

Getting Back on Track

July 22: Started off trying the OpenNi viewer with the SmartBody KinectDemo.py, in case there were any differences. Installed new version of VS2008. They updated the SmartBody code apparently. Built in 2008, and there were a ton of random errors, that weren't there previously. It built fine in 2010 though. In their update they also added a 2010 version of the OpenNI viewer. However running this with the KinectDemo does nothing. Same issues as before. It doesn't crash anything though, which is a plus.

Spent the rest of the day getting a revamp of my project, and working with Evelyn to figure out where to go next.

July 23rd: We got the FFAST exported and Maya converted skm files to play in Smartbody with Alex! Apparently it was a channel issue in the file. It thought there were more channels than there actually were, which made the file unable to play. I got the script sort of working in the 2014 version of maya. The exporter window loads, which it didn't do before, but I cannot find out where or if the script is actually exporting files. It says that they are exported, but then I can't find them anywhere on my computer.

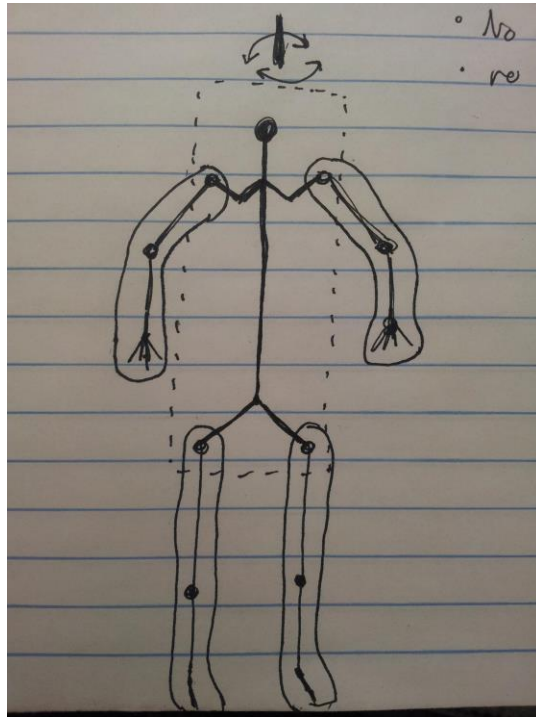
Moved onto testing what kind of animations were possible and impossible to create in FFAST. This involved me standing in front of all the other interns doing silly poses for the Kinect. Good fun!

I also downloaded the Full Body Interaction Framework (FUBI), which is a framework for recognizing full body gestures and postures in real time from the Kinect data, as per Anders' suggestion. This could be used in the future for some of Samantha's gesture recognition needs.

I thought I figured out the skm export issue. It seems that the exporter doesn't like when you try to start the animation segment as a frame other than zero. If you start at zero, then it works. I didn't realize this because I thought I could alter the starting point to trim useless movements out of the animations. Looks like I should do this process beforehand in maya instead. It also seems that it only exports to the main C drive folder, and nowhere else. However, all of these were sort of wrong, because the program just seems to export and not export randomly, regardless of the settings. So this still isn't really working because I can't isolate the cause of why it sometimes exports, but usually doesn't do anything.

I made a list of Alex animations and whether we can create them with the kinect. I also created a doodle showing which body parts are dependent on other parts and which are independent.

The image basically breaks the skeleton into independent moveable blocks.



For instance, the spine, hips, shoulders and head are all one moveable piece, and thus marked in the dotted box. The limbs however, have free movement, so they are in their own bubbles. The round dots on the skeleton represent joints (besides the "head" dot I drew), and indicate the ability for movement as well.

July 24th: I finished the list of animations, since many of the animations I marked as having no movement actually did when played on a computer with a decent graphics card. I then attempted to get the Maya scripts working again. I really can't figure out what is wrong. It randomly works one time, and then doesn't the next 20. Evelyn suggested installing teamviewer on Rebecca's computer, so that I can access the working scripts, and come back to this is if I have time.

I wrote out documentation on how to create an animation in FAAST and load it into Alex, and then I moved on to Amy's task list, which is as follows:

- 'Easily' record new gestures with the Kinect
- 'Easily' convert new animation file to appropriate format for Alex
- 'Easily' insert converted file into Alex file structure
- 'Easily' associate animation file with appropriate utterance
- 'Easily' deploy new utterance with animation in the Alex interface

The last one is already done, since if an animation and utterance are linked, it will be available to choose in the WoZ. I started off trying to tackle this list by looking into Macro Recorders.

I looked into Jitbit Macro Recorder, and got it to handsfree record an animation in FFAST. This also got rid of all the extra space before an animation plays, and the wonky skeleton flailing when entering and exiting the screen, because I had enough time to move into view before the recording started. I could then export this to an exe file, so I could call it from a separate user-friendly interface that then does everything for you. However, the trial version of the software I am using only record the first 30 commands.

July 25th: I began working on the macro recorders again, and started trying to design a program and interface that could handle some of the things on Amy's list. It feels good to be coding again :) We had our weekly meeting, and I presented what I worked on this summer.

After that was over, I worked more on the program that makes parts of the animation process automatic. It now automatically adds an animation to Alex, and can link an animation and utterance. The record gesture button automatically opens FFAST, and asks for your filename. I am going to have it automatically rename the file, since FFAST can only save files as test.fbx.

July 26th: Started work on the rename thing I mentioned first. Did the rename prompt, renames the file appropriately. I also changed the adding process so it adds the animation to both old and new smartbody.

I tried adding in macro recorders for the animation recording process, but they are not very reliable. I decided to switch to making a tutorial walkthrough for the process instead. Now a box pops up with the appropriate steps to create an animation. However, this was kind of ugly, so I made a better version of the tutorial that has images. I decided to check in with Evelyn at this point to see where to go next.

While I was waiting for Evelyn, I began to briefly work on Anders' code switching issue, which is the fact that we have the study app code pretty much duplicated in two places. One that has all the apps and the chooser program, and each of the apps separately. The code has a few small differences, but it's mostly a complete copy. We want the apps to all derive from the same code, so that if you make changes, you don't have to make them in two places.

I went back to the app after talking to Evelyn and worked on some of her suggested some changes. I messed around with the excel saving issue (when I close excel, the EXCEL.exe process is still running, which makes the file unable to open correctly), but haven't quite figured that out yet. I moved on to finding the Alex and FFAST directories so that this program isn't only able to run on my computer. Switching Alex was easy, it just used the directory method that was in Alex. FFAST took a bit more work, as I had to add another file dialog, but overall pretty simple too.

I moved back to excel process issue after that, and I did finally fix it. Apparently I wasn't releasing all of the Excel objects I created, and in order for the process to close correctly, ALL of them must be closed, not just the main workbook/sheet/app, but any Excel object.

Lastly, I made the screenshots for the Maya tutorial that I am going to make, much like the FAAST tutorial.

To Do For Next Week: Maya tutorial and Code switching.