sdmay18-34: Integration of personnel tracking in an Augmented reality environment
Week 8 Report
November 6 - November 12

Team Members

Logan Highland — *QA Lead*
Chandler Chockalingam — *Project Manager*
Christopher Stapler — *Report Manager*
Josua Gonzales-Neal — *Chief Engineer*
Jason Ramirez — *Software Architect*
Victor Da Silva — *Chief Engineer*

Summary of Progress this Report

In this reporting period, our group finally was able to gather CSI data on one of our laptops. This was in part due to getting in touch with a Grad Student who worked with Dr. Qiao previously on a research project involving Channel State Information. The graduate student was able to give advice on how to properly configure the Linux 802.11n CSI tool. As we were able to find to the source code for the SpotFi algorithm, members of our team worked to understand the implementation details of the code and how to use it for the CSI data that we had gathered ourselves.

Pending Issues

We still have yet to get CSI tools working on more than one devices. Optical operations have ordered parts required for us to build us a machine where we can more easily run the CSI Tool software on. Once we are able to get multiple devices running the algorithm run the SpotFi algorithm on the data they collect instead of test data.

Plans for Upcoming Reporting Period

We plan to make a video to send Dr. Qiao and Optical Operations, since we are not able to meet in person, to show off the progress we have made on the running SpotFi. In the next reporting period, we also hope to have the machine that Optical Operations has ordered built and gathering CSI. As we are continuing with a backup RSSI solution we plan to have code written to partially localize using 3 routers and plan to set up a test environment to test it.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Logan Highland	Read through SpotFi open source code, working on getting CSI data already collected into the algorithm to actually convert it to readable information.	5	40
Chandler Chockalingam	Looked more into Spotfi code and looking at getting it to work with our CSI data.	4	37

Christopher Stapler	For this reporting period, I continued my work to get the Linux 802.11n CSI tool ruining on my laptop. As I was still running into many issues getting it working I suggested we contact Dr. Qiao to see if he could put us in contact with someone who has previously worked with the tool before. The person Dr. Qiao was able to put us in contact with was able to give answers the questions I had and ultimately help me to get CSI logging working correctly. Once I was able to gather data I then used the CSI Matlab code to successfully decode and read the CSI values that I gathered.	7	51
Josua Gonzales-Neal	Made sure the parts were ordered to the new test machine. Will get the parts together, test, and working.	4	38
Jason Ramirez	Working on getting Matlab code for SpotFi algorithm working.	4	40
Victor Da Silva	I worked on creating bash and python script for RSSI data. Taking in the RSSI data and applying algorithm found to the three data points.	5	38