

## Sarah Belter

### Posts from me

#### Bittersweet

Posted on [August 2, 2012](#) by [sbelter](#)

Today is our last work day as tomorrow our day centers around the symposium! It is really exciting to be able to show off all of the hard work done over the last ten weeks. Posters, videos and demos all ready to go! Just wrapping up the final copy of our research paper!

Thank you everyone for an amazing summer, one that I will never forget!

Posted in [REU](#) |

#### 3 days out of 70(ish) left

Posted on [August 1, 2012](#) by [sbelter](#)

This week is already half way done which is shocking.

Yesterday we got to go learn about extremely proper formal dinner/dinner interview etiquette. Although it may seem goofy a lot of it made sense and is practical in use. Later that day Rick sent out our data analysis from our experiment and we got some significant results out of the whole thing which is exciting and I am proud of what our group was able to accomplish.

Today we did a practice for Friday and Stephen gave us some great feedback. I am sure I will be nervous on Friday, but talking about something we worked on for ten weeks feels really natural then a presentation put together in a week.

I am going to miss Iowa, it was probably one of the best experiences I have ever had. The people here, both mentors and other students, have been great to work with and I appreciate all of the time everyone devoted to this program. Although the entire research process and our projects were the most useful in terms of experience, the time spent with these people outside our projects hold the best memories. The extra circulars around Iowa: dinner downtown, trips to Des Moines, light painting, hiking, canoeing, and visiting the farm stick out in my mind. Also, the time spent together after work playing board games and watching the opening ceremonies will make me miss our little REU family when I go back to school. I don't have much to write about how to improve the program here, I have written a bunch in the class surveys along the way and will write more in the survey tomorrow. Looking back now at things that were frustrating seem like a distant memory and will fade behind all of the good times I have had here and all that I have learn.

Posted in [REU](#) |

#### Final Stretch

Posted on [July 31, 2012](#) by [sbelter](#)



I had a laid back last weekend in Iowa which was mostly pushed by rain on Saturday and some laziness on Sunday.

Yesterday we got a bunch of stuff done! We turned in our poster, which thanks to Andrew looks awesome! Charlecia and I watch 150 minutes of robot driving video and reliving every single acrylic crash the participants made. But looking at the maps we hope there is something significant. We have a start and I can't wait to see how it compares to the automated parts of the experiment. Then last night my lovely cousin came to Ames after a bunch of meetings in Des Moines (which apparently the s at the end is silent). We got dinner at The Cafe and then walked Ada Hayden Park which was great! I have been extremely lucky to see so much of my family while being in Iowa 🍷

Posted in [REU](#) |

## Life on the Farm

Posted on [July 27, 2012](#) by [sbelter](#)

Last night a small group of us spent the evening at DeMoss Pumpkin Farm and it was one of my favorite extra curricular activities this summer.

We arrived and met Dick DeMoss, owner of the farm. He was a lovely and intelligent old man who you can tell is extremely passionate in what he does. He showed us around his farm, first on a walking tour, focusing on his variety of vegetables, then we hopped on to a hayless hay ride through the corn fields. It definitely satisfied my desire to run through the middle of the corn field. Surprisingly DeMoss grows three kinds of corn: sweet, Indian and popcorn. Unfortunately the previous night's storm knocked down most of the tall corn stalks and uprooted a portion of their pumpkins. After the tours we started a small campfire (approved by the fire department during the burn ban) and cooked hotdogs and smores. It was delicious.

Being on the farm gave me a first hand look at the destruction caused by the drought. DeMoss has a metal archway that they grow ghords over on a normal year, but the heat has caused the metal to burn the plants to death. Also the heat has been destructive for many of their other vegetables. But through it all the DeMoss family seems happy. I was surprised to learn of a 35 year gentleman's agreement that DeMoss has with their friends at Pirarie Farms. The man allows DeMoss to have four beehives a year, for free, and will check on the colonies, collect, strain and return the honey to them (again for free). It is something that does not occur in a world anymore as attention is drawn to everyone's bottom line: money. This was an amazing experience and I am glad I had the chance to experience a real, small town family farm.

Posted in [REU](#) |

## The Principle and more

Posted on [July 26, 2012](#) by [sbelter](#)

Yesterday we got to spend time in Des Moines. The science center reminds me of the one in Seattle a ton, but it was cool that we got to see the HUGE IMAX projector and movie reels (including Dark Knight Rises). Then we had lunch downtown at a place that had amazing views of the city. Lastly we went to The Principle, which I really enjoyed learning how they conduct user studies (which are different then the ones I have been in at Microsoft). I really enjoyed it and it gave me a better picture of what that work at a non-computer (they aren't producers of major software etc.) corporation.

Today we finished the last of our experiments and now we are going to focus on data analysis, writing results, writing our research paper and finishing our poster!

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## Long time no write!

Posted on [July 24, 2012](#) by [sbelter](#)

I'm sorry I stopped writing on here the last week or so, things with our experiment have gotten extremely busy!

Today is day two of our experiment and things are going well once we got over some hiccups from the first few participants yesterday. All in all I am excited to see what the results will bring. Although shuffling back and forth between VRAC and MacKay is not ideal in the extreme heat we are currently experiencing.

The end of this week and the beginning of next week will be crunch time for data analysis, our poster and our paper. We have a lot to do in the last 12 days here and it is more exciting then stressful (surprisingly).

Other random things going on: for the baseball people out there, Seattle's beloved Ichiro got traded to the Yankees just hours before the Mariners and Yankees started their series in Seattle. Interesting turn of events. Also in the world of football, the NCAA slammed Penn State with penalties and fines (reminding me much of the USC hit three years ago). I understand something had to be done, but punishing the past players by taking their wins is so strange, the situation in question did not change weather or not Penn State would have won those games.

Lastly my cousin is going to be in Des Moines next Tuesday so I get to see her, which will conclude my seeing of relatives who are in Iowa, it was a blessing to be close enough to see most of them this summer and I am extremely grateful for that.

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## Course Complete

Posted on [July 18, 2012](#) by [sbelter](#)

Yesterday we finished building our robot environment and it looks fantastic! I cannot wait to get our obstacles all set up today and start running our robot around and get started. Rick was super excited and had great suggestions for making numbers out of our data, and we can start getting numbers with as little as five participants. I cannot wait to get started!

Had our video interviews this morning and it was super chill, the crew was extremely nice!!

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## So much wood and too many stairs

Posted on [July 16, 2012](#) by [sbelter](#)

Today we started moving wood over to McKay Hall for our robots course. Severely wishing we used paper right about now. We only have about half moved and will do the rest after lunch. First we had to get the wood out of the loading dock which was its own adventure because the 8ft boards do not easily fit out the door with the equipment we had. Then the trek across campus to get the wood from black to McKay was not easy but we managed. Now McKay Hall does not have any ramp ways so we spent the morning carrying the 4x8 particle board up what seems like an endless amount of stairs. After lunch we have to load up the last of the wood, trudge across campus and carry it up more stairs. All I can think about is doing the reverse later when our experiment is all over. Madness!

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Posted on [July 12, 2012](#) by [sbelter](#)

Yesterday we got to go to the the John Deere Campus and tour some of the factory buildings and their Virtual Reality Applications. I really enjoyed the experience and I am realizing that when our leader in the VR room was saying there is not a lot of programs for industries I was intrigued. I want to write programs some day that people use that are meaningful and although an individual company may not be a huge target market, it can be a really key tool in product development, customer relations etc. I feel that I could really enjoy doing something like that.

This morning we had a group meeting in Black Engineering to really solidify our experiment and that the next few days are going to be a push but could lead to an amazing pilot next week! I need to focus my efforts on the simulation program I am working on as well as going to Lowes with the group to get a materials list built. This weekend is going to be busy as well while we construct our room from scratch.

The luncheon lecture after our meeting was extremely interesting. Les Miller from the computer science department does work with the census buero and work in how humans work with high or low visualization. Then after that we had ethics and another round of intriguing discussion that really got me thinking about my beliefs and values on right and wrong. Also how not every situation can be looked at with a cold analytical view, sometimes feelings and emotions are just as important.

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## Tuesday!!

Posted on [July 10, 2012](#) by [sbelter](#)

Today is Tuesday and there seems to be a lot going on but not a lot at the same time. We have plenty to keep us busy with our project, yet all of the required classes have been cut back and our time is ours to control. I think our t-shirts will turn out really cool when they are finished!

Tomorrow is the John Deer tour which should be super interesting!

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## What a weekend!

Posted on [July 9, 2012](#) by [sbelter](#)

I had another busy but wonderful weekend in Iowa. On Saturday I got to see my Cousin Jennifer, her husband Brett and their lovely two year old Evie. We had lunch, hung out at the apartment while Evie took a nap, went to the aquatic center and had dinner. Sunday morning we went to breakfast and drove around campus. I am extremely glad they took the time to come out and see me! Evie is a cutie pie who enjoyed the water park, especially all of the slides! Plus, they had intertubes with a bottom so Evie could go in the lazy river with all of us!

Sunday after breakfast I went off with the crew to go Canoeing on the Des Monies river. Our 6 mile, 5 hour adventure was amazing! Adrianna and I were partners and enjoyed an afternoon of chatting, applying sunscreen and of course being awesome at canoeing!! We managed not to flip our canoe and only got slightly stuck on a sand bar once.

All in all a very good weekend! This week we are in full planning mode to get our experiment ready for next week! And today I somehow accidentally turned the roomba into a monster... I still have to figure that one out. Anywho, lots to do this week plus a John Deer factory tour on Wednesday!

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## Ideas a flying

Posted on [July 6, 2012](#) by [sbelter](#)

Everyone has such great t-shirt ideas!! I know whatever we choose will be fabulous!

I am excited because I have been working on an algorithm simulator which right now can allow for random and pre-placed obstacles and is running the lawnmower algorithm right most of them time. The simulator is great because we can see potential problems the algorithm, in its basic state, will run into and the need for a “smarter” algorithm. I cannot wait to program more algorithms into the system.

I think our team meeting today will be very productive! We have our lit review and methods to go over, as well as planning more for our experiment. This are starting to move, slowly but surely, just like a steam engine. Soon enough we will be flying along again ☺

This weekend is jam packed with fun again, my cousin and her family are visiting and we have our group canoe trip!

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## Week 6 Part 2

Posted on [July 5, 2012](#) by [sbelter](#)

It is presentation day! I am both nervous and excited (as I am with every presentation). There is a lot our group needs to get done. After a team meeting Tuesday we realize we need to start our experiment next week so we are scrambling a little. Our biggest hope is to get our robot working so we can continue with our main experiment, but we are playing around with more minor pilot/experiments that we would have time to put together. All I know is that the next four weeks will be crazy.

Today our luncheon lecture was extremely interesting as we talked more about usability and desireability. A product is only sucessful if there are people who want it and has some sort of “cool” factor. I think it would be an interesting area of research (although I would have to move some from programming and find my creative side).

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## What is in your future

Posted on [July 3, 2012](#) by [sbelter](#)

Our luncheon lecture with Eliot today was extremely thought provoking (which are my favorite kinds of discussions). One question I have been mulling over is when he asked us what we thought the iphone would be like 10 years from now. He asked it while an image of the sucession of ipods were on the screen. To be honest I have no answer to his question but it made me realize that is someone had asked me ten years ago when the ipod was new what the next step would be I would have never imagined the birth of the ipod touch, let alone the ipad and iphone. Because I thought of touch screen as something in such a distant future when I was young, I would have never believed at age 20 I would own a ipod nano touch screen or a kindle fire. I could go on about the “exponential growth of technology” that is occuring right in front of me. Some day my children will live in a different world then I did, just as I do in comparison to my parents. I mean I spent at least the first half of elementary school carrying a floppy disc and struggling with the fact that I worked on a PC at home and at school I could not get programs to work on the Macs. I'll stop rambling now, I just find all this extremely fascinating!

In other news my cousin, her husband and young daughter are coming to visit on Saturday! I look forward to another lovely and busy weekend. PLUS tomorrow is the fourth of July! Going to see fireworks tonight and maybe hit some of the downtown events tomorrow morning ☺

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## Here we go again

Posted on [July 2, 2012](#) by [sbelter](#)

The start of yet another week in Iowa.

Over the weekend I enjoyed a day out at the farmer's market in Des Moines. I bought some sweet corn, green beans and peaches. The peaches ended up being particularly disgusting, but the corn is good and I plan on eating my green beans in the next few days. On Sunday my Aunt and Grandma came to visit which was definitely one of the best parts of my time here. I haven't seen them in almost two years so it was great to spend time with them. We got to chat for awhile in Freddy, then we spent a few hours in the blistering heat at the Reiman Gardens next to Jack Trice Stadium. The garden is beautiful, although some of the flowers are reaching the end of their life. They also have a butterfly house, reminds me of the one in Seattle at the Pacific Science Center. The biggest difference though was that here the butterflies were fluttering everywhere. I think it may have to do with the enormous amount of sunlight coming in versus the cloudy days in Washington. We then went to hickory park for a late lunch which was delicious. I was sad to see them go but I enjoyed having them here and grateful to my Aunt for driving her and my Grandma out.

The calendar seems to finally be opening up but for me I am feeling I am getting way less done than when we were super busy with classes and due dates. Our arduino board got fried so we are waiting on another one. Considering we had wanted to have the robot done by week three it is extremely troubling that we are starting week six no farther along than before... at this point I don't even see us getting to our actual experiment. I guess I just have to keep pushing along and hope things begin to work out.

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## The end of the first half

Posted on [June 29, 2012](#) by [sbelter](#)

Week five is ending and we are passing the halfway point already. This time here has gone by so fast! It is a crazy birthday Weekend: Amanda today and Tim on Sunday!

I have a busy weekend planned: Saturday in Des Moines at the farmer's market and the mall, then Sunday with my Aunt and Grandma who I haven't seen in nearly two years! It will be a fun and busy weekend.

Well we made it through writing our IRB modification, literature review, research questions and are polishing off our methods paragraph. We have a presentation to give soon on our projects which will be interesting so we can see what everyone is doing with their research since we were introduced to it the first week.

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## hilarity in a normal day at VRAC

Posted on [June 28, 2012](#) by [sbelter](#)

So after our luncheon lecture today we all returned to our computers to our numerous group photos from yesterday.

They cover the spectrum: The Good, The Bad and The Funny. Flip through posts from today and plenty of funny photos will be revealed. I will post a few photos down below.

This afternoon Telerobotics will head to Black (with our new key) and work on our roomba with the arduino chip. We did some fun experiments tuesday so hopefully we can get some stuff working today!

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## All the bells and whistles

Posted on [June 27, 2012](#) by [sbelter](#)

A constant beeping is currently floating about the lab in VRAC. This was preceded by the lovely fire alarm over at the UDCC. I have a feeling the noise will be around for awhile, I guess I should plug in my headphones. But playing music is its own distraction from work and prevents me from hearing important group conversations. AH! The beeping stopped ☹️ Murphy's law I guess, I was trying to find a solution for the noise so it stopped, but i'm sure if I had ignored it, it would have continued.

Today our group is a sea of red in our HCI polos we are wearing for group photos this afternoon. Usually wearing something different like a polo or dress shirt makes me more fidgety but I guess the months I wore polos at Jamba Juice has created a new comfort level in wearing genericly shaped polos. Atleast they aren't white, because I don't feel I have to worry as much about keeping it clean (which always made me wonder why we wore white at Jamba Juice when we made various colors of smoothies).

Yesterday our arduino parts came in and we enjoyed a good hour of tinkering with what we could do with it. We had blinking and color changing LEDs, songs of Twinkle Twinkle Little Star and Happy Birthday; we even set up a pressure sensor to control the light or speaker. (And now that beeping is back). We also got our key to the lab in Black so we can go down and work on the roomba whenever we please, not just when we can be let in.

Lots of deadlines are coming up, but I feel that once we pass those it will be smooth sailing for awhile. I also started reading for ethics about William LeMessurier and the Citicorp Tower situation in 1977-1978. Really interesting and I cannot wait for the discussion tomorrow.

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## Feeling accomplished

Posted on [June 26, 2012](#) by [sbelter](#)

After readjusting our project goals and methods we breezed through our irb mod which we will go over today in our team meeting. Plus our arduino parts are in so we can finally make some real progress with the robot (assuming all works according to plan).

On Sunday my aunt is coming to visit and will be bringing my grandma and I am so excited to are both of them! I haven't seen them in almost two years since my cousins wedding. Lots has changed in our lives and I can't wait to catch up with them.

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## Enter Week 5

Posted on [June 25, 2012](#) by [sbelter](#)

After a clarifying Friday afternoon meeting with Eleese I feel like our group knows what is going on, our general

goals etc. We were enlightened to the fact that they had done previous experiments, got to see some video, and discuss what we need to focus our data collection on. We finished our IRB mod form finally and we hopefully won't have to make too many changes. Our OpenGL project is so close to completion I am excited to finish it.

Over the weekend I went with Andrew, Andrew and Shea to the water park which was super fun! But later that evening I found out that I got super sunburnt on my shoulders and back. But it was worth it and it is quickly healing. I learned that there is a paved trail that I can run on that is a few minutes from Freddy's which is fantastic! I also learned how to play Small World and Ticket to Ride which are very entertaining board games.

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## Wrapping up another week

Posted on [June 22, 2012](#) by [sbelter](#)

Reaching the end of a week is always surprising, another week of this wonderful experience has gone by. We are getting to the halfway point with week 5 coming up and I look back at everything I have already done and it is amazing, and looking to the future there is so much to still do and learn while here in Iowa. This beats working at Jamba Juice everyday (although I do miss the smoothies).

This afternoon looks to provide clarity to our telerobotics research project which I am excited about because we have recently realized we shot and arrow in the dark and hit the edge of the target. Hopefully now we will be right on target with our methods, experimental design, research question(s)/hypothesis and can be successful.

I have begun to realize how much looking at a computer for 8 hours at work and various hours each evening have been straining my eyes (and probably contributing to my headaches – which I have avoided today so far). So I have been printing more articles to read on paper, I don't prefer to print so much but for my sanity's sake it seems necessary. This has led me to look into buying an e-reader with the e-ink screens. Looking at both Kindle and Nook they have pdf, doc/docx etc. that would be really nice as well as note taking capabilities. I also hope that it would promote some more leisure time reading with access to library books and inexpensive novels. If anyone has an opinion on the Kindle or the Nook let me know!

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## Days are moving in a blur

Posted on [June 21, 2012](#) by [sbelter](#)

I cannot believe that it is thursday already, yesterday I completely thought it was tuesday night. The days are blurring together as my to-do list turns into a mountain while I can't check off items as fast as they are added. All of the while I have been plagued on and off with headaches since Saturday, which for me is unusually especially since I have been drinking more water and going to bed earlier each night this week.

We've had shifts in our research project with Eleese becoming more of a lead mentor. Yesterday we figured out that maybe we have not been heading in the right direction with what we plan to do with our experiment and the type of papers we have focused on reading. It is a lot to take in although I am glad we will have someone who will communicate more details and give us more direction in our project. Now we have to rework our experimental design so we can adjust our IRB Modification Form. But the arduino parts for our roomba should start arriving tomorrow, which would allow us to finally get that thing to work after frying the last chip we had used.

But along side of this we have had some good success with our OpenGL solar system which has the Sun, Mercury, Venus, Earth and Mars. Each of which we have orbiting, rotating, textured and lite. Now to create a skybox of stars which will create a backdrop.

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## Light Painting and No Power

Posted on [June 20, 2012](#) by [sbelter](#)

Yesterday was quite the event! The area lost power at about 10 to 3pm, which being in the Black Engineering Lab was a little creepy. We got back to VRAC and all was silent, like complete quiet. No whirring of the computers or AC or anything. Whispers could be heard the same as someone with a normal voice.

Over at Freddy's there was no power, which meant our apartments were slowly warming up so few dared to open their refrigerator or freezer. So we went out to dinner in the now repowered Ames to Fighting Burrito which was similar to Qdoba or Chipotle. Then we wandered through town for awhile.

Later we went light painting which was so much fun!!!! I also caught a firefly! We did some really cool stuff with the light painting!

The last picture was still in a mostly dark area, but it looks light because of people shining lights on us. The letters in the back come from people shining lights at the camera!

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## Planets and Light Painting

Posted on [June 19, 2012](#) by [sbelter](#)

So in our computer graphics programming class using OpenGL we are going to be creating a replica of the solar system. So far I have the precreated rotating sun and created a rotating mercury (which currently lies in the sun). I am pretty confused with the OpenGL syntax because it is something I am not use to and he gives us tons of code to start with.

Tonight we are going light painting which is cool because I have seen light painted photos but have yet to have actually done it myself.

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## Week 4 is a go!

Posted on [June 18, 2012](#) by [sbelter](#)

After a relaxing weekend that included rotel and bowling I am looking forward to getting things done this week, hopefully for our robot: getting a system working, programming algorithms etc.

Later I will post the pictures of my model once I can log back into my desktop at the lab. Although incomplete, what I have of the cutlass all colored looks pretty cool! Tonight my brother is having his Eagle Scout Court of Honor and I can't wait to see the photos!

I am finally realizing how flat Ames is, my last few runs have left me pain free the next day which either means I need to run harder, or longer, but if I could find some hills that would suit me just fine. After years of hill drills in high school track I never thought I would miss those dreaded steep roads. I even tried the stair master at the gym and it

was just not the same. No offense Iowa but cross country must be really lame without the hills.

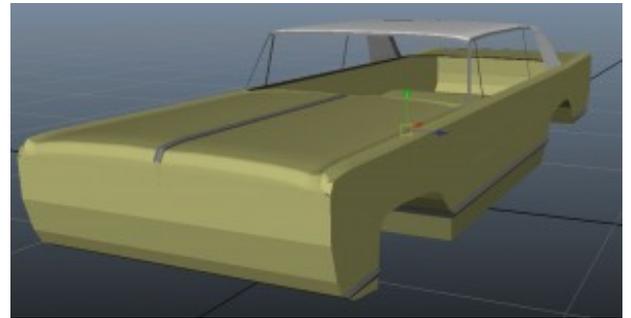
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## Omg it looks like a car

Posted on [June 15, 2012](#) by [sbelter](#)

Yesterday finished with good and bad. A little bit rough in the afternoon but had a fabulous dinner at The Spice Thai Food restaurant: I LOVE PANANG CURRY 🍲

This morning I made some big (but much better) changes to my 65 Cutlass model in maya and it is really starting to look like the car! (See pictures below) The rest of today I am done with one group presentation/discussion and off to the next pretty soon. Then finally the weekend. It sounds like we have some great cooking to look forward to tonight! I'll probably come in sometime to work on my model because it is so much fun!!!



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## Rolling week

Posted on [June 14, 2012](#) by [sbelter](#)

This week is almost done and while I feel like I have accomplished a lot, there is always more things added to the list then completed. This afternoon in team meeting should hopefully accomplish a lot things we need to figure out for our research project: Hypothesis/Research questions, moving toward our IRB modification, and getting through our journal club week.

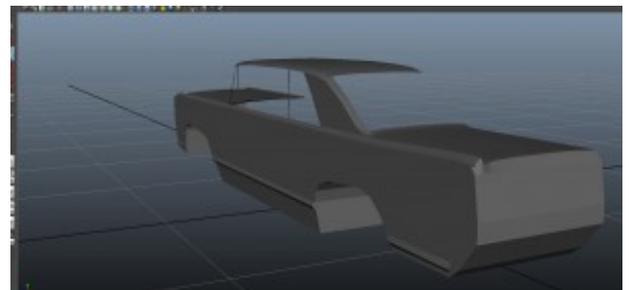
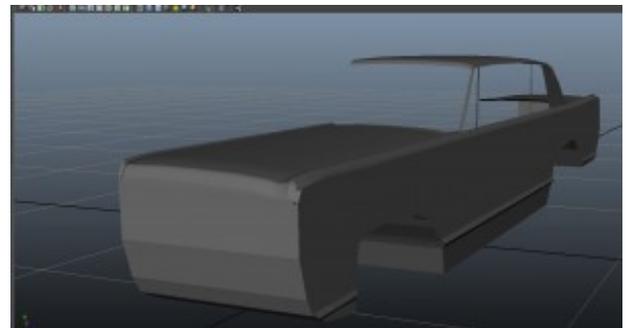
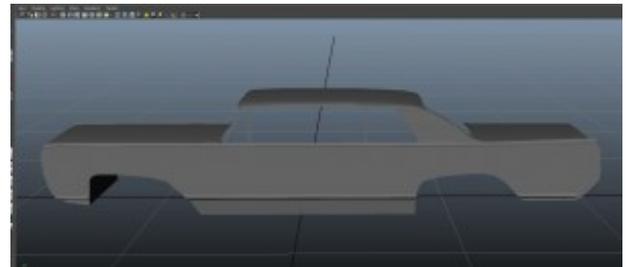
We are still figuring out the arduino potential, but from the software/programming side it looks extremely promising as long as we can figure out the hardware aspects.

For my modeling project I am making slow progress:

I am doing only half the car currently so I can mirror it later. It still looks crude but the hood is coming along nicely 🍲

This is the ideal finish look of a 1965 Cutlass (or something resembling it)

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## Software > Hardware

Posted on [June 13, 2012](#) by [sbelter](#)

Yesterday afternoon we managed to fry the EZB chip for our robot, and after looking into eventually programming with EZ Builder and it did not look good. So we are now looking into arduino chips/software. The program looks

complex which could cause some serious trouble. If we don't get this robot figured out we have no project. Hard to accomplish when we don't have access to the lab space we work in.

This morning we were doing modeling and I am going to crudely attempt to recreate my Dad's 1965 Cutlass Oldsmobile. Should be an interesting process. So far so good with the model:

Lots of work to be done but I am super excited to continue this project!

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## Running out of blog titles...

Posted on [June 12, 2012](#) by [sbelter](#)

We started today with our Maya modeling class, I enjoy learning the program although it still feels overly complex to me, maybe because I am not trying to create anything too detailed. We got to start learning how to texture objects which was a long but interesting process (once I got the hang of it). Later this afternoon we can finally see if our new roomba will work!! I can't wait!

Not too much else going on currently, just chugging right along with all of the things that need to be done!

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## Back in the game!

Posted on [June 11, 2012](#) by [sbelter](#)

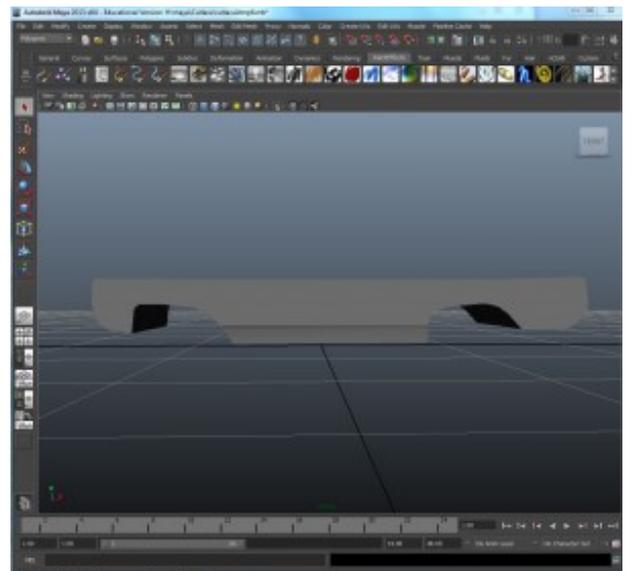
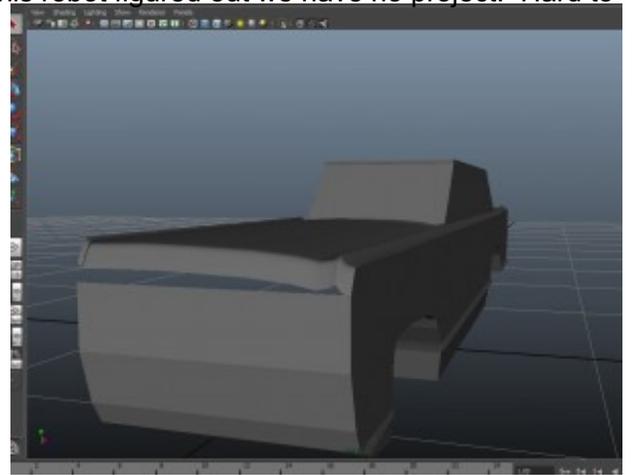
Apparently there was a thunderstorm last night and I slept right through it. After lots of travel and a long graduation Saturday I got back to Iowa, hit the REU picnic and then crashed at 9:30pm. The trip was well worth the lack of sleep.

Today we started learning/playing around with Maya. It is a really neat program but seems overly complicated to me. I am going with the simple click and drag functions in other programs, I will get use to it over the next week I'm sure.

So we got our new roomba HAL who at first seemed unuseable in our situation but after a group dissection of the robot we found the magic PS2 port (which of course was simple under the pop off faceplate). It now sits in the lab charging and tomorrow we will finally get to see if it will work (exciting!!).

There is a lot to do this week: turn in our problem area paragraph(s), start our introduction, solidify our hypothesis and research questions, read a textbook on planning algorithms and choose a journal club article ☺

Posted in [REU](#) |



## Long week and a fast past weekend!

Posted on [June 8, 2012](#) by [sbelter](#)

While drawing near the completion of the first full work week I am definitely exhausted. I have crammed more information into my head this week than I sometimes do in a month at school. It is all good and useful new knowledge it can just be like getting shot with a firehose. But it is nice to finally get into the swing of things. Google documents will be my new best friend for all the collaborated work we are doing and it is great that our mentor Peihan is in on the system too.

Slowly building up our hypothesis and research question(s) now that we are doing some writing. I am excited for next week when we get our robot and can finally get it working! But between now and then I have a busy weekend: fly to Seattle tonight, my sister's graduation saturday where I will see tons of friends and family, then up early on sunday for the flight back to iowa just in time for the all REU picnic! Busy but this program has given me so many tools to stay connected. VPN access to our network files, google docs plus good ol' email and cell phones. I've printed and downloaded articles to keep myself busy on the planes.

Next week just becomes more exciting with building our robot and starting the modeling course ☺

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## Decisions, decisions

Posted on [June 7, 2012](#) by [sbelter](#)

Coming up with a solid hypothesis and related set of research questions seems to be a circular process.

When one decision is made it tends to open up a dozen more questions. I guess this is how we work to make something broad more specific but starting so open ended is hard. So by choosing search and rescue as a task we then have to decide our measure of performance, but while doing that questions of LOA, static vs. dynamic environments, time specifications, workload etc. begin to spring up everywhere. Each needing its own decision to be made in order to create a proper study.

The sooner more decisions are made the better I will feel about the direction our project is going in.

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## My good friend C++

Posted on [June 6, 2012](#) by [sbelter](#)

It is good to get back into coding again, the short break was nice but I still feel rusty. It is nice to have project to do again and we are rolling right along with our Craps program!

And of course I am always searching and reading plenty of journal articles about telerobotics, autonomous search, search and rescue robots etc.

Pictures from the ropes course are up if you hover over extracurricular activities there is a creating memories tab that they are all loaded to ☺

Not much else to say today ☺

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## The two interconnected world of industry and graduate school

Posted on [June 5, 2012](#) by [sbelter](#)

Today we had a lecture luncheon with Dr. Gilbert and we had an interesting conversation about his experience with both grad school and industry in the HCI field.

Having not really heard of HCI before this summer, the field is very interesting. The combination of different fields in order improve software usability, create new virtual and real life programs for medicene, military, and private companies is something I could see myself doing. I have been very back and forth with what I want to do after getting my bachelor's degree, industry or grad school. HCI has this seamless flow between the two: graduates do amazing research that sometimes are working with individual industries and at least from ISU, many masters and phd students are going into industry.

In basic computer science I have wanted to work in user interface: how does a program present itself to the user? Is it easy to use, complicated, managable depending on your skill set? I have been through plenty of frustration with programs, games and machines that are targeted for a specific set of people, who really cannot figure out how to easily or effectively use the product. To have the ability to not only make new, usable programs, but to also improve upon others would be a fantastic job. The world of user interface is growing faster then I realized and I cannot wait to be apart of it, either in a company or in an HCI department in grad school.

For now the future is still my oyster per say, but being able to learn about new opportunities makes the future all the more something to look forward too.

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## Let the real work begin

Posted on [June 4, 2012](#) by [sbelter](#)

This past weekend was awesome! We did a ropes course with trust falls, the biggest rope swing ever, and then a climbing tower! I wanna thank Andrew, Andrew, Monica, Britta and everyone else who didn't let me give up on the climbing tower and helped me reach the top platform! It is great to know that we all are there to support and help each other no matter what the challenge may be.

Today the real work began. First thing this morning (after running) the telerobotics group went to work on our robot for the first time, we have yet to see if our new PS2 cable works but we will know soon enough. But I am really excited to get back into programming, one month is a long time to be out of the swing of things. Our group is going to program the dice game craps. Should turn out pretty cool.

Later is our first HCI intro course and I am excited to learn more about this subject area. Afterwards free time will be filled with research papers and trips to downtown.

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## I will give my life away to research

Posted on [June 1, 2012](#) by [sbelter](#)

I have entered a program that is not the typical 9-5 job, there will be numerous hours spent outside of the work day researching and reading (and reading and reading...).

I should just compare this to going to school and doing homework/studying instead of it being a summer job. I am

sure I will fill my laptop and backpack with tons of papers about HCI, telerobotics, computer science, engineering, etc. For not it seems managable so I will just look for ways to make all the reading enjoyable (I mean the topics are interesting, the actual reading is just a pain). But this is a chance to learn **and apply** new ideas. Looking back at school I do plenty of learning, but hardly any time is spent in application beyond discussions of concept application.

I am excited and nervous all at the same time.

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## First Few Days in Ames at ISU

Posted on [May 31, 2012](#) by [sbelter](#)

VRAC, HCI, Freddies, CyRide... So many new names, places, people and things to learn.

Being in Iowa is certainly different from Washington: fewer hills, more farms, and a different time zone, but not so different from good ol' Pullman. A true college town, big campus, a good bus system and lots to do. It will take a good week to start learning where everything is and not get lost and confused everytime I leave my apartment. Being one of 12 in the SPIRE-EIT out of 211 applicants is a big honor, and it is great to be in a group of people who all want to be here versus summer camps from long ago when half of the kids were forced to go by their parents.

Things have been rollercoaster like the first few days: I had a good set of flights with no problems, got to ISU, checked in etc. Yet on day two we had a difficult time getting our ID cards, therefore not able to get a network ID, which then prevented us from getting on the normal internet connection. But day three has smoothed everything out.

There is lots of reading to be done over the next couple of days to get into our research projects, and other activites going on.

~Sarah

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Press f for fullscreen.

