Andrew Mendez | REU | 2012

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Andrew Mendez

Posts from me

The Finale!

Posted on August 6, 2012 by amendez

The final presentations are over!!! I was really nervous but I ended up doing well in my opinion! Its crazy how this is the last day of this program. 10 weeks have gone by and it seems now that it went by in a flash. So much has happened this summer. I learned about programming, 3D modeling, graphic programming, and how to conduct a full research expierement. My team and I designed an experiment in a virtual environment and tested it with 9 pairs of participants. After reading papers, discussing different methods and choosing how we were going to conduct our research, our view averaging method improved participant's accuracy and minimized distortion inside a 3D virtual environment! This is great results and could benefit the future of 3D displays! Well im getting too ahead of myself. At least we laid the foundation for other people in the VRAC lab on methods for improving distortion.

I have to confess, I was not sure how long my sanity was going to last these last two weeks. I got extremely stressed about the results from our data. I felt convinced that from the results of the pitch error(error of the person shooting either above or below the target) was incorrect because it did not show any significance from our view-averaging method. I felt that if the pitch was incorrect than the data in the yaw error (error of the person shooting either to the left or the right of the target) and the response time was incorrect also. I got so worried. Well good news though, the data turned out to be valid! I verified it several times and now I can breathe easy.

One of the best experiences and biggest challenges I had here in this program was working on my team. It was a challenge for me at first to work with people with other disciplines. As that wasn't difficult enough, I never worked on a team before and discovered I had to learn a lot about how to communicate effectively. I feel like I have developed my communications skills and my confidence to communicate from the support from my teammates and my mentors.

This program was an amazing experience and I feel so honored to be apart of it. In the end I feel like I became apart of a family. Thanks for everyone in the VRAC lab who helped contribute to making this REU program one amazing expierence!

For anyone who wishes to follow me and keep up with what I am doing, follow me on my new blog:

http://interactivetech.tumblr.com/

This blog will be about my various projects I will be doing in desire to design intelligent, interactive technology!

Farewell!

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The Final Stretch

Posted on July 30, 2012 by amendez

I have been busy these past two weeks getting everything I needed to get done for this week. Currently I finished all of the data analysis, my group finished our final poster, and now about to start preparing for our presentation on friday. Its crazy that I am at the final week of this program. As I am excited to go home, I am also happy that this research is almost completed. A lot of work and stress has been put into this and now I am witnessing the fruits of our labor.

Last week I had a meeting with Dr.Stephen Gilbert. I planned this meeting because I wanted to ask him questions about people in this lab who research more on the Computer Vision and Artificial Intelligence side of HCI. I love working in the field of Computer Vision and I would like to know if I could integrate it into HCI. Stephen told me about an assistant professor named Song Zhang who does a lot of research involving Computer Vision and HCI. He worked on a project where he developed a high-resolution 3D-shape measurement camera. This camera was able to record 3D images of a hummingbirds heartbeat in real time! He also gave me other examples of how Computer Vision plays a vital role in HCI research. I am glad I had this meeting with him because I feel that now I have a better idea of what I want to do and I know that its possible to integrate Computer Vision with HCI.

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Luncheon Lecture with Pam

Posted on July 17, 2012 by amendez

Today's luncheon lecture was given my the amazing Pam Shill. Though she is not faculty member or does research in the VRAC lab, her lecture was amazing nonetheless. Her lecture was all about the HCI Graduate Program here at Iowa State University. She gave the 411 on all the details about the program here. The application process, the course load, and the research I would expect to do as a graduate student. I am super interested in the graduate apprenticeships here.I learned that if you become accepted into the HCI program, you get an academic scholarship as well as a stipend! My plan, if I choose to pursue a graduate degree, would be to get an academic scholarship of some type. Knowing about that I will be looking for other graduate apprenticeships to prepare for when I do apply to graduate school.

The lecture was nice but I felt worried about a few things. Will I have enough money to go to grad school? Would it be better to work for a while and then go to grad school? Will I even be accepted into a graduate program? When I think about the future I tend to get worried. Until I have a better idea of whether going to grad school is the right thing for me, I will not worry about it and focus more on the present. I mean I have two to three years of undergrad to think so why worry.

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Week 8-Trials and Logging

Posted on July 16, 2012 by amendez

Today our group is primarily focused on our poster draft and conducting our experiment in the MIRAGE. Today we have two trials today starting at 3pm. I hope everything runs smoothly. Last week we ran some trials where the program crashed during the experiment so I hope that does not happen this week. My main focus today is to log the data from the presence questionnaire and finish up my other program that analyzes the accuracy of the subjects' shots during the trials. As the end of the program approaches soon, I can only imagine the stress that will arise with it. With our poster and paper due soon, we cannot lose focus!

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Week 7 day 1

Posted on July 9, 2012 by amendez

My apologies for not blogging these past few days. So much has been going on with research and other miscellaneous things. it was easy for me to lose track of blogging. Since the last time I've blogged, things have been running smoothly for our group. We have the environment for the MIRAGE ready to be used in our expierement and had a mid oral presentation last week. Our preparations for experimentation has been running smoothly and we will beginning our trials soon! Currently I am focusing on the data processing of the experimentation so we can begin data analysis. Things have been ok except yesterday when I fell in the Des Moines river canoeing and my phone got soaked. I have my phone in a bowl of rice so I can hopefully extract all of the moisture, but I think my iphone is dead for good. :/ I will probably have to find an AT&T store and get a replacement.

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Under the Hood

Posted on July 2, 2012 by amendez

Today I was working with Tim on our app that is going to be used in the Mirage for our experiment. The program given to us from Ken, the grad student who runs the MIRAGE, is the program that we are using to build the enviorment for our experiment. Our group is going to run a demo in the MIRAGE today so our app needs to be ready. Amanda designed the target so Tim and I wanted to get the target to move around the scene. It sound simple to do but it was not as straightfoward. We figured out that the objects loaded in the environment is saved as a pointer into a matrix. Dealing with pointers and memory management is tricky because errors that can arise are usually difficult to solve. I had to go under the hood in the code to see what exactly is going on. If we try to mess with things we dont understand it will only make things work. After careful planning and a little tweaking, we got the targets to move!

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The Crew

Posted on June 28, 2012 by amendez

We took group pictures yesterday and here is my favorite one.

REU 2012 represent!

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Ethics

Posted on June 26, 2012 by amendez

The highlight of the day so far was the ethics class I had this morning. Right off the bat I felt that talking about ethics is a tough subject because it seems that morals can change so easily depending on the environment of the situation. For example, cutting the use of coal as a fuel can help prevent polluting the environment. But what would happen if your decision to stop using coal could put thousands of people without a job? Or a decision to standby your morals can lead to you losing your job. I feel that a lot of these challenging questions can be averted if you always know what you are getting into before making any decision in your profession. I feel that if you always asked yourself, "can this decision have unethical consequences", it will help immensely to prevent unethical choices or consequences. I believe the best way to solve a problem is to prevent it from happening.

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Hitting the Ground Runningn-Week 5 Day 1

Posted on June 25, 2012 by amendez

Today was very productive. This morning at 10am our group met with Melissa, our graduate mentor, and John, our faculty mentor. We had to discuss a lot of things because in a few days we have our Research Question, Literature Review, and our Methods Paragraphs due. I feel we have a lot on our plate, but after seeing the way things went today, it all seems no problem for our group! It was really cool how easily we broke things down into individual tasks. We were discussing how we would prepare for our methods and it became as simple as Amanda will work on the modeling, Tim will work on the programming, and I will work on the math. We are one tight group that together we will get done what is needed to be done.

Also today is our OpenGL project presentations and I very happy with our finished robot arm. It works with no problems and moves very well. We were all impressed and I hope everyone else will like it!

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The end of week 4

Posted on June 22, 2012 by amendez

What an eventful week. I learned a lot of openGL and I feel like all I have been doing this week is OpenGL. I am not complaining though, I love it! This morning I finished designing the robotic hand for our group project. VJ was really impressed by it and is looking forward the finishing product. Now I am tinkering with the rotations so I can get the arm to move. Either than that last night I found out there is a free skatepark less than a mile from my apartment!!! I was so excited I checked it out last night. I was impressed. Looks like I will be spending some time there this summer! I can not get to distracted because there are plenty of research assignments I have to do.

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Week 3 Day 3

Posted on June 20, 2012 by amendez

Today has been good. The power came back after the power going out yesterday. I can truly appreciate air conditioning now. The OpenGL lecture was good but very strenuous. So many topics were discussed that it was challenging letting it all settle in. Its nothing I cant handle though. I enjoyed how our team worked on our solar system project. We all discussed and helped contribute to the code.

After lunch, I had an unexpected meeting with Eliot. We talked about a few things focusing on my involvement in my research group. It was noticeable how there were times that I would not engage in the research team meetings and it raised some concern. I understand that I need to work on my communication and my engagement, but I never wanted my team to think that I didn't care. One of the challenges I had was it was difficult for me to understand the how my team members worked. I know we had all these team building exercises during the first week but I have never been apart of a serious team like this. I have always been more of a solo guy.

I feel that now a few more weeks have passed by, I feel definitely more in sync with my team. I plan to be really engaging and take more initiative.

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OpenGL Overload

Posted on June 19, 2012 by amendez

I need my brain to take a break a break and process everything. There is so you much to learn about OpenGL that if I take more than I can chew, I will feel sick. My goal for this week is to take these lectures and apply them to mini projects. First I want to learn to create various objects. Then I want to rotate them and translate them. After that I want to incorperate interaction with the mouse, and then devise how objects can interact with each other. I know this will help with my goal of learning a lot of OpenGL because I wont try to process everything all at once, and I wont lose track of my other responsibilities. I hope all goes well!

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Week 4 Day 1

Posted on June 18, 2012 by amendez

This weekend was enjoyable. One of the highlights was when we all went to this place that had a bowling alley and a laser tagging on saturday. I scored a 100 in bowling and placed 3rd in our laser tagging game. Another highlight was on Sunday the Miami Heat won game 3, leading the NBA finals 2-1. I am so excited for the heat and I know they are going to win it all this year! Overall a nice weekend and a nice transition into the 4th week.

Today marked the begging of the week's new course. This week we are learning OpenGL, an open source graphics library. I heard about the library before but I never worked with it. After the first lecture I am so excited to learn this library. I finally have the tools to program graphics in C/C++ rather than just the usual text. This is so exciting to me because I can start making interactive, visual programs! I plan to work hard this week so I can learn as much as I can from this course.

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3rd Week is almost over!

Posted on June 15, 2012 by amendez

Its friday! The day that signifies the end of the work week and the beginning of the weekend. This week has been long but very enjoyable. I learned a lot about 3d modeling. I learned a lot of information about modeling in Maya. Out of all the tools, I enjoy polygon extruding and rigging. These are the main tools I am using to model a 3D hand! Its has been really frustrating designing the hand right but it is looking great now! By Monday, I shall have my modeling project completed.

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Mac Down!

Posted on June 13, 2012 by amendez

Supposedly my Mac has been infected with an unknown trojan virus. The IT guys,Paul and Glen, are working on finding the bug, so I will be checking up on the progress periodically. I hope my mac will be alright!

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Week 3 day 2

Posted on June 12, 2012 by amendez

Today started off different than most days. When I walked to the bus this morning it was 55 degress! For most people that is not bad but when you've lived in Florida your whole life, you wouldnt expect that kind of weather until November! That moment struck me as one of those realizations that I am really far from home. Though I miss my family and the warm climate, I am still thankful and excited to be here. Acquiring all these friendships with the interns, graduate students, and faculty members here at the VRAC lab is amazing. It is such a awesome expierence to be around such an intelligent and diverse disciplinary group. Working in a vast spectrum of disciplines helps me not only understand the importance of my role of communicating abstract ideas into programming but also illustrates the different disciplines that comprise the HCI community.

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Programming problems

Posted on June 7, 2012 by amendez

This morning I have been busy working on my portion of the connect 4 game. Last night after talking with Tim about implenting AI into our game, I was interested in implementing a defensive AI agent as an option to play the computer. Its not that difficult. My function checks to see after the recent move has played whether there are three vertical adjacent pieces. It was not hard to do but I have been spending a lot of time debugging. Hopefully my problems will end soon so I can work on my research.

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Week 2 Day 3

Posted on June 6, 2012 by amendez

Not much has happened today in terms of new information. I enjoyed the programming lecture today. I got a good refresh on functions and learned a lot about various string processing commands. I plan to look more into the lecture for my free time. I also finished designing the connect 4 board this morning. I had a problem with the players pieces

being on top of each other. I thought about it and realized that nothing recursion couldnt handle. The only thing left today is the Intro to HCI course. Today is Charlecia's birthday and Pam bought her a delicious cake! I am looking foward to more intern birthdays!
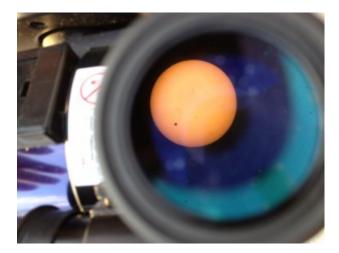
Anyone who is reading this and never got to enjoy the amazing sight of Venus traveling over the Sun, I post here a picture taken directly from a telescope. Enjoy!

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Ubiquitousness and Usability

Posted on June 5, 2012 by amendez

Ubiquitousness and Usability have been topics that have always intrigued me. Witnessing how the tech company, Apple, has become the most valued company in the world made me realize the power of a product's usability. The Iphone became the world's best-selling phone all because its focus is on making the phone a better expierence. I was so amazed on how a change in user friendliness not only made the phone such a better expierence, but also improving its functionality dramatically. Ever since Apple, the paradigm of technology design has changed in a way that has altered the way we interact with technology.

These thoughts surfaced when I attended the Intro to HCI course and today's luncheon lecture. I enjoyed the Intro to HCI course a lot. The professor lectured on some amazing topics about HCI and inteface design. Learining about Usability testing, The Conecptual and Mental models of functionality, and Normans 4 principles of Design has help me view designing technology in a new way. I enjoyed the Luncheon lecture because seeing the research Stephen Gilbert was doing illustrated how technology is focusing on aiding people in real-world tasks. It was so cool to see the potentional in how technology can aid in our everyday lives.

I hope that all of this information will help me in my goal to one day designing Intelligent and Ubiquitous interfaces.

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New Week, New Work

Posted on June 4, 2012 by amendez

Today marks the beggining of the second week here in the REU program. Introductions are over. Now we start getting down to buisness. This weekend I read two papers and today I will read two more. Also I will be working on a programming projet with my team desgining a connect four game. On top of all of this, my team and I will start working on our research project. I am not so worried about the work in general but rather the workload. I know that if I am not on top of my work it will all pile up. It was nice how the REU program directors, Eliot and Stephen, took us aside and talked to us about not getting stressed out. They reassured me that everyone here is available to help me. I realized that I have a lot of support here to help me be successful and I feel ready to take on the week!

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The C6

Posted on June 1, 2012 by amendez

It takes one projector for a movie theatre screen and two to display a 3d movie. One Wall in the C6 has 4 projectors! The C6 is by far one of the coolest tools in the VRAC lab! Look at this high def picture of yoda in the C6.

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Day 2

Posted on May 31, 2012 by amendez

Its been two days and I am loving this program. Everyone is so friendly here and the VRAC lab is so amazing. The first day was spent as an introduction to the REU program as well as getting settled in. Morning meeting, focus group, getting our ISU cards, REU meeting, and a bus tour. What a long day! I enjoyed the introduction to the HCI field. This field is so fascinating and I am excited to be apart of it this summer. Day 2 has been a lot less hetic. We broke into our research group and had our first meeting with our faculty mentor,John. I am so excited to work with him and my group in the area of Perceiving Depth in Virtual Environments.

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Test Post

Posted on May 31, 2012 by amendez

Hola!

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Press f for fullscreen.