MST Google Project 2 – 27/11/15

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Overview of previous weeks

Over the last two weeks, we have met again with Usama from Google and explained the use that MSF would make of the project: it is more beneficial for them to have video footage than sensor data. Therefore, we will be displaying graphs of analysed data as well as video/images in the Cardboard environment.
We have a basic view built for the phone, and have continued to research into: transferring data, creating graphics in the Google Cardboard.

Meetings

19/11/15: Meeting with Usama at Google where we discussed a previous meeting with MFS, and how they preferred the use of a camera to sensors. We discussed possibilities of rendering graphs using HTML pages (D3.js),

26/11/15: Meeting with the team and Aron (teaching assistant). We discussed again ways to display graphs and how to transfer data from the laptop to the phone. Aron also suggested we look at analyzing video footage for crowd/people recognition and tracking.

Tasks completed and time estimate

A basic Google Cardboard environment has been built by Garrett; it contains the boxes where graphs, data, video/images will be displayed, and allows the user to focus and maximize (zoom in) on a box.
Regarding time limitations, we will not be able to use real sensor data for building graphs as we do not yet have the sensors.

Problems to be resolved

The drone is available for us to use, however the sensors we ordered have not yet arrived. For the time being we will only be using dummy data to create graphs, as there will not be enough time for us to implement using the sensor data.

The two other problems to resolved are building a connection between the phone and laptop for data to be transferred, and rendering graphs in the cardboard.

Plan for upcoming weeks

The tasks we need to complete are: creating and inserting graphs into the Cardboard environment, inserting video/images, and transferring the data from the laptop to the phone. If there is enough time for us to do so, we will start analyzing video footage (an aerial street view of people walking outside) to see if we can analyze population movement.
We are also finalising the website and documentation to be ready for uploading in 2 weeks.
Once the prototype is ready, we should start on the video presentation of the application.

Carla Hyenne

Over the last two weeks we have researched different ways of rendering graphs onto the Google Cardboard view. I have looked into using either OpenGL ES or creating a graph on an HTML page that would be inserted into the Cardboard view, possible through OpenGL ES. However there did not seem to be any available tools to render an HTML page, so I have researched ways of creating real-time functional graphs with OpenGL ES using dummy data.

Daniel Eldar

During the last two weeks there was a large focus on transferring data from the laptop to the phone as we have decided that the data will be sent from the drone to the laptop and then to the phone from it. Initial thoughts were to use Wi-Fi, however, android does not support ad-hoc networks natively which would be problematic as it is unlikely the client will have a Wi-Fi connection in the areas that they want to use the project in. So we have started looking into bluetooth connections and are trying to create the program for the laptop using Objective-C on Mac OS X at the moment as cross platform Bluetooth libraries are not very common. Furthermore, there was an idea of sending all of the data using the XML or JSON formats in one file, however, we will try to aim for 2 connections so that we can get the data as fast as we can without having the large image data slowing down the sensor data that's coming in.