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**TWiki Tip of the Day**

Re-parenting a topic  
The breadcrumb displayed with a particular TWiki topic is constructed with a topic's Parent . On the ... Read on

TWiki > Main Web > Blogs > ConnorSchneckSBlog  
(2009-07-30, ConnorSchenck)

-- [ConnorSchenck](#) - 28 May 2009

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Topic revision: r45 - 2009-07-30 - 17:58:58 - [ConnorSchenck](#)

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**TWiki Tip of the Day**

Linking to a file attachment  
 One can create a link to a file attachment using one of the following TWikiVariables, % n o p ATTACHURL ... Read on

TWiki > Main  
 Web > Blogs > ConnorSchneckSBlog > 30June2009  
 (2009-07-01, BellaManoim)

Edit Attach

## June 30, 2009

Alright, so today was an eventful day. Started the morning with a malfunctioning alarm clock and ended up missing half of the first talk. It wasn't that big of a deal though as it was an invited talk about oceans and not really relevant to our research interests. The rest of the day was pretty much filled by talks. Today was better than yesterday as I actually understood about half of them. The best part of today was definitely the ferry ride across the bay. The ride out was pretty cool (albeit an hour and a half long), the food on the island was okay (I'm not a big fan of salmon), but the ride back was awesome. It started out with Taylor and I creating an ad hoc wireless network with our laptops and LAN'ing some video games right there on the ferry. After that we went out on the deck and looked at the Seattle skyline as we approached. It was amazing. Tomorrow will be interesting; we have to carry our luggage around with us at the conference. Ah well, hopefully it all goes well.

Empty comment box

Add comment

### BellaManoim - 01 Jul 2009 - 09:16

that sounds beautiful! hauling luggage around at the conference on the other hand :/

Edit Attach Print version History: r2 < r1 Backlinks Raw View Raw edit More topic actions

Topic revision: r2 - 2009-07-01 - 14:16:48 - BellaManoim

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**TWiki Tip of the Day**

Custom rendered bullets  
The RenderListPlugin can render bulleted lists in a variety of different ways. Use % nop RENDERLIST ... Read on

TWiki > [Main](#)

Web > Blogs > ConnorSchneckSBlog > 29June2009

(2009-07-09, ZayiraJordan)

[Edit](#) [Attach](#)

## June 29, 2009

Well well, we are officially in Seattle. Our flight was fairly uneventful. Dang I am such a nerd. I spent half the time listening to the air traffic controller radio chatter on the on board headset. Everything was fairly smooth. The shuttle got us to our hotel just fine, and we checked in with no problem. Then at about 2 am on Sunday morning Ugonna opens his bag only to realize he grabbed the wrong bag.

Now, I'm not angry at Ugonna, that was an honest mistake. It looked just like his bag. No, I've got a beef with the United Airlines baggage claim personnel. So, after Ugonna dropped the bombshell, we ended up calling a cab to take us back to the airport (of course Ugonna had been calling the airport and airline before hand with no answer).

Apparently at 2:30 am the baggage claim area of the Seatac airport is completely devoid of life. So we stuck around in the area until about 4:30 am when someone from United finally showed up and helped Ugonna get his bag back. During this time I tried to sleep, but they REALLY design those airport chairs so you can't sleep in them. We ended up getting back to the hotel at about 5 am (another cab, ended up costing about \$100 total for both rides). Taylor and I got about 3 hours of sleep and Ugonna opted to just not sleep at all. But at least it was a learning experience, like for example I learned that I get really cranky when I don't sleep.

The conference itself has been going pretty well. We spent Sunday (what kind of a conference starts on a Sunday?) and this morning in workshops. I really enjoyed Professor Stoytchev and Jivko's talks. The rest of the presentations were interesting as well, but the best stuff were the discussions we had after each session. It was really amazing listening to what all the people in the field think about robotics. Although one topic really dismayed me. Most of the people in our workshop (it was on robotic manipulation and there were about 50) thought that robot's of the future would be preprogrammed with 3D models of objects and that's how they would know how to use them. WHAT?! How does that make ANY sense? Okay, so first of all it's not even possible to program every object in existence so that a robot could interact with objects successfully. Second, objects have a tendency to break and deform in so many various ways that there is no way to program for all of those. As well, people (younger children namely) are constantly taking existing objects and making new, completely different ones. The point of all this is that a robot needs to be able to learn and adapt to objects. Sure you could use a database of objects to bootstrap its learning, but in the end it still needs to learn. As the conversation went on, I was ready to chime in and say something when Professor Stoytchev spoke up and set them all straight.

This afternoon we listened to talks about various robotics projects. The introduction talk was about the navigation techniques of fruit flies and how they might apply to flying robots. The other talks were very, very dense. There was one even where I had absolutely no idea what even the general idea of what the speaker was talking about. It turns out that out of all the talks today, only one was even remotely related to our research area. I guess that's the difference between general robotics and developmental robotics. Developmental focuses on learning, whereas general does just about everything. I really, really

prefer the developmental, the kinematics and inertial matrices a lot of the people talked about are crazy hard to use. Tomorrow looks like all talks again. Hopefully its not too boring (today kinda was). But tomorrow evening is going to be amazing. We are getting ferried out to an island in the harbor to have a very fancy dinner and on the way back will be able to see the Seattle skyline at night. I'm psyched. I'll report on it tomorrow.

---

Add comment

**ZayiraJordan - 09 Jul 2009 - 10:22**

No photos?

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Topic revision: r2 - 2009-07-09 - 15:22:11 - [ZayiraJordan](#)

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TWiki > Main

Web > Blogs > ConnorSchneckSBlog > 26June2009

(2009-06-26, ConnorSchneck)

Edit

Attach

## June 26, 2009

So, if my update didn't give it away yesterday, our meeting the Professor Stoytchev really stressed me out. Don't get me wrong, I think he's a very great guy and I enjoy working with him, but I swear he's going to give me a heart attack. We decided to change the project to make it more feasible in our time limit. We took out vision, so now we're just using audio and proprioception, and we're going to use almost the exact same method as Jivko did in his paper. Yesterday after the meeting, I was so stressed I broke my stress ball and had pink, sticky goo all over. This, of course, didn't help my stress levels, but the walk/bus ride back to Freddy to change my pants (they were covered in goo) was actually very relaxing. I feel much better about this project and I think we have a higher chance of finishing. This morning I went over to the lab and spent the entire time troubleshooting a problem with serial port communication with the hand, only to realize that unplugging it and plugging it back in fixed it (face palm). Ah well. We've decided that I'm going to handle coding in C for the robot's movements and getting the proprioceptive data and Ugonna and Taylor are going to implement the audio stuff and the learning algorithms. I'll probably head back to the lab after journal club and work some more with the robot.

Oh, and by the way, does anybody know where I can get a new stress ball?

Add comment

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Topic revision: r1 - 2009-06-26 - 18:05:42 - [ConnorSchneck](#)

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**TWiki Tip of the Day**

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TWiki > Main

Web > Blogs > ConnorSchneckSBlog > 25June2009

(2009-06-26, BellaManoim)

Edit Attach

## June 25, 2009

Since yesterday we've accomplished some. Ugonna and I spend about an hour and a half in the lab scripting the robot's actions. While we were doing that, Taylor was experimenting with optical flow. As it turns out, optical flow will NOT work for what we want (it just isn't quite optimized for our specifications) so we're going to use motion history instead. We have a meeting with Professor Stoytchev and our grad students in a few minutes, and hopefully we get approval for the specifics we've figured out and we don't get sent back to the drawing board. I looked at the schedule and we only have 3.5 weeks left to finish, and if we keep getting delayed we will definitely not finish. While implementing the optimal solution would be great, I feel if we keep trying to make what we plan to do better, we'll never actually get a chance to do it. I'm really hoping Professor Stoytchev doesn't decide that we need to completely revamp everything, because if he does we will not finish. Period.

Update:

$$E = M^M - G + C/T$$

where E is the entropy of the project, M is the number of meetings with your faculty advisor, G is the number of meetings with your graduate advisors, C is your initial confidence factor, and T is the time remaining until the deadline. This gives us

$$P = 1/E$$

where P is the probability of finishing on time. AGHHHHHHHH!  
 where's my stress ball?

Add comment

### BellaManoim - 26 Jun 2009 - 10:21

pink stress ball gooooo

Edit Attach Print version History:  
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Topic revision: r4 - 2009-06-26 - 15:21:31 - BellaManoim

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**TWiki Tip of the Day**

WebChanges to see recent activity  
 Each TWiki web has a WebChanges topic that lists recent activity from all editors of the web.  
 This page ... Read on

TWiki > Main

Web > Blogs > ConnorSchneckSBlog > 24June2009

(2009-06-24, MichaelOren)

Edit Attach

## June 24, 2009

So, once again today, there has not been a lot of exciting stuff happening. Since yesterday we...haven't been able to do a whole lot. We've got some specifics of our project figured out but we can't do anything else until we meet with our advisor, which he and most of the lab are out at John Deere doing a presentation all day, so we have to wait until tomorrow. This morning Ugonna and I picked out what objects we want to use; we decided to go with 36 just because that seemed about right. Hopefully we can justify that number later so we don't get grilled for picking an arbitrary number. We also took pictures of all the objects. If you'd like to see them, go over to the developmental robotics page and download the zip file at the bottom called 'Objects.zip'. For the rest of the day we have to take the objects and write out how they pair up and possibly program some of the actions the robot is to perform. I also have to drink a bottle of Mountain Dew so we have an empty bottle to use. The things I do for science (lol).

Empty comment box

Add comment

### MichaelOren - 24 Jun 2009 - 16:11

You had to pick a number and you didn't choose 42?!? What kind of nerds are you anyway...?

### PJ Campbell- 24 Jun 2009 - 15:35

See no one knows about MIA because she's been gone all this time. She's our robot

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 r3 < r2 < r1 Backlinks Raw View Raw edit More topic actions

Topic revision: r3 - 2009-06-24 - 21:11:22 - MichaelOren

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TWiki > Main

Web > Blogs > ConnorSchneckSBlog > 23June2009

(2009-06-24, MichaelOren)

Edit Attach

### June 23, 2009

Not a whole lot has happened as far as our research goes since yesterday. We got our presentation ready, and hopefully all goes well today. Professor Stoytchev is going to come and watch. I emailed him a copy of our presentation last night and he responded with some stuff that needed to be fixed. I hope we got it all. As far as the project goes, we decided on what interactions and what preprocessing to do today. Tomorrow's schedule is empty, so we'll probably spend the day picking out objects to use and writing programs to take the data with.

On a more personal note, I got Windows 7 installed on my computer last night (I removed the 3 other operating systems that I had) and I plan to install Ubuntu 9.04 here shortly. 7 seems to be working fine so far, and I am liking it for the most part.

Add comment

### MichaelOren - 24 Jun 2009 - 16:09

Windows 7 is pretty decent, they fixed a lot of what was wrong with Vista and the multitouch additions are a nice bonus.

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Topic revision: r2 - 2009-06-24 - 21:09:53 - MichaelOren

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TWiki Tip of the Day

File attachments  
 One can attach files to any topic. The action of attaching a file to a topic is similar to attaching ... [Read on](#)

TWiki > Main

Web > Blogs > ConnorSchneckSBlog > 22June2009

(2009-06-22, ConnorSchenck)

Edit Attach

## June 22, 2009

So I had a busy weekend. Went up to my Grandparent's place in northeast Iowa for their 50th anniversary. They have a small patch of land with some woods out in the middle of the country. Dang, don't you just love that new cow smell? (rofl) Just to illustrate how crazy Iowa weather is, on the way back it was perfectly sunny, then out of no where it started pouring so hard visibility was reduced to almost zero. After about 5 minutes of hydroplaning down the interstate at 75 mph (with very white knuckles) it just suddenly stopped and everything was bright and sunny again. I have to say, that has to be one of the biggest wtf moments with weather I have ever seen.

On a more serious note, I'm glad the tv crew is finished. That was a lot of stress and it really distracted from what we needed to do. Although I am kinda bummed we didn't really get to show off our project, but it didn't work very well either. Although, now we can get back to our main project, I just hope that they don't throw us anymore mini projects because they are really getting in the way. I think we only have a few things left to decide and then we can get to collecting data. Since it's all going to be processed offline anyways, we can hold off on a lot of the more critical decisions (such as what learning algorithm to use) until after we've collected data. I'm optimistic that we may be able to start data collection by the end of the week (though probably we won't).

Add comment

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Topic revision: r1 - 2009-06-22 - 17:56:42 - [ConnorSchenck](#)

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TWiki Tip of the Day

Keyword search  
Interactive search is a keyword search by default. For example, to search for all topics that contain ... Read on

TWiki > Main

Web > Blogs > ConnorSchneckSBlog > 19June2009

(2009-06-19, BellaManoim)

Edit

Attach

### June 19, 2009

Not much time to blog today, have to go in 3 min. But tv crew is here, although we haven't been filmed yet. We're expecting to be on when the host gets here. Otherwise we haven't done a whole lot this morning. Last night we attempted to port our visual processing code from my laptop to the new beastly machine Stoytchev got for the lab, but we ran into errors and I didn't really want to spend the whole night fixing them, so we're just going to run it off my laptop. We also were unable to get the head animations to work as well as we could not fix it from going cross-eyed. O well, I hope that doesn't matter. Time for journal club, over and out.

Empty comment box

Add comment

#### BellaManoim - 19 Jun 2009 - 13:32

tv crew! so cool!

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Topic revision: r2 - 2009-06-19 - 18:32:44 - [BellaManoim](#)

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TWiki > Main

Web > Blogs > ConnorSchneckSBlog > 18June2009

(2009-06-19, HamadiMcIntosh)

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## June 18, 2009

So, guess what I forgot to do yesterday? If you guessed blog, you would be correct. So, since our last blog we have been working diligently in the lab to get our visual attention model done. It is almost done, we just have to tweak a few things before tomorrow and then we should be ready for the Science Channel. My stress levels are still a bit high, but they are going down as the feasibility of this project is coming into view. But I'm sill worried that this whole Science Channel thing is distracting us from our main project, so I'll be glad when it's over.

Add comment

### HamadiMcIntosh - 19 Jun 2009 - 13:28

Great journal article. I had no idea that Turring was forced to undergo hormone injections and grew breasts as a result. That isn't what I look forward to discussing though. Lol.

### UgonnaOhiri - 18 Jun 2009 - 16:58

never worry Conner! i think a little tv time might give us extra "umph" in our step the next couple of weeks...

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Topic revision: r3 - 2009-06-19 - 18:28:53 - HamadiMcIntosh

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TWiki Tip of the Day

Preference settings  
 TWiki has four levels of preferences settings: 1  
 Site level settings: Site name, proxy settings ...  
 Read on

TWiki > Main

Web > Blogs > ConnorSchneckSBlog > 16June2009

(2009-06-17, BellaManoim)

Edit

Attach

## June 16, 2009

So since yesterday we had a chance to meet with Stoytchev. This is good, as we've been hammering out details of our project, but I feel that we are moving too slowly and that we will never finish it in time if we don't get a move on. We were supposed to, in our original plan that we laid out the first week, be finished with planning at the end of this week. It seems that we are a behind that, I just hope all my worries about not finishing because we took to long to plan are unfounded.

On a different note, last night Stoytchev decided that we needed to read a chapter of someone from MIT's dissertation and then use his model for visual attention and implement it in the robot. He wants us to demo that for the Science Channel on Friday instead of our original face tracking. This is going to be crazy. We were in the lab until 11 last night and will probably be there even later this evening. I just hope that this all calms down next week and I can actually get some free time (wishful thinking I know).

Hmm, is it a bad thing that I've been trying to end every sentence with a ; ? I need to step away from the code I think.

Add comment

### BellaManoim - 17 Jun 2009 - 11:11

sounds like you really have a ton of work right now

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Topic revision: r2 - 2009-06-17 - 16:11:54 - [BellaManoim](#)

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TWiki > Main

Web > Blogs > ConnorSchneckSBlog > 15June2009

(2009-06-15, ConnorSchenck)

Edit

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## June 15, 2009

Well, I had an eventful weekend. Frolf'd with some friends from back home on Saturday afternoon and had a LAN that evening. Yesterday afternoon Ugonna, Taylor, and I came into the lab and got some work done. We decided on some basic methodology and then laid out an outline for our proposal. Then we divided up the work. Ugonna and I are finished with our parts, Taylor needs to finish up the introduction and conclusion, and then we need to meet with our grad students for some more ideas. The draft we're making now is just a really rough proposal (it even has a few holes in it) and so we need to flesh out some more details. We pretty much have to have that done by the end of the week if we plan on finishing in time. Otherwise not a whole lot else to report, hopefully by tomorrow we will have a better idea for our proposal.

Empty comment box

Add comment

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Topic revision: r1 - 2009-06-15 - 17:56:50 - [ConnorSchenck](#)

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 (2009-06-12, ConnorSchneck)

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June 12, 2009

So it seems Thursday is just a bad day for me blogging, as I forgot to blog last Thursday and yesterday I did it again. So, since Wednesday we have officially decided on our research topic. We are going to explore multi-modal input and how it can be used to classify objects. The good thing about this is that one of our advisors, Jivko, has already done research using audio in this area and research using video has been done extensively by other people, so we have pretty firm ground to stand upon. I just hope that our contribution will be significant enough, and not just some side project done by undergrads. We have already compiled a pretty large list of relevant papers, and I think our next task should be to sort through them and pull out their methods and results so we can see how our research builds on theirs. There is not way we are going to get our lit review done today, but I hope that we are able to get a rough draft of our proposal (including lit review) done by Monday. That means this is going to be a working weekend, but I guess I'm okay with that.

Empty comment box

Add comment

Edit Attach Print version History: r1 Backlinks Raw View Raw edit More topic actions

Topic revision: r1 - 2009-06-12 - 18:10:52 - ConnorSchneck

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**TWiki Tip of the Day**

Inline search  
 To embed a search in a topic, use the %nop SEARCH{ parameters }% TWiki Variable. The search variable ... Read on

TWiki > Main

Web > Blogs > ConnorSchneckSBlog > 10June2009

(2009-06-12, ConnorSchenck)

Edit Attach

## June 10, 2009

Alright, so last night we narrowed it down to four ideas for a project:

1. Multi-modal self-association
2. Multi-modal object recognition
3. Self-discover using an HTM
4. Object tracking using an HTM

The real debate between the ideas has come down to one issue: to use an HTM or not to use an HTM, that is the question. It is my strong opinion that, as much as I'd like to, an HTM is way too ambitious for us to accomplish in one summer. It is my opinion that we choose one of the first two ideas listed and save the last ones for future work. We have been and will continue to discuss this today, and I hope that by the end we can settle on one or two ideas. I think that I have successfully swayed Taylor and Ugonna to my point of view. Jivko is currently collecting papers that apply to the first two topics and will be sending them to us tonight. Him and the other two grad students (Matt Miller is not an advisor but has experience with HTM's and works in the lab) share my opinion. Taylor seems disappointed, but I think he agrees with my logic that if we try to build an HTM in a summer, we will end up scaling it back so much that it will not be what we originally intended and, more importantly, not publishable. That is just about all for now, hopefully tomorrow I can say for sure what our topic will be.

Add comment

### ConnorSchenck - 12 Jun 2009 - 13:03

An HTM is a hierarchical temporal memory. Essentially it is a group of nodes arranged in a pyramid fashion. The nodes at the bottom take in the raw input data and pass data to the nodes above them etc. Every node operates in the same manner: they first classify the patterns they see spatially and then classify them temporally and pass that up to the node above them. A good example of how this works is if you imagine that you are a node. You get different pieces of colored paper from the nodes below you. None of them are the exact same color as the others. But you can still classify them. You put them in buckets labeled "red" "green" "yellow" etc, and none of the pieces of paper in the red bucket are the exact same shade of red, but they are all red. After that you start to notice patterns in the order of colors you get. You might notice, for example, RRGY for red red green yellow. You notice that red is usually followed by another red, which is followed by green, and finally followed by yellow. So, over time, you start to notice many patterns such as this. Now, when you create something to hand to the node above you, you hand up a piece of paper saying the name of the pattern such as "RRGY" and the node above does the same thing with that that you just did.. That is the essence of an HTM. There is also a prediction factor, but I won't get into that now.

### ZayiraJordan - 11 Jun 2009 - 15:24



yeah, what is an HTML?

**MinaChoi - 10 Jun 2009 - 16:01**

what is HTML?

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Topic revision: r4 - 2009-06-12 - 18:04:53 - [ConnorSchenck](#)

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TWiki Tip of the Day

Escaping TWiki rendering  
 Use the verbatim tag to surround code excerpts and other formatted text with verbatim and /verbatim ... Read on

TWiki > Main Web > Blogs > ConnorSchneckSBlog > 9June2009  
 (2009-06-10, ZayiraJordan)

Edit Attach

June 9, 2009

So today we presented the our programming project. It went okay. It seems thought that now, for some reason, our code is not connecting to the head. Hopefully this is just a minor glitch and it will be fixed easily.

We came up with a bunch of project ideas last night, and then narrowed it down to three. I do not remember what those three are, but after this we are headed over to find an empty classroom and has all three out and then pick one. Hopefully we have enough time.

Empty comment box

Add comment

ZayiraJordan - 10 Jun 2009 - 09:28

Hope to hear more about the project ideas soon.

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Topic revision: r2 - 2009-06-10 - 14:28:36 - ZayiraJordan

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TWiki Tip of the Day

Edit tables with EditTablePlugin  
 The EditTablePlugin allows you to edit TWiki tables using edit fields and drop down boxes. Tables have ... Read on

TWiki > Main Web > Blogs > ConnorSchneckSBlog > 8June2009  
 (2009-06-08, ConnorSchenck)

Edit Attach

## June 8, 2009

Okay, so after much effort and many wtf moments, the head API has the ability to play back a record of movements. It still does not have the ability to record yet; I am having difficulty getting time in millieseconds, but I have some more ideas to try out later today. I decided not to use Doxogen, instead I spent the better part of the weekend typing up the documentation for it. It is almost done, I just have to add a link in there, and it is at 20 pages. Although it is long, it not only has a quick guide how to use the head API, but also a thorough explanation of how it works.

On a different note, we now have a few ideas about what we want to do for our project this summer. Let's see if I can't recall them:

1. Extend Jivko's research on identifying objects based on sound
2. Have the robot learn to track an object and then use that to learn to poke it
3. Have the robot learn how lightsaber sounds correspond to where it is and then use that to learn how to block it with its own lightsaber
4. Use an HTM to have the robot learn about its environment and use it to track faces

The last one is my particular favorite, but it would require a lot of computing horsepower, and I don't know if we can get access to that or not. Otherwise, I'd really like to do something where the robot learns a skill, then uses that skill to learn another skill (e.g. the second one on the list). Hopefully we get to meet with Jivko today and see what we can and can't do.

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Topic revision: r1 - 2009-06-08 - 17:53:03 - [ConnorSchenck](#)

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**TWiki Tip of the Day**

E-mail alert of topic changes

Subscribing to WebNotify will enable TWiki to send you details of changes made on topics in a certain ... Read on

TWiki > Main Web > Blogs > ConnorSchneckSBlog > 5June2009  
(2009-06-05, ConnorSchenck) 

## June 5, 2009

Well, as you can see, apparently I forgot to blog yesterday. We had a research team meeting in the lab and then we just started working and I completely forgot. Oh well.

So, a lot of progress has been made since the last time I blogged. I did indeed get my function sending move commands to work. It turns out that for some reason new commands would overwrite old commands, so I ended up changing it so that it only sent one command at a time. Since then we've gotten all the basics of the three classes we've been using to communicate with the head working. We incorporated Taylor's face tracking algorithm in, fine tuned it, and now the head can track heads fairly well. Although, due to the low resolution on the cameras, we can only track faces no more than 7 feet away. The really neat thing is that not only does it track faces, but it also shows emotion and searches. When it sees a face, it moves to a happy expression, after losing the face it becomes sad, and if it can't require the face for a certain amount of time, it becomes worried. As well, when it loses a face it begins to search around for a face in a semi-random fashion. I think we pretty much have the algorithm working now up to the point where we want it to.

I have also been working on fleshing out the code for the head more. Professor Stoytchev is going to end up making it a general library for everyone who wants to use the head, so I've been trying to make it as powerful and easy to use as possible. For example, in the face tracking version of the head code, the program must specify the serial ports to connect to for the boards to the head (there are 2). This can be quite difficult as these may change depending on where the boards are plugged in, and if they switch that would as well cause problems. So I've been working on an auto connect function that queries the operating system for a list of available serial ports and tries to connect to each. Last night I spend a significant amount of time working on it. I hit a brick wall when I got the function working and connecting properly, but for some reason it screwed up standard in. After it would connect, my program would no longer take input from standard in, it would just skip it. I spent about two hours last night banging my head against the wall, to no avail. Then Cody G. came in real quick to shut off his computer, and ended up staying for an hour until we fixed it. It turns out that when I opened a serial port to check to see if it had the head on it, since I was using a temporary variable for it, the actual variable for the port would never get initialized if the port was unable to open. But regardless, my code would then close the serial port, whether it opened or not. As it turns out, when I passed the close() function an uninitialized variable, I was really passing it a value of 0. And do you know what resides at the 0th buffer spot on the OS? Standard in. In effect, I was closing standard in. I didn't even know you could do that. I guess I'm just glad that I got it to work.

Currently I'm working on adding a record and playback function, so that head movements can be recorded and played back anytime. After that I think I'm going to use Doxogyn to attempt to generate really good documentation for the code, and then I think I will be done with it.

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Topic revision: r1 - 2009-06-05 - 17:57:54 - [ConnorSchenck](#)

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**TWiki Tip of the Day**

Linking to a file attachment  
 One can create a link to a file attachment using one of the following TWikiVariables, % nop ATTACHURL ... Read on

TWiki > Main Web > Blogs > ConnorSchneckSBlog > 3June2009 (2009-06-03, ConnorSchenck)

Edit Attach

## June 3, 2009

So, as it turns out, I did in fact find out how to list all available serial ports on a linux computer. There's a file buried that has a list. But, as of right now, my auto-search function doesn't quite work, and as this project is very doable without it, I'm going to get the more important things done first.

Speaking of more important things, yesterday I was having problems getting communication over the usb to serial port adapter working. At one point I had it working, then it just stopped working and I couldn't fix it or figure out why (very, very aggravating). Stoytchev suggested that I use the serial port code already created by Barret, as they went a lot more in depth than I did. I tried that out and it worked just fine.

So this morning I went to the lab and coded the three classes we're going to need to control the head. At the moment I am in the process of troubleshooting them because, well, like everything in programming, they don't work yet. I was able to move one eye back and forth just fine, but when I tried to move both eyes it only moved one of them. My theory is that since I'm sending the move commands for they eyes all at once that the first eye's move commands are getting overwritten. I'm going to try putting a delay between them and see if that helps.

Taylor says he finished the head tracking algorithm already, so I'm going to see if he can't help out Ugonna and I as working with serial ports in linux is very frustrating.

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Topic revision: r1 - 2009-06-03 - 17:58:03 - ConnorSchenck

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TWiki Tip of the Day

Creating a Table of Contents  
 The TWikiVariables %nop TOC% will automatically create a table of contents for a topic based on the ...  
 Read on »

TWiki > Main Web > Blogs > ConnorSchneckSBlog > 2June2009  
 (2009-06-02, ConnorSchenck)

Edit Attach

## June 2, 2009

Okay, so a lot can happen in a very short time. Not to say a lot did, but, well, plans have now been made and are under way that weren't conceivable this time yesterday. It would seem that Professor Stoytchev thinks it would be a good idea for us (Taylor, Ugonna, and I) to go to the Robotics: Science and Systems conference in Seattle from June 28 to July 1. This sounds like a great opportunity for us, but its going to cost a lot. The University and the REU program are going to cover most of the costs, so we will end up each paying a little over \$200 out of our own pockets to go. Considering how big of an opportunity this is for us, I don't see this as that much money. I have already made the hotel reservations, and at the moment I am trying to book the flights but it would seem ISU's internet (or at least here in the VRAC) is on the fritz. We just registered with the conference, so that's taken care of. The only thing after I get flights booked that we have to do is figure out transportation from the airport to the hotel and back. They have a shuttle service there, so this should be easy to do. I'm a little nervous about all this going through, especially since I'm the one who's credit card is getting used to do all this, so I just hope to heck that my reimbursement doesn't fall through.

On a different note, I think I am very close to solving the problem we've been having with the robot. The head communicates over serial ports to the computer, but so far I've been unsuccessful in figuring out how to list the available serial ports in code in linux, but I think I may have found it.

Empty comment box

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Topic revision: r1 - 2009-06-02 - 18:41:52 - ConnorSchenck

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**TWiki Tip of the Day**

Preference settings  
TWiki has four levels of preferences settings: 1  
Site level settings: Site name, proxy settings ...  
Read on 

TWiki >  Main Web > Blogs > ConnorSchneckSBlog > 1June2009  
(2009-06-02, ConnorSchenck)

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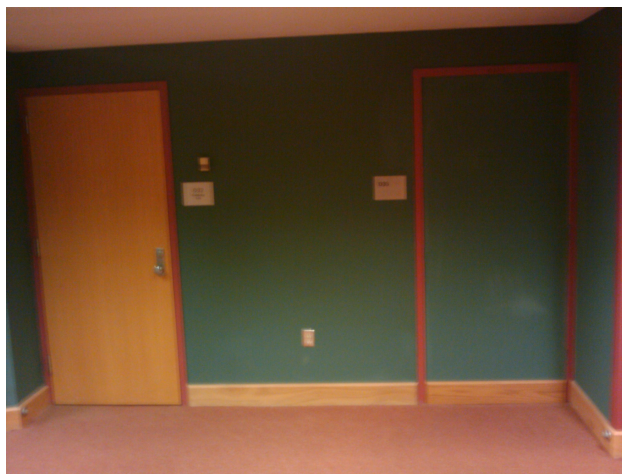
## June 1, 2009

So after I finished blogging last time, we were given tours of all the cool stuff here at the VRAC. We got to see the multitouch table, augmented reality goggles, and the haptics area. We also were given a tour of both the virtual reality caves. In the C4 they were running a game similar to pong, and I actually managed to beat it, not an easy task considering that running into the wall was a very real possibility. We also got to see the C6. It was very awesome. I actually managed to lag it down to about 1 fps, even considering that 48 computers with 2 graphics cards each ran the thing. That was pretty much the end of Friday as far as I can remember.

Today, after realizing that the UDCC dining center closes at 9:15 am for breakfast and having to go hungry until lunch, I went to the developmental robotics lab. There I started hashing out some of the specific classes and such that I thought would work well for controlling the robot head. After I got back to the VRAC lab, I put those up on google docs. I won't share the pseudo code here, just because it's so long.

Taylor, Ugonna, and I went to lunch and we talked a bit about some of our project ideas. It seems I forgot to read the papers Jivko assigned me, I'll have to do that this evening. Even so, we seem to be getting a better grasp on what we want to do. Hopefully we can get a better idea by the end of the week. I am excited as to where this may go.

## HCI Fail-Design assignment



Okay, so the problem with this design is that here, there is a door with a reddish frame around it and a silver plaque with the room number. It would be expected that any similar arrangement would also have a door, but obviously not. If you were wondering, this picture was taken in the basement of the Parks Library here on the ISU campus.





failblog.org

The design flaw with this setup is rather difficult to see, but if you look closely you will notice that the stubs hanging off the piece of paper are clearly meant to be taken by anyone interested in the vehicle. Although because they were placed inside of the locked car, that makes that task difficult to say the least. This image can be found at failblog.org.

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**TWiki Tip of the Day**

Raw Text link  
At the bottom of the page next to Edit and Attach , there is a Raw Text link that allows one to ... Read on »

TWiki > Main

Web > Blogs > ConnorSchneckSBlog > 29May2009  
(2009-05-30, MichaelCurtis)

Edit Attach

May 29, 2009

Yesterday after I finished blogging we went over to the developmental robotics lab in Coover and talked with Professor Stoytchev, Shane, and Jivko. We got an initial introduction to the robot. Matt Miller came by as well and we were able to converse with him for a while. Cody G., one of the people who designed the head with all of its servos, gave Ugonna and I an extensive explanation of how it worked and how to use it. I was very relieved. At first Stoytchev mentioned that they had written all their code in C#, so I was rather worried that it was going to be a nightmare trying to port that to C++ and get it to work in linux (the computer that controls the arms is a linux machine and Stoytchev wants one computer to be able to control the entire robot). As it turns out, its just simple byte commands that can be sent over a serial port to the boards in the head that can control the servos, much in the same fashion that controls the hands. Stoytchev said that he wants us, as a first project this next week, to create a program for the robot that uses the cameras to track faces and then has the cameras and head follow them. While Ugonna and I were getting an explanation of the head, Taylor was learning from Matt about Matt's research and how it could apply to what we want to do. That was the extent of what we did yesterday after I blogged.

Today we spent the day doing this Affinity Research Group stuff. It seemed alright, but really felt like a big rehash of stuff that we've all learned before. Still, I feel that the relatively short amount of time we spent on that that in the end it will end up paying off. I'm a little bit worried about finding a research project, but I think that the papers that Jivko is giving us to read should help a lot with that. I hope that we can get some time in the lab later today after the demos so we can get started on the head program.

Empty comment box

Add comment

MichaelCurtis - 29 May 2009 - 19:57

I'm stealing your layout for blogging. I hope you don't mind. I just think organizing it by date is useful.

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Topic revision: r2 - 2009-05-30 - 00:57:24 - MichaelCurtis

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**TWiki Tip of the Day**

Commenting with hidden text  
 To hide sections of a TWiki topic, use HTML comments. Example comment within a sentence: Visible ...  
 Read on »

TWiki > Main

Web > Blogs > ConnorSchneckSBlog > 28May2009

(2009-05-28, ConnorSchenck)

Edit

Attach

## May 28, 2009

So today has been a rather slow day. We've had some technical issues (there were right permissions on this wiki as well as some people didn't have their netIDs yet). But as you can see, those have now been resolved and we can now post.

More importantly, my team (Developmental Robotics) met last night in Taylor's room in Freddy. Taylor and I had already discussed some ideas for our project this summer, but we really were eager to get to talk to Ugonna. He seemed really on board with some of the ideas we had. We thought of three basic ideas:

1. Continue with the grasp points project we had started during the previous semester
2. Create an HTM to work with the robot
3. Do something else entirely

Ugonna seemed to like all these ideas. Taylor and I really like the HTM idea, but that is by far the most complex and time consuming. We want to discuss more with Professor Stoytchev before making any final decisions, which we will be able to do today.

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