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Wrapping it Up

Posted on August 1, 2013 by connielu

Our shirts arrived today! Unfortunately the QR code on the back of the shirt doesn't actually work (it was supposed to link to the REU 2013 home page), but I guess we took a risk with that and you never know what you'll expect when you try to turn something meant to be on screen to something printed on fabric!

Lisa left not too long ago, and pretty soon Meisha will be heading off for a conference as well. Happy and safe traveling! You both will be missed!

Our group's demo and paper is coming along pretty nicely, but today I feel quite stressed and overwhelmed by everything that needs to be completed before we leave. Still, I don't think that will stop me from going to our very last trivia night as a group. See you all tonight!

Poster Proof Frustrations

Posted on July 31, 2013 by connielu

We got our proofs for the poster today, and although there were only a few minor changes that needed to be made, the time we spent trying to fix it was a bit disproportional. There were some color spacing issues (conversions from RGB to CMYK, transparency, etc.), but even after the adjustments the VRAC and NSF logos were still not seamlessly integrated into the background. In the end, the publications staff managed to rasterize the PDF in Photoshop and remove the strange boundary lines. Yesterday I wrote that we had finished the poster, but I was wrong! I'm glad to say that today is actually our last day fixing up the poster.

Tonight as a last farewell with the "Vance group," we are having dinner at the Ge Angelo's Italian restaurant with Meisha, Dr. Vance, and the others from the haptics lab. Everyone is taking off a day or two earlier, and it's time to say our goodbyes.

Minions

Posted on July 30, 2013 by connielu

This morning we did some last minute touch-ups on our poster, and I'm glad to say that we are now finished with that portion of our project! I tend to get a little nit-picky at small details, particularly in design, but we'll just have to wait and see how it prints out.

This week is dwindling down and I have mixed emotions of panic, hope, sadness, excitement, and gratitude for my time spent here. There are only a few days left to make lasting connections, pack, clean the apartment, and transfer all of the pictures Rafael took onto my external drive. It's going to be an interesting and hectic end.
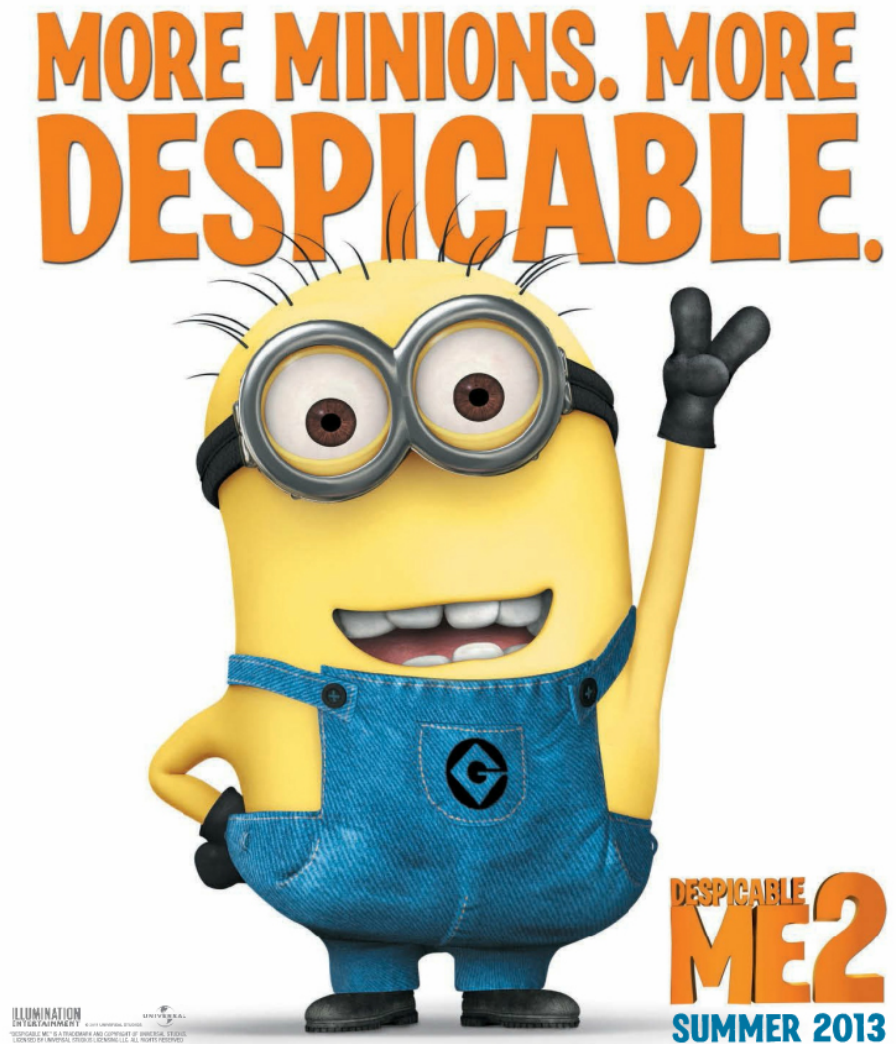
I'm pretty excited to watch Despicable Me 2 this evening with the other interns! It will be an ode to the Augmented Reality team.

Cracking Down on the Poster

Posted on July 29, 2013 by connielu

After receiving some feedback from Stephen regarding our poster, I am focusing on making some changes today that will hopefully not take away from the overall aesthetic design of our layout, yet still fit within the norms of an educational research poster. It's definitely been a challenge taking all the input into account and figuring out how to cater to everyone's suggestions, given that there is only a certain amount of flexibility in the changes I can make. Hopefully after today though, our team will have such a great poster that maybe Stephen will be so blown away and will bring it to his conferences as an example!!!

This past weekend started off with an intense game of paintball. I'm surprised and a little amused at how large some people's welts have grown to be. The only noticeable places where I got hit are on my leg (thanks Christian!), and even though the pain did sting a bit, it was well worth the fun.

A group of us also went out Saturday night for some good-natured laughs, and it's a good thing Lisa and her friends were there to join us. Sunday I also took a walk with Liat to Reiman Gardens, where we entered the butterfly house and strolled through the very relaxing and nicely decorated garden. The lily pond I think was one of the best photo scenes.

Last Weekend in Ames

Posted on July 26, 2013 by connielu

Happy early birthday Craig!

Coming up it's our last weekend in Ames, and I'm sure as our time at VRAC dwindles down all of us will be holding back a tear. But that just means we have to make the most out of these next two days we have off work! Tomorrow we're going paintballing, so that should be a fun and hopefully not too painful start to the weekend.

It seems like people had fun yesterday at video game night, but as I'm not too skilled in such festivities I decided to sleep the entire night away. I slept as early as eight something, woke up in the middle of the night for a couple hours, then drifted back to sleep. Yet I'm still so tired today! I guess I know what I will be doing after work today.

Continuing Discussions & Poster Update

Posted on July 25, 2013 by connielu

Some of us went to the UDCC for dinner last night, and we continued our discussion on food etiquette. I was hoping to find some articles online that might highlight some of the traits/qualities you can tell about people by the way they eat, but unfortunately could not find one worthy of mentioning. However, I did happen to stumble upon another article that deals with food etiquette in different countries, as something that might presumably be polite in the United

States may not be so in another culture. Read [15 International Food Etiquette Rules that Might Surprise You](#)

This morning I dove into the nitty-gritty of the poster, using grids and rulers to align the text and images and making sure there were uniform spaces between each element. We just received some feedback from our faculty mentor Dr. Vance, so I'll be working on trimming down the text and making some tweaks here and there.

Our fellow teammate Lanya is still out sick today – get better soon!

Trivia at Wise Guys tonight – let's go!

The Proper Way to Eat

Posted on July 24, 2013 by connielu

I have actually really been looking forward to the Etiquette Luncheon today. Although I knew mannerisms in the restaurant (as well as the workplace of course) are important, I didn't know there were so many little nuances to it. The way you fold your napkin, the direction you pass the bread, and how small the food is cut up all play a role in table etiquette. I am thankful that this program gave us an introductory class to learn the proper way to eat, and horrified at the way I had been eating at more upscale restaurants before, unaware of the ways in the trade!

In regards to updates on work, for this week I am working on editing the research paper (it's coming along rather nicely I should say), and finalizing the content and design of our poster. Also, in about half an hour I will be partaking in the Cybersickness team's user study!

Continuing Higher Education

Posted on July 23, 2013 by connielu

Thank you to everyone who came out last night to celebrate my 21st birthday!!! As per Pam, Lisa, and Andrea's suggestion, we ended up going to The Cafe for a lovely dinner (though the weather outside last night was not so lovely). I was able to order my first wine! (House Cabernet)

And now with continuing higher education:

One of the first things our speaker told us at the luncheon lecture today was to begin planning at the start of the summer going in your senior year. Well, I guess I'm a little behind but never too late! After countless discussions with mentors, faculty advisers, and guest lecturers, I'm beginning to consider going to grad school, probably in Human Computer Interaction. Coming into the REU program in May I definitely was unsure of whether I would be continuing higher education after undergrad, but I was learning more towards working in industry right after graduation. I guess Iowa State and the NSF were successful in persuading me to lean towards the other side, so congratulations! Well, I guess at this stage I am starting to plan for the GREs and researching up graduate school programs, but I still have not completely closed the door on other options (like doing freelance work, startup, or industry). I better get a move on!

I Can Now Rent a Car! (Among Other Things…)

Posted on July 22, 2013 by connielu

Phew. A lot has happened in the past few days, and I anticipate a lot more to come tonight as I drag everyone out to celebrate my 21st birthday with me! A big thank you to everyone for the birthday wishes and to Meisha for the lovely pistachio hued topsy turvy cake!

Now let's break it down:

Thursday night dinner hosted at Andrea's place – Lisa, Paul, and Andrea cooked us an amazing Mexican dinner with enchiladas, cream cheese bean dip, and heaping mounds of guacamole and salsa, among other things. It was definitely a relaxing way to end the day.

Trivia at Wise Guys – I've been to trivia night at the burger bar/restaurant twice before, but this time we were able to get a crowd to join us. Unfortunately we split up into two teams since there were so many of us. Though we didn't win any gift cards at the end, we shall be back next week!

Friday at Principal Financial Group and a Visit to the Science Center – At Principal we had a chance to see what it was like to work in industry, as well as visit the usability testing facility. After a satisfying lunch at Panera Bread, we headed off to the Science Center where I was reminded of all the times I had visited the science museums as a child. Oh, the fond memories. I remember one of my favorite activities being the large pin screen. Lots of fun, but actually kind of scary (I have trypophobia).

Stomping Grounds with the AR Group – As an honorary AR group member, I went to the Stomping Grounds restaurant Friday night for some live music and entertainment with Christian, Francely, Sheneeka, Rafael, and Tim. Though a bit on the pricey side ($2 for 3 mini baguette slices??) it was all in good company.

Saturday at Omaha Zoo – It was quite crowded and warm, but I was able to see the monkeys! My favorite area was the jungle, where animals were allowed more free range. It'd be nice to have one of these as a pet.

Meeting Other Fellow REUs: UPENN & Rutgers

Posted on July 18, 2013 by connielu

Today without a doubt has been an exhausting yet interesting day for me. In the morning our groups had yet another run down of our presentation before assembling into the VRAC conference room for a Google hangout with REU interns from UPENN and Rutgers University. Rutgers was the first of the three groups to present, followed by us and lastly by UPENN. There were varying topics within each individual/group, as well as within the universities. While here at Iowa State we have more of an emphasis on virtual reality and HCI, Rutgers students focus more on perception and cognitive aspects while UPENN students discussed robotics.

We had a short break in between for a luncheon lecture presented by Debra Satterfield on educational learning in people with autism. She brought along with her two other individuals who worked on developing a tablet application that would help autistic children learn the alphabet.

All in all, I think it was a pretty successful meeting and I would like to thank UPENN for arranging and setting things

up!

Research Project & How It's Coming Along

Posted on July 17, 2013 by connielu

During our research meeting yesterday we met with Dr. Vance and Meisha to discuss how the project so far has been coming along. At this point we have been told that the demo we have been working on will not actually be presented at the conference in August, but we still have yet to finish our three configurations. I, along with my other team members, am nervous and a bit worried about finishing our intended purpose in the next two weeks. Craig and Lanya have done an excellent job at putting together code for implementing controls for the Hydra head/Hydra hand configuration, but we have yet to address the Kinect and the Wiimote head/Hydra hand configurations.

One of the issues that is weighing on the back of my mind is how we are going to test for the two-handed vs. the one-handed Hydra setup, as it seems like there really is no difference between the two. What additional interaction method does having an extra Hydra wand afford? Is it really effective to have 22 buttons compared to the original 11 found on only one wand? These are questions our group will have to address in our research paper.
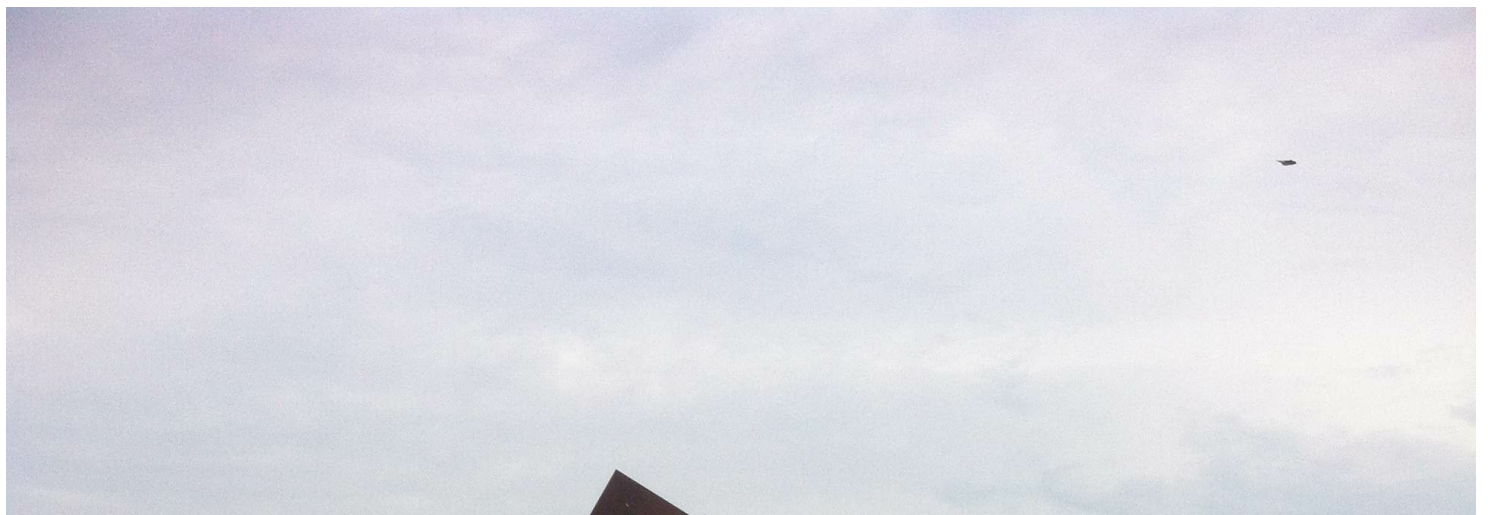
Poster Design 1, 2, 3, 4, …, or 12??

Posted on July 16, 2013 by connielu

For the past few days I have been using my favorite design program and fellow friend, the InDesign, drafting up ideas for our end-of-the-summer research poster. I have walked through VRAC looking through all the posters lining the walls and browsed the internet hoping to find some incredible, inspirational poster design layout that would take my breath away. Sadly, (Lanya and) I have been disappointed. I guess I can't expect much from an educational poster. The designer and ex-yearbook worker in me wants to organize the content and images in a way that is fluid and unique in its beauty and simplicity. We will break the traditional norms of poster design and start a revolution! (And hopefully the design will still be acceptable). I guess we shall see.

Gigantic Lump on My Forehead & PISTACHIO vs. MAROON

Posted on July 15, 2013 by connielu

It's mosquito bites part II! On Saturday after a couple hours at Jordan Creek Mall, Paul and Andrea took us to an interesting bridge overlooking…an interesting view. Along the path Paul stopped to pick some wild blackberries and I as a devout blackberry eater of course, followed. It cost me six more bug bites (one of which is prominently right on my forehead), and I'm still wondering whether it was worth it. Still, lots of mini blackberries to sprinkle on my yogurt!

Saturday was definitely a nice start to the weekend. We had planned to be back in Ames by mid-afternoon, but by the time we returned it was already evening. Our drivers graciously agreed to take us to Zombie Burger, where I split a most amazing "Walking Ched" burger with Lanya – two fried macaroni & cheese patties with extra macaroni & cheese inside. The fried pickles and fried brussel sprouts were delicious as well. I think I've had enough fried food for the weekend.
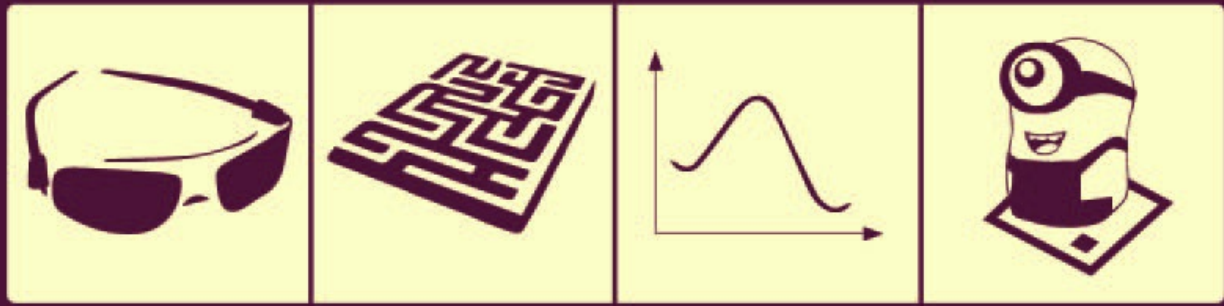
This morning started off with quite a debate about which color to use for our team shirts. Would it be light pistachio ice cream or deep maroon? Sorry pistachio, but the winner is maroon! I hope everyone is okay with the color and is looking forward to donning our new apparel when it arrives. In remembrance of pistachio…

Final Shirt Design

Posted on July 15, 2013 by connielu

design. innovate. code. create.

Another End to Quite a Week

Posted on July 12, 2013 by connielu

I facilitated the journal club today alongside Lanya and Liat. For the most part it seemed like the group enjoyed the article and found it at least a bit interesting and engaging. Entitled "An Immersive System for Browsing and Visualizing Surveillance Video," it discusses HouseFly, a data visualization system that projects video onto a 3D model of the recorded space. The researchers are part of the MIT Media Lab, a pretty established and well known source in the field of HCI. As a supplement to the paper, you can watch Deb Roy's TED talk on The Birth of a Word.

In the Intro to Ethics course yesterday, we learned about different ethical theories (consequentialist, deontological, etc.) and different perspectives individuals have regarding issues and thoughts. I enjoyed this course because it gave me a nice insight into the controversial issues we might be faced with in the workforce. Eliot didn't necessarily tell us what ultimately is the correct or incorrect choice; rather, he was exposing us to opposing opinions and problems that may incur.

Shirt designs are due early next week, and we have yet to decide on a shirt color! I'm in the process of drafting up some designs and discussing with Lanya about what might be a nice illustration for the front of the shirt. A sneak preview of some doodles:

Whew, and that's it for this week! Less than a month left, and it's only now that I'm starting to feel a bit overwhelmed, quite busy, yet excited for what's in store in the coming days.
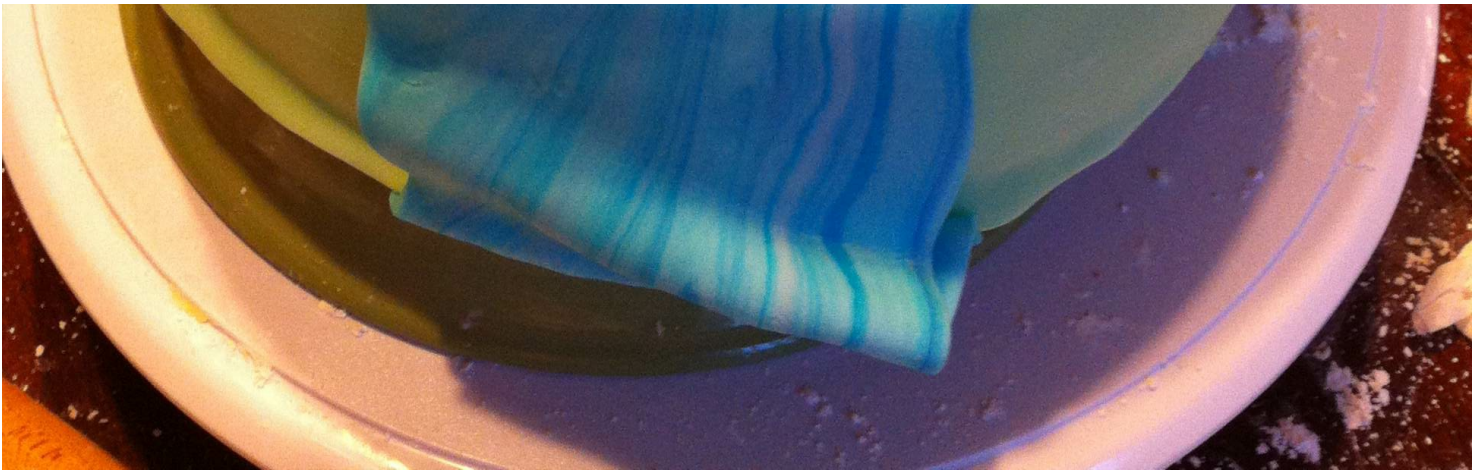
On a Cake Tangent

Posted on July 11, 2013 by connielu

First off – Happy Birthday Francely!!!

With all the birthdays in July, I'm finding more and more people to talk to about my cake decorating hobby! Just a couple days ago it was Patrick's birthday, and our very own graduate student mentor Meisha made a portal cake. For Francely's birthday, there was a surprise cake with the VRAC logo printed on it – very cool! I had a very interesting discussion with Pam about some of the cookies she's designed, as well as using a printer to print designs with edible ink on frosting paper. If I have the money I would definitely think about investing in one of these. Oh, what VRAC and ISU has inspired!

Sometimes I wonder if I should just stop what I'm doing and start my own cake business!!! I literally burst with excitement talking about cakes. And I'm sorry I'm posting this here because it's not related to the program, but I just *have* to show off some of my work. (Also ask me if you want to see a cow cake or burger cake!) Some day when I get a chance they will be on my cake website but for now…

Anyways, going back to topics that really matter. Our group went to the John Deere factory yesterday in Waterloo! Throughout the tour, I was just thinking how incredible it was that we as a society have been able to produce something as massive and intricate as a tractor engine, or a factory operation line. The amount of individuals, brain power, resources, investment, etc. needed to create such a powerful and successful company such as John Deere is astounding. Riding around in the pulley seats (or "carts pulled by a small tractor" as termed by Craig, or "golf cart with many seats" as said by Lanya), it felt like going around Costco, except a Costco twenty times as large and with mechanical engines and parts instead of food. All in all, an interesting yet tiresome day.

Another Day of Rain, Another Day of Work

Posted on July 9, 2013 by connielu

I had quite an unexpected start this morning, as just as I had left the apartment and had started making my way to the bus stop, the rain burst out in all its glory. I remember one of our coordinators mentioning that we would get hit by the rain sometime during our stay at Iowa, and for me, today was the day. I had worn my rain jacket countless times earlier in the program without ever actually needing it, so I figured today even with the 50% chance of rain it would be no exception. I did end up getting a bit soaked, but thank goodness for gym clothes!

At work I'm getting started on the poster layout. It was nice going around the VRAC building yesterday and examining the posters that had been created years before. With six years of layout design/publishing work on my belt, I'm extremely excited to be working on this project.

The last thing on the schedule for today was the luncheon lecture, presented by Eliot Winer. Eliot has a very engaging way of talking to a crowd, and his story about how he eventually came to be an associate professor in mechanical engineering/HCI and a founder of a company that works with medical imaging is quite interesting. From originally wanting to work with rockets, to working with optimization under a professor, to his current profession, he definitely means it when he says "keep the doors open, you never know where you're going to end up…don't be afraid to take a chance."

What a Weekend

Posted on July 8, 2013 by connielu

After four days out of town, it's tough getting back into the swing of things. Apart from Iowa we had passed through three other states, found ourselves amidst a motocross race (Red Bud MX), explored the bustling city of Chicago, and camped at various camping grounds (some of which were actually meant for RV's, but oh well). I'd say the only downside to the trip was coming home with over 30 mosquito bites (no, I am not exaggerating, I actually counted them). But I guess that's more of a personal thing, as I'm always prone to bug bites.

A little more about our trip:

Starved Rock & Neighboring Areas: Here our group hiked through muddy dirt paths that led to a magnificent, medium-sized waterfall. The park was pretty and we had a nice naturely walk through this area.

July 4 Fireworks at Navy Pier: Wow, this place was crowded! I hadn't expected this many people to wait and watch fireworks on the fourth of July. Navy pier itself is a fun and popular area of Chicago (we explored it more the day after), but during the holiday it was a bit much. Still, the fireworks were nice. I also tried Chicago-style deep dish pizza for the first time.

Chicago, Illinois: We hit a lot of the tourist attractions – the Bean statue and Millennium Park, to name a couple. We had also tried going up to the 95th floor of the Hancock tower the day before, but sadly because of certain age limitations which will be surpassed in less than a month, we were denied.

Beach & Sand Dunes at Warren Dunes State Park: After weeks of being near flat fields of corn, it was nice seeing some water! It felt like I was back in San Diego, bathing in the warm rays of the sun. We also climbed a gigantic sand dune and ran down it. Next time, bring sleds.

Well, that's about it. I'm glad our coordinators decided to let us take the fifth off so we would be able to plan a longer trip. Now it's back to work!

Only a Mid Oral Presentation Away from a Four-Day Weekend

Posted on July 3, 2013 by connielu

I have never considered myself especially well versed in the art of public speaking, so for me this day was more nerve racking than most others. Our group had been practicing the day before, in preparation for a presentation to the Vance group. I had stumbled a bit in the beginning, but all in all it went fairly well and gave us a nice foundation for today.

We were originally going to be streaming the video to another REU program in North Carolina (Chapel Hill), but due to technical difficulties we ended up ending the call early. Hopefully we'll be able to reach out to them later on in the program and share insights on different projects. In terms of the mid oral presentations, I thought all groups did a fine job of presenting in a more professional setting and giving a thorough summary of the progress they had done and future implementations that needed to be made. Our presentation went pretty smoothly as well, and I'm glad at

least that I was able to speak in a more audible voice (something I have been told since I was young) and not freeze up like I do sometimes!

And here's how we felt after we were done…

And now time for the four day weekend! Liat, Kayla, Lanya, and I are heading east today! We have a 5.5 hour drive to the Starved Rock campground, where we will be staying for one night. From there we will be passing by Chicago, and visiting two other states as well (Indiana & Michigan) to visit the sand dunes. Our trip awaits us! See you in a few days Iowa!

Who's Edward Snowden?

Posted on July 2, 2013 by connielu

Yes, I will admit. I don't know who Edward Snowden is, at least not before the Introduction to Ethics course taught by Eliot yesterday. But hey you learn something new every day right? I did some research about him and for those of you who are (somewhat as oblivious) like me: Snowden is a former US contractor for the NSA and CIA employee who leaked information about a mass surveillance program by the US and British government. He is now seeking refuge in over 20 nations but as of now has been in a Moscow airport transit zone for over a week. Read an article here: Edward Snowden Seeks Asylum in 20 Nations, But Gets No Immediate Takers

Apart from that, the ethics course was an interesting look into the morals behind engineering design. We saw that engineers have a duty apart from simply designing a usable product. Eliot highlighted some topics on Ford Pinto, the McDonald's coffee lawsuit, and Paula Deen, a most recent happening. The class passed by quite quickly, and I'm anticipating next week where we will go over some of the ideas we didn't have time to discuss in the allotted

time.

Yesterday we went bowling at Memorial Union! It was a pretty casual setting and cost only a dollar a game. I will say though, bowling is definitely not my sport.

Raining and Waddling at Ledges!

Posted on July 1, 2013 by connielu

This weekend we took three mini vans to State Ledges Park. The area of course was beautiful (even more so after it had rained, making the forest seem refreshed and alive) and made for a nice hike through the park. The best part though, was having paparazzi Rafael and Paul capture every part of our hike. I had a lot of fun going through all the pictures online. A big thank you to these two for their photography skills and creativity!

And now to showcase some of their work and highlight some of the best parts of the hike…

With some help from my fellow interns, I managed to climb my way to the top of the rocks, where I had a nice view of the creek where some were skipping rocks and others were taking in the scenery.

Ahhhhhh we're falling!!!

Whew.

Posted on June 28, 2013 by connielu

It's been a long week with great progress in our research papers. I did find it a little surprising that we had three deadlines (research question, literature review, and methods paragraph) back to back, but as the week comes to a close I hope to find a bit of relaxation time for myself over the weekend. I really appreciate the way our group works together when writing the different parts of the paper. I feel like we have similar writing styles, and having my peers help edit my drafts make it feel less overwhelming.

At journal club today, we had a change of pace and had a speaker come in towards the end to discuss some of the work he has done. Our article was called "Efficient Model-Based 3D Tracking of Hand Articulations Using Kinect." When the presenter spoke he started with "I honestly don't think you guys are as excited about this paper as you should be." Mentioning the fact that this is essentially what a large corporation like Microsoft does when implementing their Kinect device made a big difference in how I perceived the article. Ideally we would be just as excited about the current article as any other, but it's difficult to do so, especially when you may not always understand the article. I appreciated the fact that the presenter was able to point out the significance of the article and explain in much simpler terms the process of optimization and how it relates to the design space. I thought using the whiteboard was also a really good visualization tool.

I'm interested to see how the addition of more speakers will affect future journal club sessions; hopefully they will be able to provide a similar experience like today and offer valuable input/discussions that will spark renewed conversation.

The Spice & Dragon Ball Z Reenactment

Posted on June 27, 2013 by connielu

Thai cuisine last night was amazing. The Spice was located in a small and pleasant looking area on Main Street. The company and food were both very enjoyable, and I even learned some interesting tips from Andrea about restaurant etiquette when it comes to having a meal with your future potential employer. Especially in the business sector it's important to always be aware of your mannerisms and how others might perceive your actions. Apparently when your boss treats you out to a restaurant it's not so much to eat (in fact, you're not really supposed to "eat" but take a couple nibbles of your entree) as it is to observe how you interact and hold yourself. Well, thank goodness this was a different setting and I was able to thoroughly savor my seafood fried rice. A big thank you to Pam and NSF for the meal!

At our photo session this morning Paul took us to several locations around VRAC to capture our beautiful faces in professional buttoned up red polo shirts. Towards the end it started drizzling a bit, but I'm glad he had a sense of humor and was able to get in a few shots of the group in a more entertaining setting. See the images that inspired our photo: Awesome Photos of Japanese Teens Reenacting 'Dragon Ball Z'-Style Energy Attacks .

Delving Into My Field: UX!

Posted on June 26, 2013 by connielu

For our last Intro to HCI course we had Chase Mensel come in and talk to us about usability and user experience, a part of the human computer interaction field that doesn't seem as large of a topic in Iowa State as in some other universities. While VRAC focuses more on virtual reality/augmented reality, today's class introduced topics more

about user experience and user centered design. We were also introduced to some tools for online usage, video, biofeedback, and prototyping.

Since I ultimately see myself going into this field, I found today's lecture to be very helpful and was inspired by the job opportunities with a focus in this area. I know when working in industry within a large corporation it is often necessary to advance your skills in a particular area, whether it be in Information Architecture, Interaction Design, Visual Design, or Usability Engineering (all within the UX field). As I enjoy the visual, user experience, *and* coding aspects of interfaces, I'm not sure which focus my emphasis would be on, but I'm excited to explore different possibilities in each.

On an unrelated note, we're heading out to The Spice Thai Cuisine now!!!

Project Planning & Updates

Posted on June 26, 2013 by connielu

Now that morning classes are over, our group is settling into our project. While Craig and Lanya are focusing more on the coding aspects of our demo, I am researching into the features and limitations of the three devices (Nintendo Wiimote, Razer Hydra, Microsoft Kinect). I'll have to determine specific ways to measure the performance and accuracy of the configurations we have set up. I am a little hesitant about studying the differences between the one-handed Hydra wand with Hydra tracking vs. the two-handed Hydra and Wiimote tracking, as the demo we are creating does not seem to create any affordances to the user with an additional wand. After a discussion with my group we agreed that in studying the differences, we should focus on the possibilities with an additional wand (whatever they may be) rather than using it as an opportunity to add more features with the eight additional buttons.
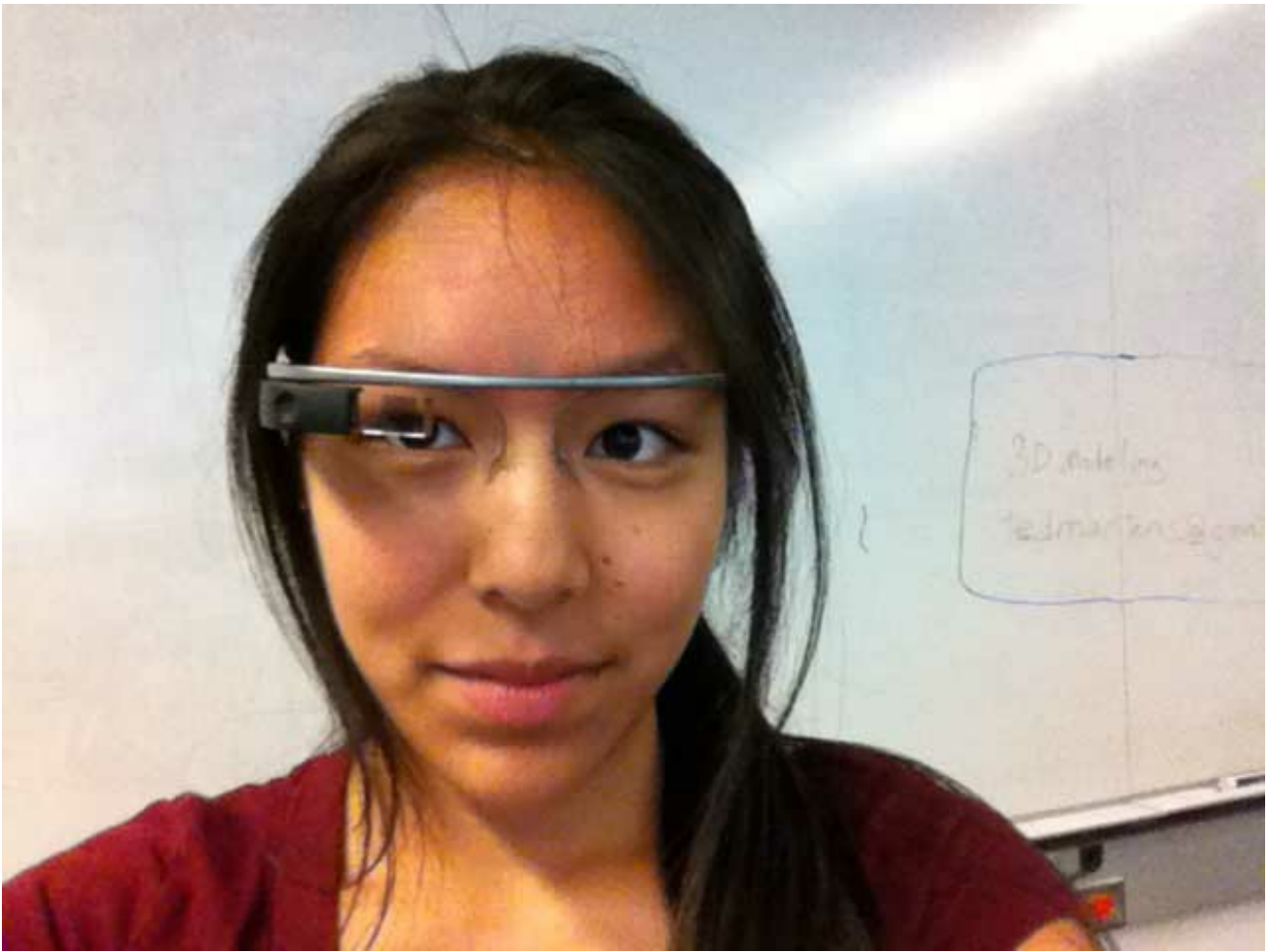
The more exciting part was working with Lanya to create a diagram indicating what each button on the Hydra would be mapped to. Since my interest is more on UX design, it was fun being able to put myself in the shoes of a novice user and design an approach that would provide the most intuitive route. With all the features we have planned in our demonstration, we ended up making use of all the buttons on the Hydra – the analog stick, the four buttons, small middle button, trigger, and bumper. It was more challenging than I had originally expected, since we had to take into consideration conflicts that might occur and design for various situations.

Through the Looking Glass

Posted on June 24, 2013 by connielu

Reflecting on last week's news…

It's a lazy Friday afternoon, and a once quiet pod area where we interns were diligently working suddenly turns into a mess of excitement and flurry as Stephen brings out his new "toy" – this so called Google Glass. I've seen a Google employee don one of these gadgets at a Google Games event in Irvine earlier this year, but never thought I'd have a chance to get up close and personal (literally) with one of these technological toys. One of the things that amazed me the most when Stephen demonstrated how to use the Google Glass was the fact that he was immersed in a world that only he was in. The images he described seemed so vivid, the audio clear and pronounced. Yet, I didn't hear anything or see any large image being projected. Apparently Google Glass transmits soundwaves through a bone near the ear, eliminating the need for headphones. Pretty neat!

On other news, we went to the Des Moines farmer's market on Saturday,by far the largest I've been to. It spanned about four blocks and included vendors selling local groceries, hot food, jams, garden plants, and other miscellaneous items. I mostly went around sampling cheese and dips, but also with a recommendation from Liat tried a wheatgrass shot followed by an orange wedge. I'm a fan of green juices (the Odwalla Original Superfood is by far the best), so this wasn't bad! It had a sweet aftertaste. Did you know just 30 mL is nutritionally equivalent to 1 kg of leafy vegetables? I'll be planting some of these and using my juicer to make more, I hope.
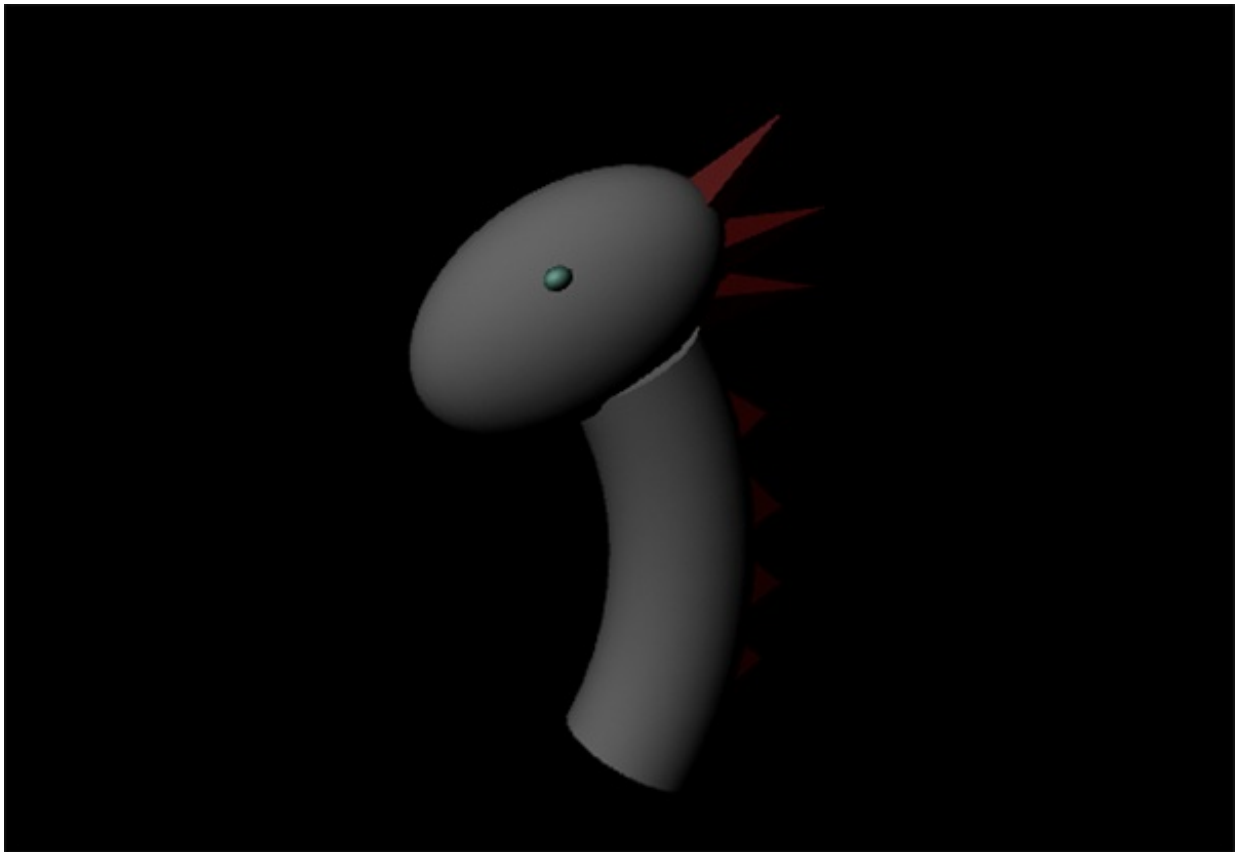
Last note for today – Stephen gave a presentation on "How to Give a Talk" today, and while some points were helpful and made sense, other were just plain interesting and strange, and definitely made *his* talk more interesting. For instance, dignified silence – can be useful for making people look up, since oftentimes they think something is wrong. Silence though, is not necessarily a bad thing. Also, for the first five minutes a woman speaker presents, people pay attention more to her clothes than to what she is actually speaking about. I guess the next time I give a presentation I'll be sure not to wear tattered sneakers.

The Bodyless Hydra

Posted on June 21, 2013 by connielu

Alas it's Friday, and I'm excited for the Des Moines Farmer's Market tomorrow! I've been to some farmer's markets before, but by the sound of it this one seems like a rather large venue with a multitude of vendors and activities. I'm also looking forward to Trivia next Thursday at Wise Guys. Thanks to Lisa for mentioning this! Yesterday Lanya, Craig, Kayla, Liat, and I headed to the small and semi-rowdy burger restaurant on Welch to participate in a six-round trivia with other Iowans (we were "The Mantis Shrimp"). For our first time there it wasn't *too* bad, but maybe it's time to brush up on our songs and movies.
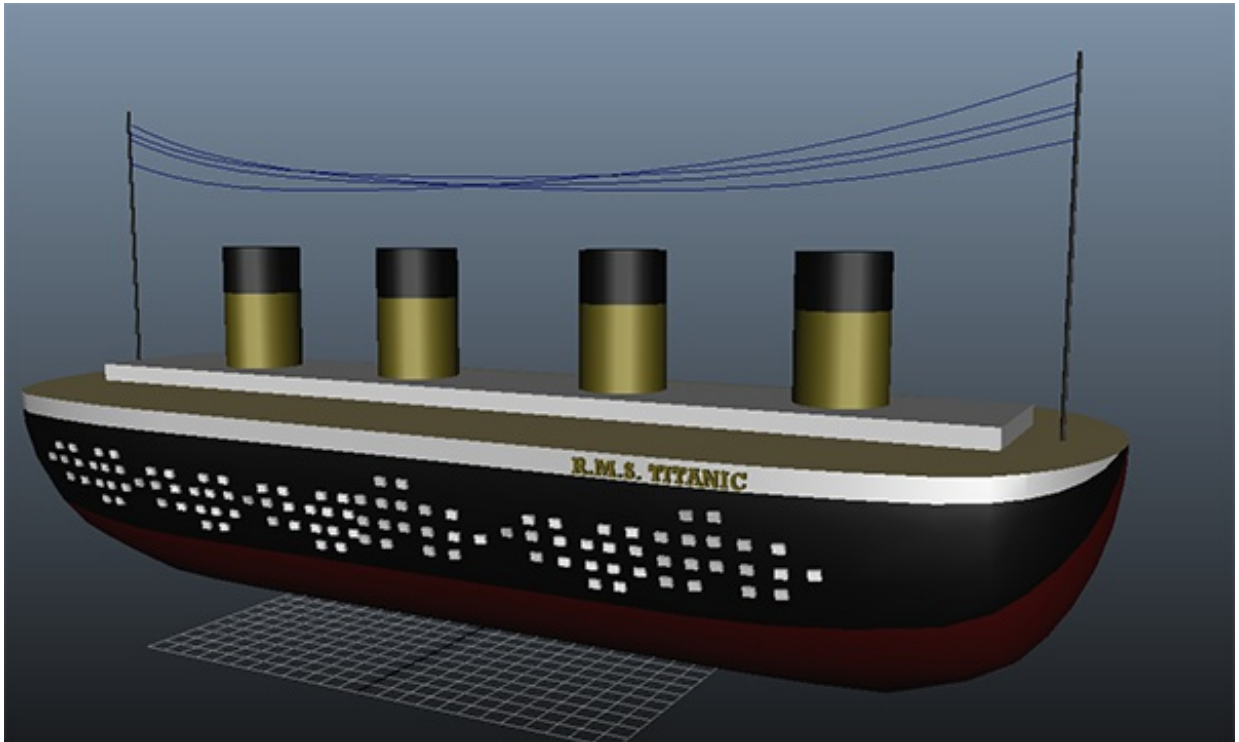
For our final Maya project our instructor thought it'd be nice to create something that resembled our group. Since we're working with low cost VR devices (Microsoft Kinect, Nintendo Wiimote, and Razer Hydra), I thought it'd be cool to make a Hydra (literally). Here's a sneak preview of my head:

TITANIC IN 3D

Posted on June 20, 2013 by connielu

In remembrance of the Titanic sinking 101 years, 2 months, and 6 days ago, I have decided to create a 3D model of the magnificent ship. It took me a while placing the individual windows on, as you can't simply copy and paste (the curvature of the ship calls for reorientation of the pieces). After rendering the scene, I was able to create a more realistic image with the luminescent windows against the dark background. As our last day learning Maya comes to a close tomorrow, I'm not sure what I have in store for my final model, but I think I'm realizing that Maya not be the thing for me. Creating Titanic was definitely a highlight of my day, but boy, the program is definitely not intuitive to use!

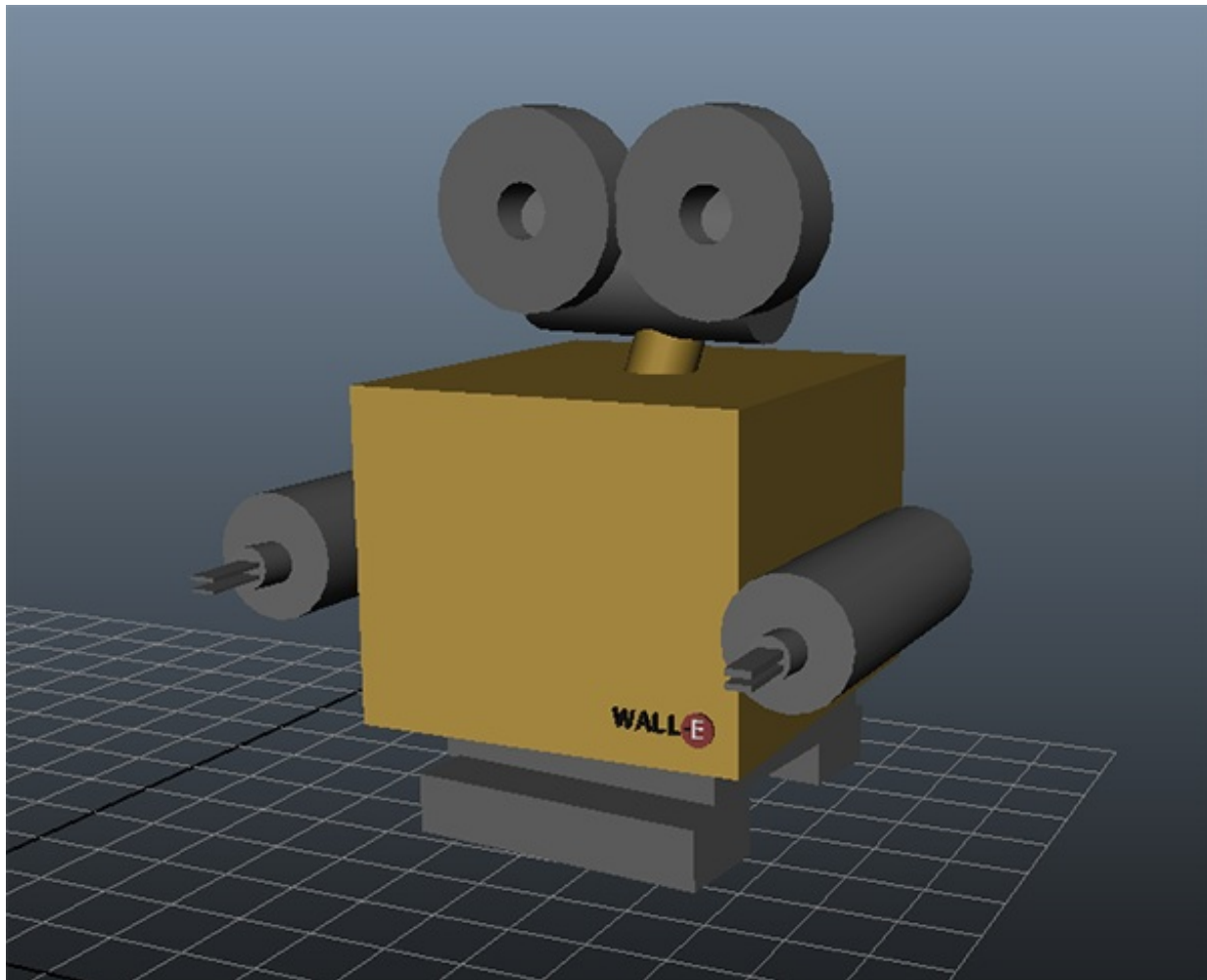Top: Rendered model. Bottom: Before rendering.

In other orders of business, our luncheon lecture today was presented by Young A-Lee, who discussed uses of 3D body scanning technology, particular its relevance in apparel design and human health. By using a body scanner that is able to capture a full three dimensional image of the body in just 10-15 seconds, individuals are able to use the data to create custom fitting apparel and/or offer health guidance based on their body composition. Overall, it was a very positive use of technology to both create a better shopping experience for customers and promote the importance of healthy habits and body balance.

More Maya!

Posted on June 19, 2013 by connielu

It's our third day into Maya and I've been learning about some more features in the Mesh/Edit Mesh tool. I will say, it's difficult (for me at least) forming shapes other than the given basic primitive types. Other, more complex shapes require manipulations of vertices and edges which seem a bit tedious. Perhaps I just need more time to experiment with the tools, and perhaps our instructor will find a way to draw shapes then extrude them, we'll see more tomorrow!

My model today is the main character from the movie Wall-E, a more simplified version of course. I searched up a way to create simple 3D text in Maya, for all those interested see this web page: Creating Text in Maya.
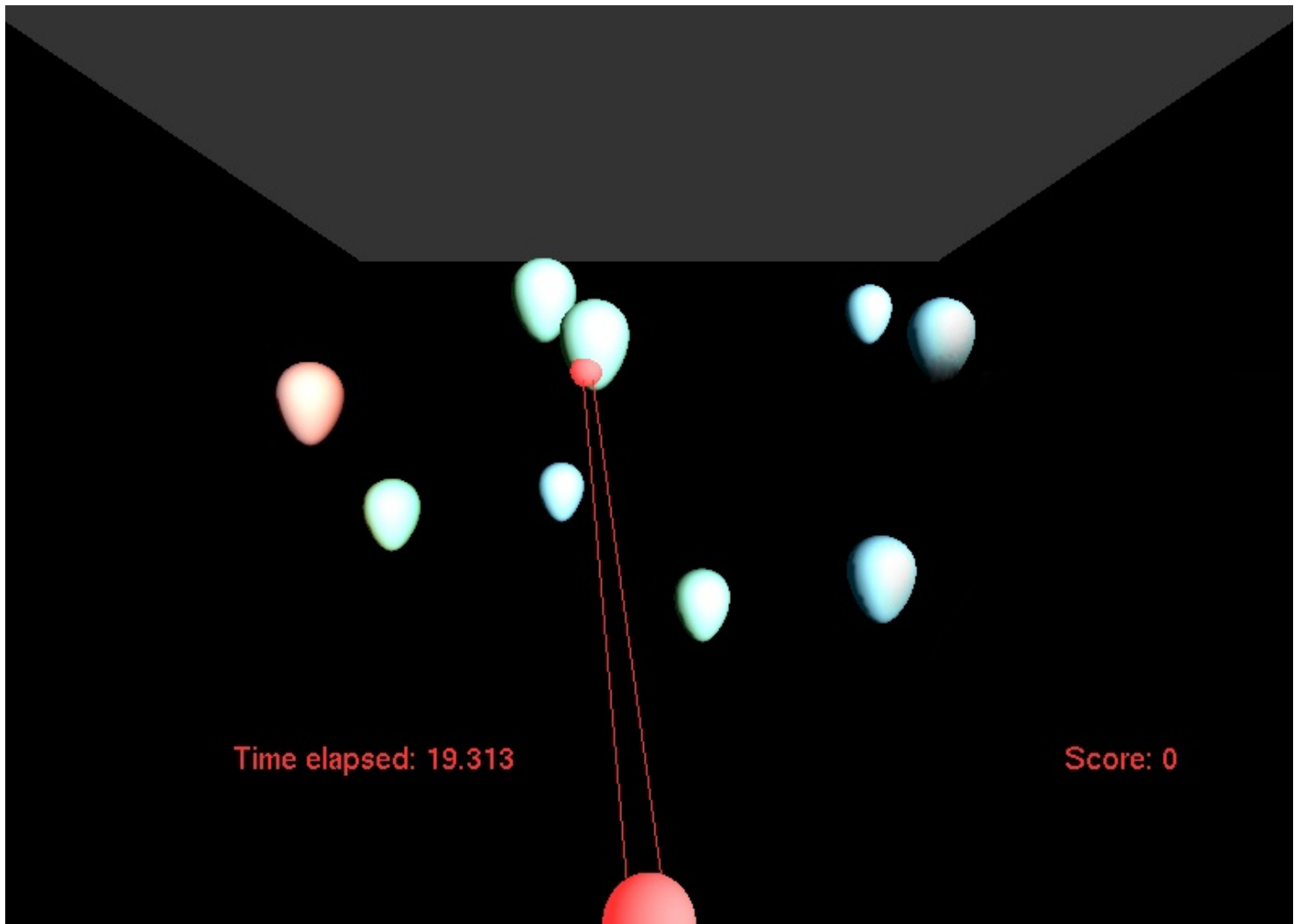

Only less than an hour to go before we get to hear Jordan Herrema's dissertation! I'm not quite sure what the topic is on yet, but I hope to get more insight into what it's like giving a final oral speech, whether or not I intend to do one in the future.

Graphics Displays

Posted on June 18, 2013 by connielu

Before jumping into Maya I'd like to display our final project for OpenGL, the balloon popping game we had worked on last week. Multi-colored balloons float at different rates until they reach the ceiling, during which they disappear. Players have one minute to pop as many balloons as they can (left mouse button to aim, right mouse button to shoot), and their score is displayed in the bottom right hand corner. From the feedback we received, future implementations should make use of textures (on the walls) and audio (soothing popping sounds!)

Time elapsed: 19.313   Score: 0

In our 3D modeling class today we worked mainly with extrusions, building upon what we had learned yesterday. Our assignment was to create an animal, and if it weren't for those pointy ears in my model I'm sure mine could pass as any animal. But yes, 'tis a cat!

And last but not least, our group finally visited the Ames Waterpark yesterday! The water slides were my favorite part, and combined with the complementary warm weather I would say it was a good end to work.

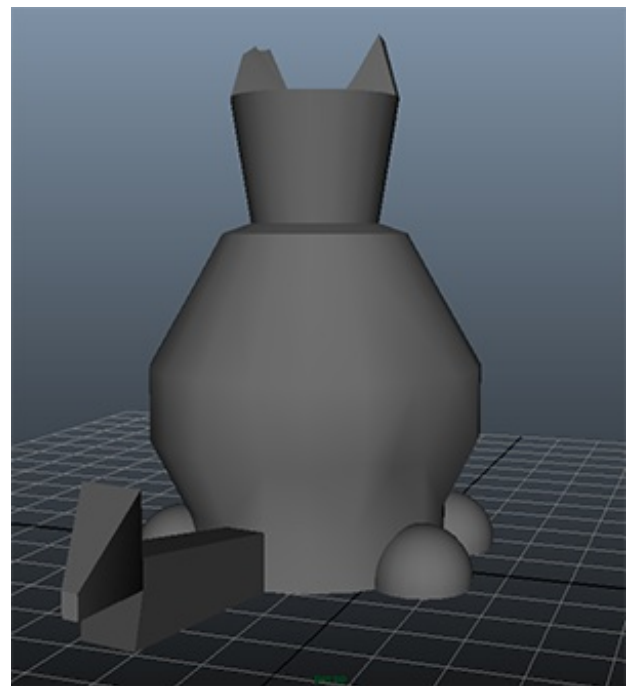## Fish Tacos, French Toast, and Spaghetti on Trampolines
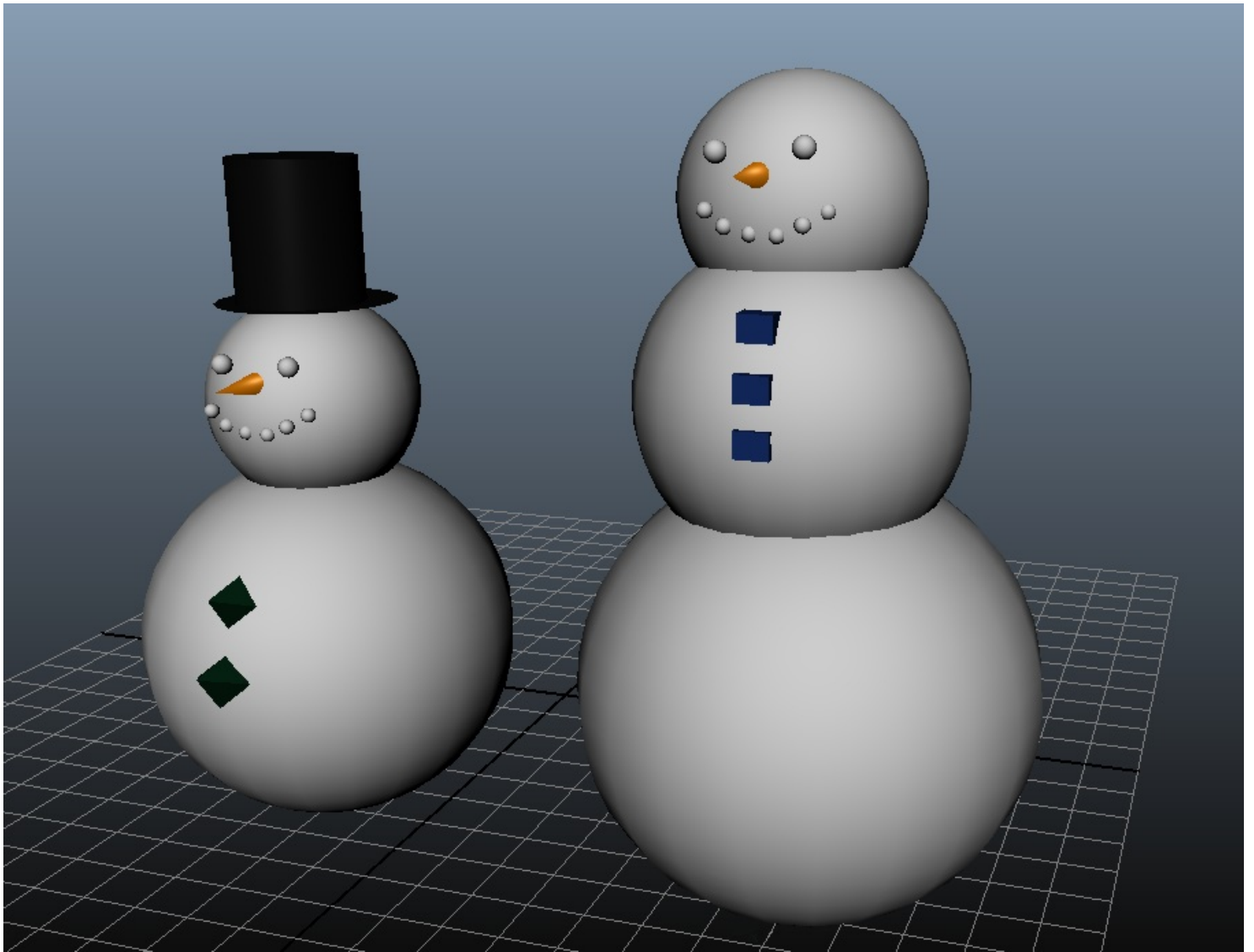
Posted on June 17, 2013 by connielu

Last time I researched and delved into autonomous cars, but this post will be more light-hearted with pictures, recipes, and fun facts.

You know it's a good weekend when it's filled with food. Friday night I decided to have some folks over for a feast of fish tacos, roasted potatoes, and a side of veggies. The next morning we had an even larger gathering with French toast and scrambled eggs, and at night, spaghetti with meatballs, garlic bread, and salad. All in all, quite a success. Let's see what next weekend has in store for us.

I heard from the visiting intern at SPIRE last year that though their group had similar extracurricular activities planned for them, they didn't have a chance to go to Skyzone. Well, our group was in luck! On Saturday we headed out with Lisa and Andrea to a trampolining paradise, where even the walls could be bounced off of. Trampoline 3D Dodgeball was definitely my favorite; who knew targeting our fellow teammates with those harmless foam balls could be so mischievously fun? Alas when I woke up Sunday morning I was utterly confused why my back was so sore. Maybe I had slept in a strange position? But even so, this sore? Turns out trampolining strengthens your back muscles! Maybe the next time you're looking for some low impact, entertaining exercise you should try trampolining. Read a post from Reader's Digest: 5 Reasons Why You Should Be Working Out on a Trampoline.

Here's a display of what I created for my first Maya 3D modeling class: two happy snowmen

Fish Tacos:

- Tortilla
- Pesto
- Avocado
- Cheese
- Tilapia fillets (seasoned with spices, i.e. chili powder, salt/pepper, smokehouse maple)
- Bell peppers

1. Spread pesto on tortilla, followed by chunky avocado bits, and cheese. Heat on skillet until cheese is melted.
2. In a separate pan, cook tilapia with just a little bit of oil until tender, seasoning both sides.
3. Saute bell peppers until sweet and still slightly crunchy.
4. Wrap tortilla with fish and bell peppers, and serve warm! Garnish with salsa, guacamole, sour cream, or the like (note: plain Greek yogurt is a great substitute for sour cream).

Oregano Olive Oil Potatoes

- Red potatoes, thinly sliced

- Olive oil
- Spices (oregano, salt, pepper)
- Garlic, minced

1. Throw ingredients together in a large bowl and massage with hands.
2. Bake in oven for 350 F until potatoes are soft and crispy on the outside.

The Future of Autonomous Cars – A Fascinating Concept

Posted on June 14, 2013 by connielu

Today's journal club was one of the more heated discussions we have had so far. Specifically, the article proposed by Stephen Gilbert on the safety risks of voice-activated technologies while driving introduced some ideas that have been debated for quite a few years now. Very recently (as of Wednesday, according to Andrea), a study has come out that brought up concerns about the shift towards creating hands free devices capable of allowing individuals to more easily check emails, text, and stay connected with the world. This newfound technology, however, comes with its consequences and may pose unwanted hazards that many are unaware of. For all those interested, feel free to view the article online.

Our group then got a bit sidetracked and started a discussion on the future of cars and how we might imagine transportation to look like some years (or maybe decades, more precisely?) in the future. One project that has been going on is Google's driverless car, led by co-founder of the well known Google Street View and director of the Stanford Artificial Intelligence Laboratory, Sebastian Thrun. While researching more into this, I found his message to be quite thought-provoking and powerful, and I agree with a lot of the points made. With the ubiquity of automated cars, individuals wouldn't need to waste their time commuting, traffic violations and accidents would (might, I should say) dramatically decrease. According to Thrun driving accidents are the primary cause of death among young people. By relying on autonomous cars we can greatly reduce the amount of human error that occurs because cars have sensors that have a much greater visual area and capacity than humans do. View the TED talk given by Thrun.

It amazes me how far this project has come. I remember back in my first year of college when I took my first "Introduction to Computing & the Arts" class at UC San Diego. Our professor showed us a video on the DARPA Grand Challenge in which the U.S. government funded the development of self driving cars that could navigate their way through a desert. Though the results of the specific challenge I saw was not ultimately successful (i.e. no car could actually make their way through), a few years later in 2005 Thrun, his team, and Stanley (the robotic vehicle) won the challenge and were granted two million dollars. Now, to think that these cars can navigate their way, day and night, through San Francisco's cramped and twisted pathways is a wonder!

Sure, we are giving away our freedom to drive, which I can't deny will pose an issue if this kind of technology were to actually be implemented in society. I myself love driving and find it both exhilarating and relaxing. As of now though, there are still many issues that need to be addressed and resolved before we see these self driving cars on the road. As Google put it, "there's still a long road ahead."

Pictured above is one of Google's dozen self-driving cars that has boasted "300,000 miles without a single accident under computer control." (Well, there was one accident according to Kayla, in which the driver switched the control to manual driving, and evidently it was the individual human rather than the controlled vehicle that caused the accident). Interesting.

Pretty Lights

Posted on June 13, 2013 by connielu

Last night at the light painting activity, our group experimented with different light exposures to create some flashy photography artwork using light sticks. Since the sun sets much later than I'm used to in California (at 9 pm the sun has just set and you can still see your way around for a bit!), we went in and out of the MIRAGE lab, where we were able to capture in complete darkness, and the general outside area of campus. See below for our Virtual Reality project team! From left to right: Lanya, Connie (me), Craig.

(Unrelated note but related to Pretty Lights: Finally Moving)

This week we also started on our Introduction to HCI (Human Computer Interaction) course, where not surprisingly I saw many of the concepts I learned from my cognitive science classes at UC San Diego come into play. I had a review on some of the Gestault principles, embodied cognition, ethnography, affective computing, etc., and how understanding some of the psychology and human behavior behind individuals affects the way we model technology. I'm looking forward to our next meeting during which our instructor will discuss more about the technological aspects of HCI, and how it is integrated with the human component.

Our OpenGL class is almost coming to an end, and even though I haven't completely grasped all the concepts and techniques of drawing graphics yet, I'm starting to understand how the different "states" (lighting, materials, textures) come together to create the illustrations we see in media like the infamous video games. I can't imagine how much
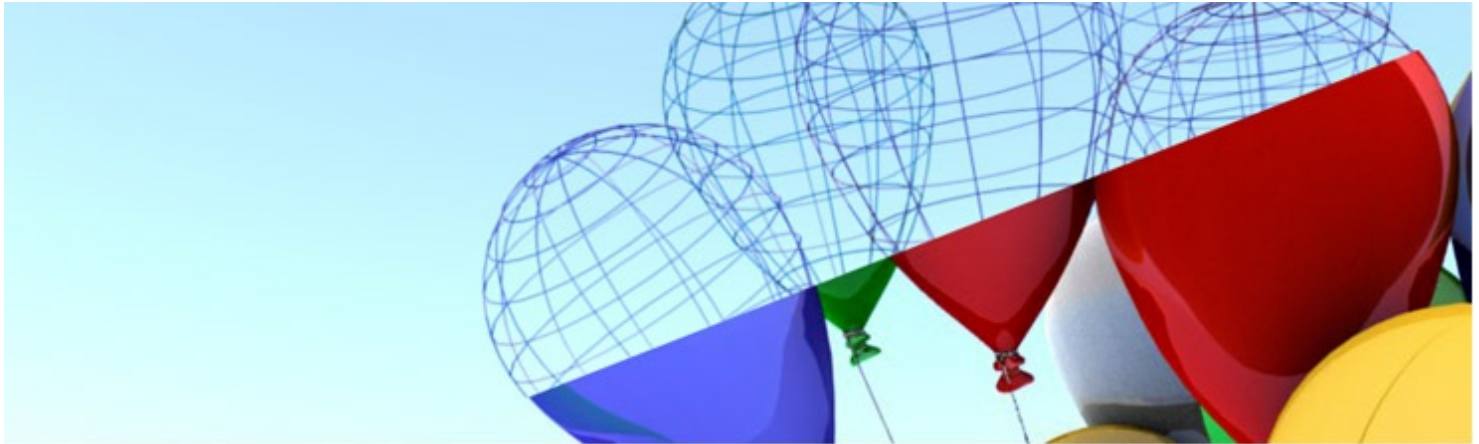
work must go into designing these graphical environments, as I'm still struggling to keep up with drawing simple planets in a solar system!

And Our Research Project Has Blossomed!

Posted on June 12, 2013 by connielu

After a productive group discussion about what we would be implementing for our research project, we came up with an idea that I am much more enthusiastic and curious about. Not only can it be relatable to product design/mechanical engineering (as this project will ultimately be presented to engineers), but it also makes use of the three configurations that were predetermined and set up for us. The general idea behind our project involves virtual reality as a means for individuals to perform rapid prototyping. Rather than using a 2D physical paper/pen or be constrained to a traditional keyboard/mouse input, we want to promote the possibilities of 3D modeling that can provide a more intuitive and efficient approach to design. With this more concrete idea in mind, our group was able to start on our problem area paragraph and are now set out to learn the capabilities of VRJugglua!

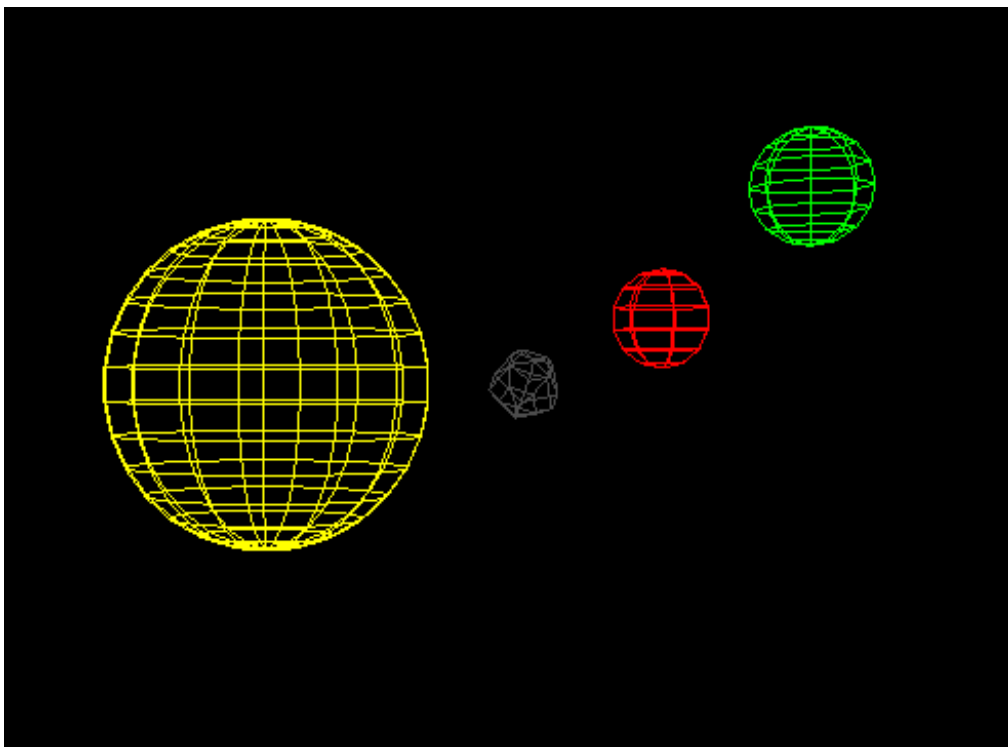For our OpenGL project, perhaps a playful balloon popping game…

Like a Lake in the Meadows

Posted on June 11, 2013 by connielu

Our graduate mentors Lisa and Andrea cooked us quite a meal for our picnic at Ada Hayden park yesterday. The area was absolutely beautiful, with a serene lake overlooking fields and trees of green. I was able to get in a good run around the lake, and had a glimpse of these houses. It must be nice living in such a quiet area so close to nature.

Our OpenGL computer graphics course today required us to think more conceptually – imagining three planes in your head is difficult! We played around with transformations (translations, rotations, scales), which we will soon be demonstrating through our solar system assignment. So far I have tentatively plotted wireframes of Mercury, Venus, and Earth around the sun:
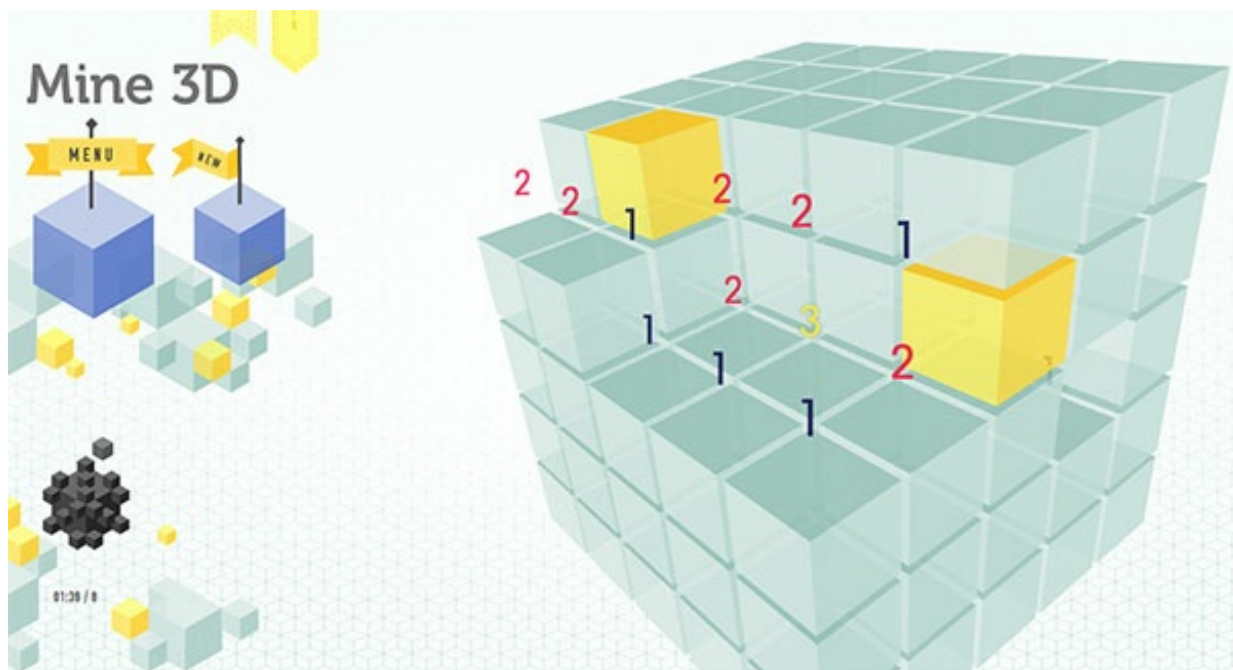
The luncheon lecture today was hosted by the very professor I am working with for the lost cost virtual reality project – Dr. Judy Vance! A professor in Mechanical Engineering, she actually obtained her bachelors, masters, and PhD all at Iowa State University. Her presentation gave a nice overview of what we would be working on; it's easy to see how virtual reality can be useful and applicable to a number of fields, including haptics, interactive stress analysis, and enhanced product designs. One interesting thing I noted was the user studies the Vance group conducted regarding the use of VR to train individuals on assembling a puzzle. Those that were trained on the actual physical puzzle before the test did better than those trained on VR. However, later on (not immediately after) the test was conducted again and the performance of those that were trained on the real puzzle dropped, while the performance of the other group increased. This presents a very interesting dilemma, and I'm curious to see what conclusions they end up drawing from this data. On a final note, she talked about both the drawbacks of being a woman in such a technical field as mechanical engineering as well as the opportunities she has had because she was part of a minority group. Hopefully as women start to see the influence of other females in STEM fields we'll start to see an increase in numbers!

A New Week, OpenGL Time!

Posted on June 10, 2013 by connielu

The REU Welcome Picnic on Sunday was held at a beautiful area just across from the water park near Frederiksen Court. Green plants flourished all around us! One day (when I wake up early enough of course) I hope to run at the trails there. I was surprised at the number of other REU programs that were also currently taking place at Iowa State. I met some interns from the Mechanical Engineering and Biological Materials Science programs, and similarly all came from different parts of the United States.

This week we're switching gears and learning OpenGL, a graphics library for rendering both 2D and 3D graphics. So far I've just scratched the surface and learned the basics of creating points, lines, and shapes. This site was pretty helpful in understanding how to use the basic methods; seems like you can do some pretty neat things! We have yet to discuss ideas for our group project, but a possible idea posed by Lanya: 3D Minesweeper?? Could be a nice transition from our C++ console-based 'Solesweeper…

Click here to visit the site and start playing! Credits to Lanya for finding this!

Educational Talk: Research and Articles

Posted on June 7, 2013 by connielu

Our first Craft of Research meet was an introductory presentation to what exactly "research" is, and why it is significant. Our group definition of "research": acquiring new knowledge based on replicable methods for the progression of society." According to the DHHS (Department of Health and Human Services) definition of research: "A systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge." I'm curious to see what definition our group comes up with toward the end of our internship here. Before, the term "research" in an educational sense generally had a more negative connotation to me in the sense that it was daunting and unknown to me, but here with the support and mentorship from my project members, graduate students, and faculty, it seems more manageable. The coming weeks should prove to be a test!

It was also nice to see the statistics on the number of women involved in computer science. Here in our small SPIRE-EIT program there are twice as many females as males, but worldwide we are definitely a minority. In my free time I hope to explore more of these resources for women: She++, Women 2.0, Girls Who Code, Grace Hopper Conference, CRA-W.

The journal article for this week, "An Interactive Augmented Reality Coloring Book" written by two researchers from the HIT Lab in New Zealand, was one that I enjoyed reading quite a bit. Not only was it straightforward, organized, and of a reasonable length, but it prompted a new way of thinking about augmented reality. I can see its significance in an educational sense (as mentioned in the article), as well as in other fields (entertainment, architecture, prototyping of designs, etc.). The basis of the paper was on 3D imaging techniques using augmented reality to encourage learning and by incorporating interactivity in information processing. Though I do hope to see these techniques being employed, I think there is still quite a ways before we start to see this kind of technology as a normal part of the everyday.

Just Another Update…Oh and Iron Man 3!

Posted on June 6, 2013 by connielu

After much debate about whether to watch the new release of Fast & the Furious 6 or Iron Man 3 in theaters, I decided to stick with the latter (per Christian's influence – good choice, by the way). Another great group bonding time – well, this time with only six of us – the rest were split between The Great Gatsby and Fast & the Furious). Apart from the action and humor which are crucial to any movie in my opinion, I couldn't help noticing the influence of technology in the movie. If only we could use gestures to manipulate objects, data, and information. Sure our technology has advanced dramatically from the "olden" days, but I'm guessing it won't be something I will be seeing implemented in the near future. Oh the effects of HCI…

Not too many updates in terms of our research – mostly catching up on the article readings and familiarizing myself with the Git environment.

Our luncheon lecture today featured a PhD student at VRAC, Nikolaus Karpinsky, who seemed thoroughly interested in what he was studying. He walked us through his research in 3D scanning, Holovideo compression (in which I was impressed with how he was able to bring a once 59 GB file into a mere 312 MB file), and portals (an idea of future Skype!). The different groups of people he has worked with are endless – in entertainment (Radiohead – Imagine Dragons!), manufacturing (John Deere), homeland security (with facial recognition), and the Department of Justice (using 3D imaging techniques to identify the specific tool used to break into containers storing Intel processors). I one day hope to share Nik's fervor for his job and his motivation in seeking new opportunities (whether it be in research, internships, or other studies).

A Visit to METaL, A Plan for 'Solesweeper

Posted on June 5, 2013 by connielu

For our research meet up yesterday Dr. Vance took us to METaL (Multimodal Experience Testbed and Laboratory), where we had a longer time to individually interact with 3D elements in space. We discussed ways of having a smoother and more intuitive way of maneuvering around the space, as well as using the Wii remote to position objects. Being able to walk around the displayed object and look through each respective piece was fascinating. I guess it's safe to say that when it came time for the Harry Potter display, our group was in awe. Not only were there realistic graphics and the theme song playing in the background for a more immersive feel, but there were also unique passages (for instance, the secret entrance through the wall painting) and mazes that we explored through. I'm definitely looking forward to testing our projects and working in this facility.

Additional information about the METaL lab space:

http://archive.news.iastate.edu/news/2011/dec/metal

In our C++ programming class today, we delved into the topic of compound data types. I'm glad that I'm able to have a refresher on C++, especially since the first time I learned it I was struggling with the concept of pointers and addressing memory locations. After this planet assignment is complete, I think the concept will become much clearer to me.

There's only a few more days left before our 'Solesweeper C++ game (our console-based version of Minesweeper) is due, but after planning out our implementation and the classes/methods we would include, I think our group is is off to a good start. Maybe we can even incorporate some ASCII art!

Juggling Work, Play, Gym, and JuggLua

Posted on June 4, 2013 by connielu

Now that things are picking up at work, I feel myself having to manage reading articles, setting up the git environment, and balancing extracurricular activities. Hopefully in the next couple of days I will be able to become more familiar with JuggLua – what we will be using to run our project. Switching gears to our evening activity at the recreation gym, I was able to get my first workout in since coming to Iowa. An immense rock climbing wall greeted me at the entrance, and even though I didn't try it out that day I will definitely be coming back to climb.

Yesterday we were able to delve into what application we would be creating with the three devices. In our "ideation" brainstorming session, we defined the scope of our research paper to be benefits of low cost virtual reality devices (for instance, as students, how would having low cost VR help in the learning environment?). Our group decided that the hydra head tracking configuration would especially be useful for an exploration-type application given the high accuracy tracking of the Hydra. Since the Kinect is only able to capture large motion/movement as opposed to small gestures, it would be ideal for more immersive applications. I had an idea of a "gestural Photoshop" (as Meisha deemed it) type practice, in which users might be able to zoom, copy and paste, and move elements around in three dimensional space. The details are still in the process of development.

At the luncheon lecture today, again I was exposed to even more opportunities in the graduate program field. Jim Oliver, director of VRAC, mentioned some benefits of pursuing further education, particularly the importance of networking and the chance to potentially work on more interesting projects in industry. He discussed work in academia to a pretty good extent, but my mind is still set on working in industry. Whether it be for a start-up or for a larger, more established company, or whether it be right after graduation or after a masters education, is still for me to ponder about.

First Weekend on the Ropes: Success

Posted on June 3, 2013 by connielu

Our first class in C++ today was pretty basic. I almost feel a little embarrassed that I missed so many questions on the programming pretest, but I guess it's inevitable when you don't program in it for so long. I definitely plan on looking through the questions I had difficulty on and reviewing the answers. I hope by the end of the week I'll be able to have a firmer understanding of pointers and other concepts that seemed to slide over my head the first time around when I initially learned C++.

And now for a review of the weekend: the ropes course was an unexpectedly exhilarating experience for me. I had worked at a challenge course as a facilitator once or twice before at my university, but had never actually participated in it as a group. It was a very different feeling from what I had anticipated, but definitely one I am glad I went through. A mixture of apprehension, surprise, and adventure overwhelmed me as I climbed to the top of the ropes course, as I dropped 30 feet on the pendulum tower, and as I let my guard down and trusted my peers to catch me as I fell in the "trust fall" activity.

By the end of the day, I think all of us had come to appreciate one another's company a little more as we bonded over the challenges some of us had faced (heights, flying spiders, and whatnot), stuffed our faces with some Mexican cuisine, and later, slept the afternoon away.

C6 and the Power of Technology

Posted on May 31, 2013 by connielu

Yesterday we experienced a virtual reality in the C6 aircraft carrier demo – one that only few have been privileged to see. We were in an enclosed space with six walls (hence, C6) powered by twenty four projectors and 48 supercomputers – no wonder it's a five million dollar room! It was fascinating being able to observe the different views, explore the parts in larger than life size, and ultimately feel as if I was immersed in the aircraft world. It was even featured on the news!

http://www.kcci.com/news/central-iowa/Check-out-the-ultimate-virtual-reality-theater/-/9357080/19905066/-/dpwcl8z/-/index.html

On the other tours, we were given a demo of a target shooting game where we used airsoft guns (with tracking points on the helmet and the gun), and assembled pieces together using the Wii remote. The user experience lab was my favorite one, I think partly I was a little more familiar with that field.

Back at the haptics lab where our research team would be assembling our project, we were able to try out the haptics pen and watch as the 3D printer steadily (and a bit noisily) printed out various pieces. It was definitely nice to

see the printing process in person, as before I had only seen such activities in online videos. I was even able to hold a mini teapot that had been printed with this method! Playing with the haptics pen was quite an experience as well; with the active 3D glasses on and glove in left hand, we assembled pieces together and received feedback when say, the pieces collided together.

On another note, after talking to my graduate student mentors I find myself once again exploring the possibility of pursuing a masters degree in Human Computer Interaction. They mentioned opportunities for doing research under a professor, and the added salary and experience that might come with having additional schooling. I am still debating between working in industry after I graduate or attending another two years at graduate school, but I have a feeling that after this internship is finished I might be leaning towards the latter.

Welcome to Iowa Gift

Posted on May 30, 2013 by connielu

Waking up the first day of the program with a 101 fever and a cold was definitely not what I had expected. But then again, I guess you never know what's going to happen next. Who would have thought I would spend one summer in the corn fields of Iowa working with renowned researchers and engaging in the studies of virtual reality?

After the welcome dinner Tuesday evening, I had a good feeling about what was in store for me in the next ten weeks. The faculty members seemed confident that by the end of the program we would all have something impressive and original to show for our work. 12 selected out of 210 applicants doesn't seem too bad.

On Wednesday we embarked on our first tour of the university, our research facility where we would be interning, and of the city of Ames. My first impression of Iowa State was that it was a fairly nice campus with an absurd amount of green grass. It must be all the rain that scatters the area. The weather is definitely interesting with all the tornado warnings and "hot rain." Apparently this had also been the wettest spring Iowa has seen. We had a quick tour of where we would be working, but I'm sure we will see much more of that as we start working in our research groups.

Whether it be the gift of this experience, the gift of my fellow interns and gradute/faculty mentors, or even the gift of this lovely sickness I hope to soon conquer, I am excited for what is to come.