REU|2017
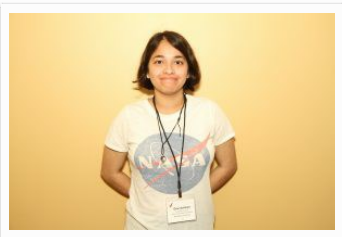
Summer Program for Interdisciplinary Research and Education – Emerging Interface Technologies (SPIRE – EIT)

Devi Acharya

Last week here…

2

It's our last week here…. it's strange to think about, but here we are.

It was a rush down to the last minute, but we got our poster done! A link, for interested parties: https://drive.google.com/open?id=0B7kmvXx0HErsUjBCNXd1cmRHNFE

So what's left for the summer? The paper still needs some work, but it's coming along. Spent the day making sure all the code / repo was well-documented. Should be a pretty quiet week.

Poster session Thursday, and I'm looking forward to it! It'll be cool to see the research everyone has done after all this time.

Just gonna think about the immediate future for now, and try to get everything finished up.

Posted in Uncategorized | **2 Replies**

4 days 'til Monday…

1

And that means that the poster needs to be done soon! Yeah, gotta be getting that done…

The computer's been down at the lab, which means that people we would be testing we've had to turn away. It's frustrating, but not really anything to do but wait.

In the meanwhile, been working on the paper and possibly trying to learn Perl? We'll see how that goes.

Posted in Uncategorized | **1 Reply**

The Final Countdown

1

I am both constantly thinking about and trying not to think about how it's almost over here. Still have a few more participants to run this week (it's been going surprisingly well!) and we've started to look at analyzing the data because, well, we've got to finish our poster and paper soon. In a less-than-a-week-so-it-better-get-done kind of soon. As for myself, been working on the poster and reading over the paper (again and again); will be sending both off soon — at least what we got — for another set of looks by our mentors.

As to the more fun highlights of the week — kayaking this weekend was a blast, greatly enjoying singing along to Hamilton *nonstop*, and taking breaks by playing Stardew Valley.

Just a bit left to go — time to see where life will take us!

Radio Silence

6

Yep I've been quiet on here but the good news is that that means we've been getting a lot of work done. Yesterday was probably the most stressful day in terms of that — I'm still convinced Unity is a bit haunted — but in spite of all that we're going to be running participants soon! As in tomorrow! I still can't quite believe it, but hey, I'll be living it in less than 24 hours. So we'll see how that goes.

Working at the (other) lab

I feel like as we get less and less time we're more and more sprinting into things. Which is fine, so far we've kept pace, and things are looking good. It's just strange to think about how we'll have (or have to have) so much done in the little time we have left.
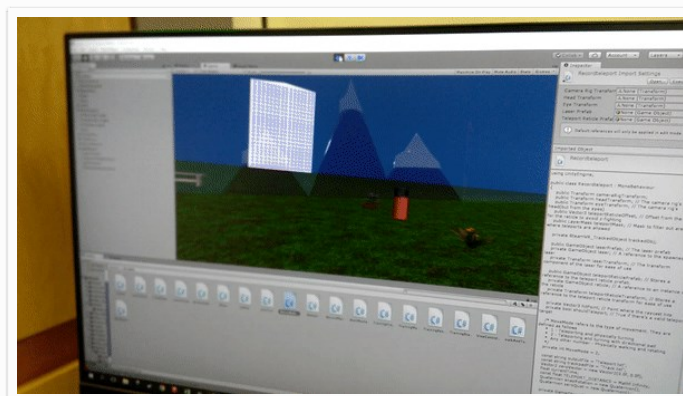
Just one thing…

1

I feel like today's research progress is properly summed up in this one gif:

WHY

BTW, we need to have something ready to show for tomorrow. More updates to come as we see how this goes.

In Deep

1

It's been a while since I've updated this; my only excuse is that I've been working hard on the project. And hey, it shows, because we've been making some really good progress on work.

Monday we did our MCA presentations, and it was great to see everything (eventually) come together in the C6. I was super impressed by what everyone else had got done as well, considering that we've been balancing a whole lot — projects, presentations, classes…

The research project just needs a few more changes before we can start testing, though that has been put a bit on hold due to the fact that we're giving presentations today, in less than an hour. So hopefully that will go well and we can get back to working on this Unity project.

It's already week 6?!

Things are hurrying along, had a long break but now we're back to work. Spent the morning fixing up some problems with the markers that spawn that form the triangle completion task, and now all that's left is making sure the paths never leave the space of the room.
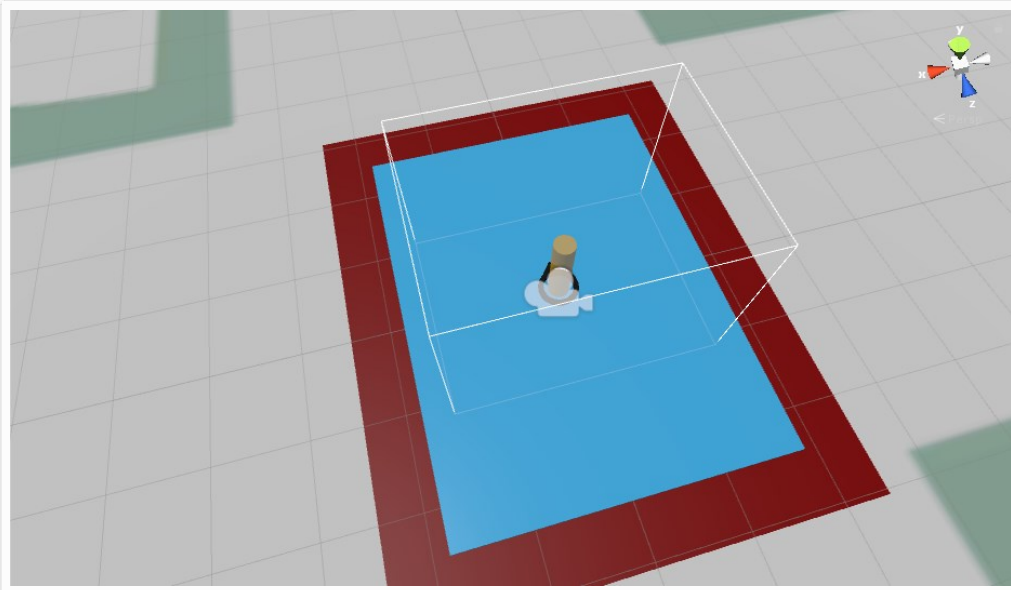
Room constraints — red represents the danger zone!

Might be going to the lab later today to test things out there!

P.S. Forgot to post this earlier but I like this photo from the Des Moines Art Fest:
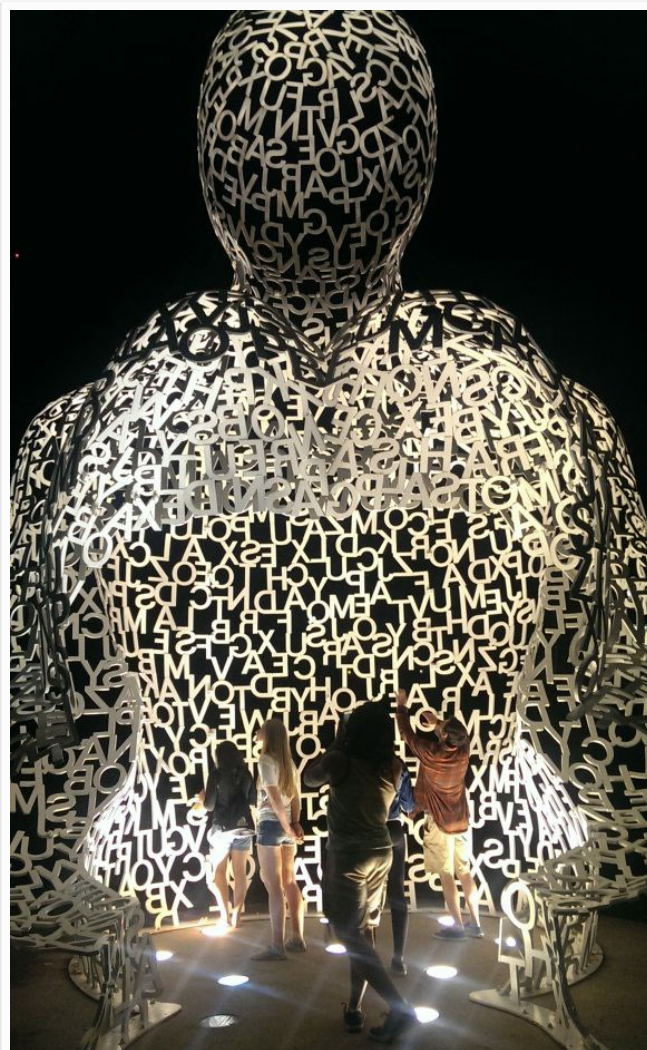
Week 5
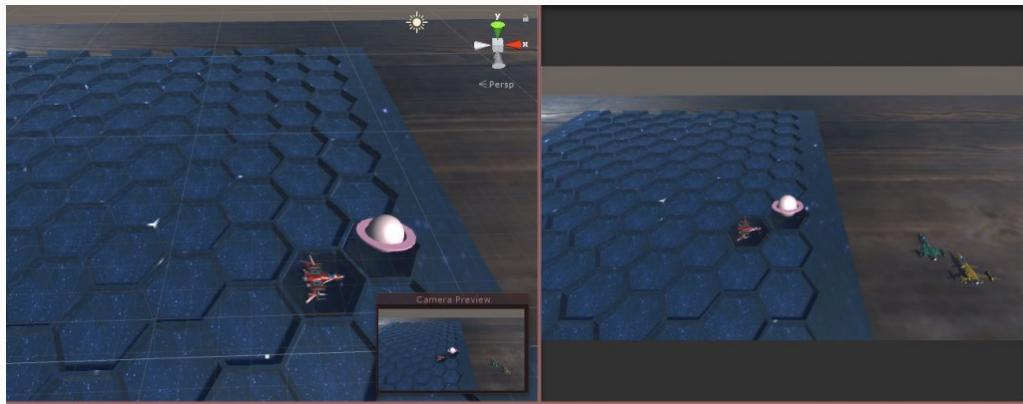
Week 5 has been progressing, and though I haven't been updating here much I have been working on quite a bit.

First, shader work is progressing smoothly. Got to go in the C6 and test out some Unity games using the new shaders we created, and we'll be starting work on our shader project today.
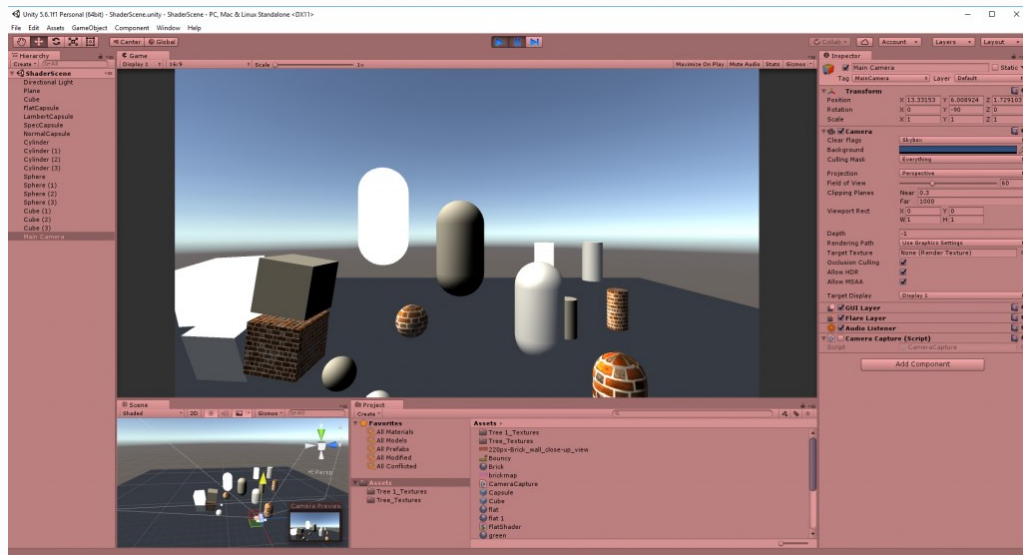
Also using my shaders work on a pet project — a tabletop space game:

Meanwhile, over at our research project, my team's been working on getting our virtual environment together. I've been scripting these markers to move and face the right way:
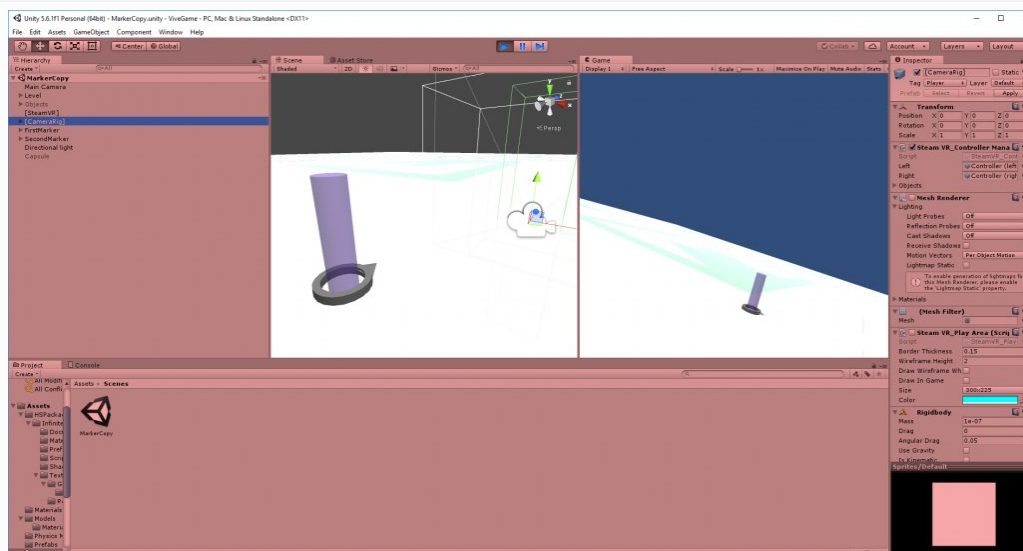
Still lots more to do, so I'll be getting back to work now!

End of Week 4

3

I've been a bit bad about updating this, so I'll try to provide the overview for the week:

Finished up learning Unity stuff, more scripting and lots of progress made on the Nav project as a result! Spent a couple hours trying to get the marker functionality working in the morning and finally got it right, only to do the same thing in a few minutes during our Unity class…

Making progress on the project. Finally got a proper collider working so players can walk over to the marker, interact with it, then see the second marker. Going to start working on adding an orientation to the markers so that participants know which way to face when they get to the first marker.
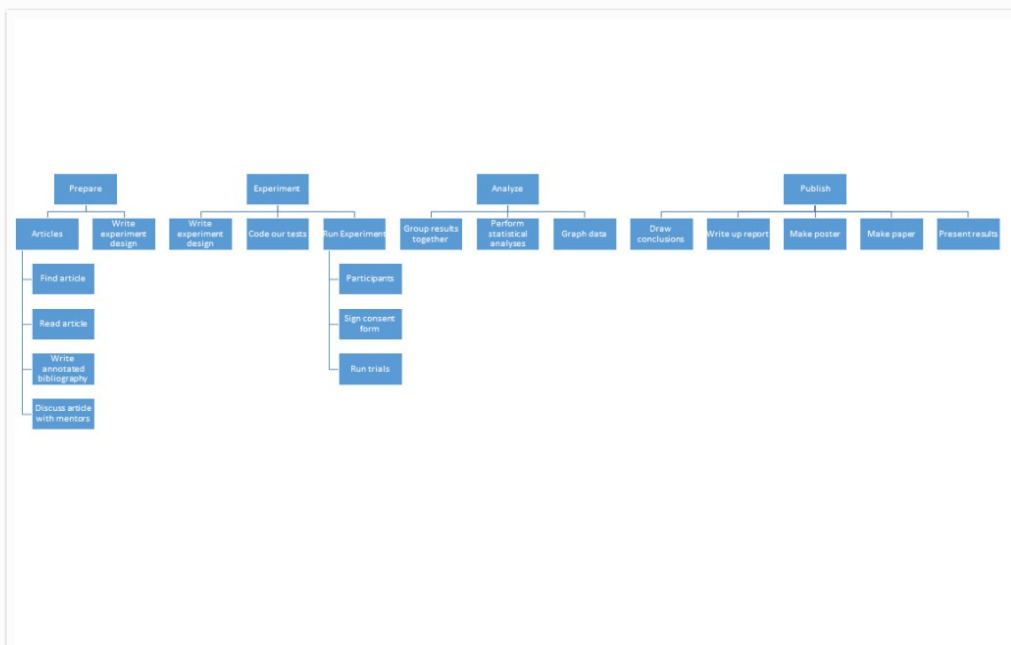
Started the Shaders deeper dive today, and it's been super interesting so far, though realized that I might need to brush up on some basic math stuff. Here's a pic of a flat shader I wrote and a normal map texture:
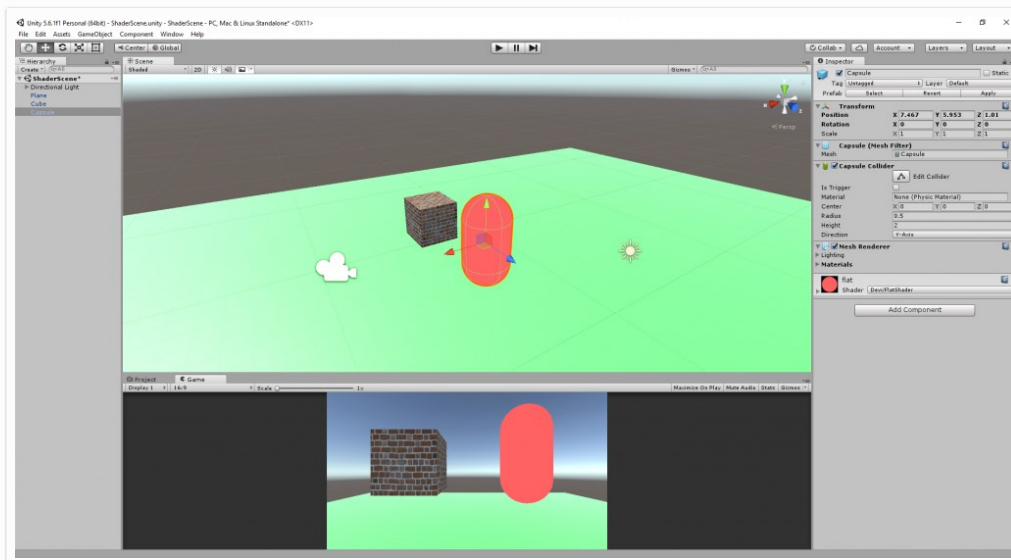
Shaders in Unity!

Also, wrote up some detailed notes on Shaders Day 1 for Chris since he's out of town, but if anyone else is interested you can find them here: https://www.evernote.com/shard/s201/sh/4deace49-56ee-468f-9b07-91fd10a0e46e/c7c17a1a38bc5e9456fd991b52bbc9dc

Lastly, we made an affinity diagram for Team Nav's project, which looks like this:

Team Nav's Affinity Diagram

Special thanks to Alfredo for writing it up and putting it into this nice digital representation. We basically talked about all the different parts of the project as far as our research has gone so far, and what we planned to do in the future, using general headings and breaking it down into smaller steps related to our background research and making our experiment come together.

Week 4!

So begins week 4. We've each picked out articles to present about our research project, and we'll be spending the time working out more of our research methods and starting to make assets for our 3D environments. To go alongside that, we started to run through the basics of Unity. Still trying to figure out best scripting practices, but hopefully that will be covered and if I can get it I'll get to work on some more VR Unity programs — gonna need to know that moving forward!

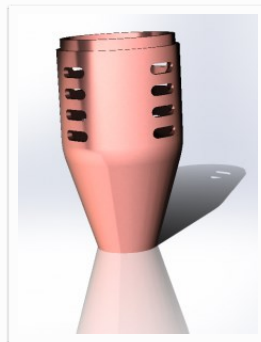There's plenty more to come, but I'll leave that for next time.

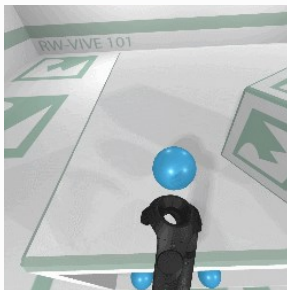Posted in Uncategorized | Leave a reply

End of Week 3

It's been quite a week, lots of learning done. Finally sitting down and learning Maya and Solidworks properly, and so glad that I'm finally feeling that I'm getting the hang of it. Here's a thing I made in Solidworks:

Emanuel says it looks like the top of a tiki torch

In the time between classes I've been trying to make sure we can make Unity environments that are playable in the Vive — thankfully it seems fairly easy to do, and found a great tutorial on it that I was able to run on the Vive here, so hopefully that should be good to go.

With all that we've done so far, I think we're ready for the days ahead.

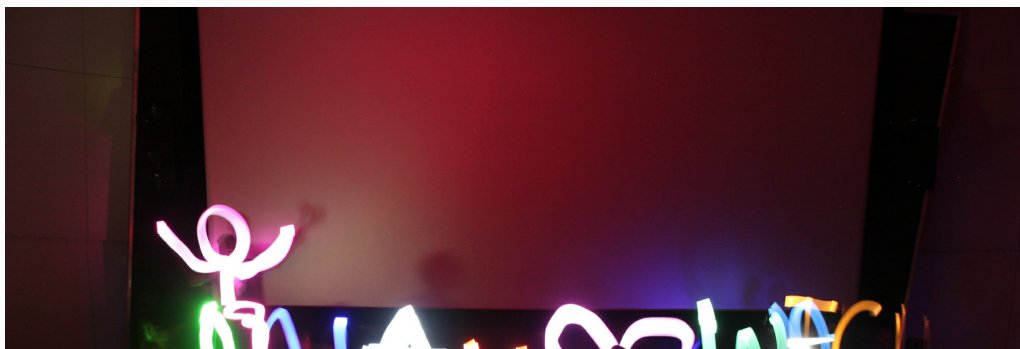Posted in Uncategorized | Leave a reply

Midway Through Week 3…

…and it looks like things will be really picking up soon. Looking at the timeline ahead of us, we're going to have to start mapping out our methods, making assets and environments and running our experiments soon. It seems like there's still so much to go, so we'll be charging into it head-on.

Been learning Maya, and quickly moving on to Solidworks, so by the end of the week hoping to be a CAD master! Also did light painting yesterday; here's the collab we made for team Nav:

Week 3!

Posted on June 12, 2017 by dacharya

It's that time again — blog time! — so here's the updates I promised:

Ropes course was Saturday and I (miraculously) survived! I was super nervous about it, but now that it's over I can say it was actually a great experience — definitely did not think at the beginning of the day that I'd do all the things I did by the end of it.

"I'm not so sure about this…"

"Wow I'm still alive!"

In other news, learned how to play Catan and ate ghost pepper salsa. So I guess you could say it was a weekend of adventure.

End of Week 2

It's strange to see how much has passed already and all that's ahead of us. Haven't updated in a few days, so here goes —

Played FTL for the first time, and with some help the captain and crew of the USS Hamilton fought, traded, and stealthed their way through over half the galaxy. Unfortunately after being attacked and boarded they met a devastating defeat. RIP Hamilton and co, hopefully you'll fly once more one day.

Progress with the project is going well. Just finished up the problem statement, been reading a lot and working on code. It feels great to be able to just collaborate and spend time doing.

Feeling a bit nervous about the ropes course tomorrow — don't want to go breaking my face — but hey, I'll give it a shot and let you know how it goes on Monday. Until then, dear reader.

Day Four

First time visiting Prof. Kelly's research lab yesterday! They've got a Vive set up and it was weird thinking that soon we'd actually be bringing this research to life.

Went swimming right after work, and it was lovely. Had just the enough time to head over to the gym after work with Chris and Kate, chill in the pool and the hot tub before it closed.

After that went back home, wanted to play some games but we started testing out watching Hamilton and ended up staying up 'til midnight watching the whole thing, plus the song outtakes. A happy accident!

Today will be meeting with the research team again to go over stuff in more detail, and looks like the rest of the week is dedicated to learning more C++ and research techniques. I'll be sure to keep you updated, dear reader, as this transpires.

Day Three

Had fun over the weekend! Tabletop games, picnic, lots of good stuff. Now it's back to work.

Spent the morning working on C++ — all we've made so far is a "hello world" program, so we'll see where that goes.

Hoping to check out State pool and do some swimming today after class; hopefully it won't be too busy!

Don't have all that much to add, so here's a gif of an Oculus hedgehog instead:

www.entertherift.fr

Day Two

Today's been quite an experience. Got to tour the lab, see the hardware and software projects going on. Seeing the 3D printers and hardware reminded me so much of the Makerlab back at Brandeis; I just wanted to hop over there and mess with 'em. Hoping that

we get more of a chance to work with that stuff, even though hardware is certainly not my forte.

Very good to see the C6 as well — a 3D projection system in a cube with 360 field of view. Makes me wonder about the advantages / disadvantages versus VR HMDs. Also, could we project other things? 360 video? 3rd person view instead of 1st person? Really want to make something in Unity and see it in the Cube.

Looking forward to the weekend. Had a lot of fun seeing Mayhem (local games shop) and playing some tabletop games, so hopefully will be able to do some more fun stuff this weekend.

Posted in Uncategorized | **1** Reply

[Devi] Day One

Posted on June 1, 2017 by dacharya

Things are starting to take off. Got to talk more about the project today, and excited to start — I feel like this whole process will be a lot of discovering just what we want to do, and then figuring out how we'll do it.

To be honest thinking about trying to tackle all of the research that came before is a bit intimidating — it seems almost insurmountable, and I want to try to figure things out and become an expert soon. But these things take time, and I know I'll need to be patient and acknowledge that it's an iterative process with setbacks just as much as leaps forward.

Looking forward to seeing what the future has to hold.

Posted in Uncategorized | Leave a reply