EE/CprE/SE 491 Weekly Report 6
Group: sddec19-14
Client & Advisor: Danfoss Power Solutions(Radek) / Dr. Alexzander

Team Members:
Omar Abbas - meeting scribe/report manager
Dennis Xu - chief engineer/meeting facilitator
Aaron Michael - chief architect
Jonah Bartz - continuous integration

User Information Augmentation

3/15 - 4/5
Weekly Summary:

For the past few weeks we have been working on refining corner detection with OpenCV and getting the Tobii eye tracker working on the Jetson TX2 in addition to connecting the Tobii to the Jetson directly without and intermediary. We have made multiple efforts to contact professionals and other Tobii representatives to get the files we need as we can not find them on the internet, nor on their development board. A representative told us he would get back to us but we have not heard anything yet.

Past Week accomplishments:

Omar Abbas:
- Learned more about template matching in OpenCV
- Attempted to implement object detection through a video feed as opposed to imaging
- Refined corner detection to work a little better

Dennis Xu:
- Worked on parts of the Design Document
- Tested a few methods for getting the tobii eye tracker working on the Jetson TX2
  - Created an x86 machine for QEMU to try and run software the tobii eye tracker. The machine was very slow.
  - Tried getting tobii stream engine working on the Jetson. There seems to be issues with this as well.
  - Worked with team to check if WINE would work. This solution doesn't seem to be a good one

Aaron Michael:
- Worked on the Design Document
- Helped Dennis with trying to get WINE and then QEMU working on the Jetson TX2 so we can connect the Tobii Eye Tracker 4C to it.

Jonah Bartz:
- Got in direct contact with grant from Tobii in hopes of getting Alpha release version of SDK
- Starting to develop tobii program in c in hopes that we can connect, if not we will still have it working on a laptop
- Worked on the Design document and forming test cases for the system

Pending issues:
- We still have the issue with getting the tobii eye tracker to work on the Jetson TX2
  - QEMU seems like it would be too slow
  - Tobii stream engine seems to only work on Android
  - There seems to be dependency issue when installing WINE
- Learning OpenCV library which will allow us to perform image detection using the TX2.
- Use OpenCV to detect objects in front of the TX2, and use Tobii Eye tracker to determine whether the person saw the object or not.
- Waiting for projector to be delivered

Individual contributions:

Name	Individual Contribution	Hours since the last report	Hours Cumulative
Omar Abbas	OpenCV training, code refinement	9	25
Jonah Bartz		5	20
Dennix Xu	Worked on getting QEMU, stream enginer, and WINE working on the Jetson	9.5	25
Aaron Michael	Helped work on getting QEMU and WINE working on the JEtson	8	23

Plans for upcoming week:
The major plan for the next week is to make one last effort is trying to get the tobii eye tracker working directly on the Jetson TX2. We have spent a lot of time working on this issue and we need to move on. If we are not able to get it working, we will progress with a seperate solution. The solutions we will be looking into are:
1. Using the QEMU machine and determining if it is too slow. If it is we will try enabling KVM on it.

2. Use ARChon to run the stream engine
3. Seeing if the Tobii representative Jonah contacted can help