sdmay18-34: Integration of personnel tracking in an Augmented reality environment

Week 6 Report
October 23 - October 29

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 team has worked to test CSI tools and looking deeper into open-source Channel State Information localization technologies. There were many obstacles involved in getting to a state we could test out the open-source technologies that we have found thus far. One such problem is with one of the laptops we are using to run the CSI software, the bios has rejected the Intel 5300 NIC required to run the CSI tools. On the software side, we have been able to find open-source implementations to not only to gather and extract Channel State Information but also to run an implementation of the SpotFi localization algorithm.

Pending Issues

Currently, we only have one laptop that we are using as our Channel State information Device. This is something we are working on coming up with a hardware solution to use in addition to the laptop which will also be equipped with the Intel 5300. We had planned to get a demo out at this point using CSI tools, however, due to the problems we have run into we have pushed back the demo date.

Plans for Upcoming Reporting Period

For the next report period, we will demo the CSI extraction software, and align ourselves in a position to start testing tracking the open-source localization solutions that we have found. In addition, we plan to have another CSI gathering device up and running.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Logan Highland	Continued research into previously found information about CSI. Looked into fixing my computer to work with chip	3	31
Chandler Chockalingam	Looked more into open source CSI implementations and worked on hardware configurations with the laptop our advisor gave us.	3	28
Christopher Stapler	Looked into standard RSSI based localization	4	34

	methods to complement the CSI-based localization methods we have currently found. Many of the solutions found use triangulation approaches. Found one that I am currently in the process of testing.		
Josua Gonzales-Neal	Helped connect new wifi chip to the given laptop. Looked through ways to help get the chip to work on a older device.	3	30
Jason Ramirez	Opening up Dr. Qiao Laptop and placing in the 5300 chip. Putting Windows and Ubuntu in Dr. Qiao laptop.	6	32
Victor Da Silva	Searched for open source software for CSI integration of location tracking. Learned more about CSI solutions from other projects.	3	28