SE 491-sdmay19-27

Smartphone Tracking App for Microsoft HoloLens

Week 6

2/17/19 - 2/24/19
Client: Optical Operations
Faculty Advisor: Daji Qiao

Team Members:

Ben Holmes - *Android Development*
Anthony House - *Website Development/Security*
Ryan Quigley - *Database Admin*
Jose Lopez - *Website Development*
Travis Harbaugh - *Hololens Development*
Cory Johannes - *Report Management*

Summary:

The goal this week was to continue testing our mobile application by following our test plan and collecting data. Our backend team is working on creating an API to be used for storing the test data which will allow us to compare the perceived path to the actual path.

Pending Issues:

The hololens is having issues displaying the geolocated image on the map. It displays clearly on the website but when displayed with unity it causing the image to be very blurry and can't see the floor plan image. The Bluetooth devices are still unable to re-establish a broken connection, and we are still unable to track multiple paths through the canvas visual display.

Past Week accomplishments

- Travis Harbaugh
  - Worked on display the geolocated image on the hololens. Worked on decreasing the map scale and increasing the titles to try to eliminate the blur durham floor map
  - Working on create a layer that I can create polygons that will overlap with the floorplan to create a 3d model in WRLD map
- Ben Homes
  - I removed device discovery, and added in a search method through the paired devices. This will save battery in the long run, and will allow our client phone to connect to nearby devices much quicker, as we won't need to wait for a broadcast when a device is in range

- - I managed to get the devices to connect and reconnect after the connection was broken, but it will not work consistently
- Anthony House
  - No work completed. Coordinated with Cory to help pick up some of the slack from my absence with personal restrictions
- Ryan Quigley
  - Developed "Restricted zones" that prevent estimated location from going into areas deemed unreachable
    - I.e. Closed rooms, walls, ect
- Jose Lopez
  - Changed the test plan to be in more of a bullet point format
  - Added 4 different true paths recommended by Daji
  - Added 5 different test cases to match the true paths. Straight/back and forth are assigned to the line true path, the turns test case is assigned to the turn true path, the u-shape path is assigned to the u-shape path, and the loop path is assigned to the loop true path
  - Measured the distance in inches each true path is, via Autodesk's dwf online viewer
- Cory Johannes
  - Got self to a point of understanding Rethink and Node that I believe I can work on the Backend

Individual Contributions:

Team Member	Contribution	Weekly Hours	Total Hours
Ben Holmes	Removed device discovery from devices, added method for searching through paired devices, and also have continued to experiment with why the Bluetooth setup is not reconnecting after a severed connection.	5	30
Anthony House	Null	0	11
Ryan Quigley	Worked on restricted zones.	6	26
Jose Lopez	Redid the test plan to	6	17

	use more concise bullet points, and added more test cases along with their true paths.		
Travis Harbaugh	Worked on display the geolocated image on the hololens. The map is not scaling the map done which is causing image blurring. Working on create a layer that I can create polygons that will overlap with the floorplan to create a 3d model in WRLD map.	8	41
Cory Johannes	Gaining understanding of tools we're using for server and db.	2	14

Plans for Next Week:

- Travis
  - Continue to work on 3d model for WRLD SDK model of the durham and get it displayed on the map
  - Work on the zoom feature that will allow the durham floor play to display with 100% visibility
  - Work on connecting to the Rethink Database endpoint. As soon as the backend has the API completed I will worked on display the absolute path on the map and make the avatars move on the hololens
- Anthony House
  - Set up rethink functions and begin rethink implementation for Ryan
- Ben Holmes
  - Continue researching why the devices are not able to consistently connect and reconnect
- Cory Johannes
  - Ready a table for Ben's data, enable communication for it
- Ryan Quigley
  - Look for and implement methods to smooth out compass reading
- Jose Lopez
  - Show how the components all work together