

sdmay18-34: Integration of personnel tracking in an Augmented reality environment**Week 1 Report**

January 15 - January 26

Team MembersLogan 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*

Bi-Weekly Summary

Since the start of this semester our team has been hard at work on the implementation of our project. Most design decisions were made in the previous semester and we were able to begin work right away. Overall, the team made progress in different areas of the project in small two person groups which included a Hololens team, a Services team, and a Tracking Team. We plan on being able to integrate the different parts we have been working on in the next few weeks.

Past Week Accomplishments

- Hololens Team - Josua and Victor:
 - Learning the Hololens and Unity environment. Researching tools necessary for project (MapBox and Mixed-Reality Toolkit for Unity).
 - Services Team - Chandler and Jason:
 - Tracking-Cluster skeleton up and running with persistent database data and using https.
 - Tracking Team - Chris and Logan:
 - Getting Pi's to run code for collecting RSSI data and sending it to server, partial integration with server code, initial battery tests.
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Pending Issues

- Hololens Team - Josua and Victor:
 - HoloLens emulator issues with Victor's laptop. Can be resolved by using clients dedicated machine in his office. Fixed.
- Services Team - Chandler and Jason:
 - Getting Websockets to work on server.

- Tracking Team - Chris and Logan:
 - As our client code for the raspberry pis are coming along fairly quickly and most other of the other tasks that the tracking group needs to get done by our next deadlines, there is less work that required for two people. To fix this Logan will begin work helping out the services team.

Plans for Upcoming Reporting Period

- Hololens Team - Josua and Victor:
 - Josh: Upcoming plans are getting the MapBox to an AR ready object with a demo-able view on the HoloLens. Learning gesture control and manipulations of the map.
 - Victor: Plan to begin implementing Map functionality and map placement in Hololens app. Push to Hololens for demo/test. I will also get the Hololens application set up with web socket connections (Socket.io).
- Services Team - Chandler and Jason:
 - Chandler: Finish up prototyping with BigTable/BigQuery APIs, work on multilateration service and have working result with dummy (or possibly real) data by end of week.
 - Jason: Build token-login microservice without JWT creation. Build token-data-entry with no authentication or data checking. Have socket-routing service working with https, otherwise ditching it.
- Tracking Team - Chris and Logan:
 - Logan: Finish testing with different battery packs, get pi's running program to test consumption when running, start working on web interface to document access points and initially set up pi's, help Chris with demo.
 - Chris: Complete and begin testing of raspberry pi scanning and reporting code. Set up demo environment on campus for initial testing purposes.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Logan Highland	Researching Pi Zero battery consumption, testing how long portable battery pack runs pi on idle, configuring pi's initial setup.	4	8
Chandler Chockalingam	Prototyped with the Google BigTable/BigQuery APIs, outlined backlog tasks for the semester for Services team, started working on Multilateration Service to process RSSI values and AP info	6	10
Christopher Stapler	Configured raspberry pis with raspbian lite, found best method for determining bssids of deployed aps, Worked on tracking client python code to scan for aps and report back to services.	6	11
Josua Gonzales-Neal	Getting APIs installed, setting up Unity, demo-app for holoLens emulator test, and co-created schedule for implementation.	5	10
Jason Ramirez	Learned Docker and Kubernetes, Created skeleton of all the different microservices in tracking cluster, Deployed microservices and tested each encrypted endpoint	6	11
Victor Da Silva	Hololens Unity environment setup Hololens Emulator setup Tutorial and learning programming gestures, cameras, voice, and spatial mapping	5	10