only factor for invisibility that might outweigh the positives for flying is the fact that you could sneak around without people knowing. This could also be a disadvantage though, because you could hear things you should not hear, or see things you should not see. You might be exposed to things that could harm you personally.