MST Google Project 2 – 30/10/15

Daniel Eldar, Carla Hyenne

Overview of previous weeks

Over the past two weeks we continued on our research into: the drones and sensors needed, how we are going to send the data collected on the drone to the backend/users, conducted research on how to include features and how to display the data to the user. We have also set up a website for the project on which we document our progress and our research, and a GitHub repository to keep track of our code.

During our first meeting we discussed the scope of our project to define more clearly the requirements we were setting, this based on the research we individually had conducted. Throughout the week, we kept adding or removing features as we went further into the research. We also designed an initial pipeline.
We met with our client in the second week to discuss the results of our research so we could settle on a few different things: the drone, sensors, user interface.

Meetings

22/10/15: Meeting with the team and TA
29/10/15: Meeting with client (Usama) at Google

Tasks completed and time estimate

During the two weeks from 19th October to 30th October, the period was split into 2 sections. During the first week, everyone researched everything so we all had an idea of what we had to do overall, and then during the second week, we split the tasks down into more specific chunks and each of us started working on the parts we were assigned. The tasks we split in the following way:

- Server and Streaming - Daniel
- Drone and Sensors - Hekla
- OpenCV and Python - Carla
- Graphics - Garrett

Regarding time the most urgent task is to get the sensors so we can start collecting data soon.

Problems to be resolved

We need to decide on the drone we will be using and get the sensors we will need for our data collection. So far we have settled on the following sensors: GPS, accelerometer, barometer, temperature sensor, gas sensor. We will need to decide on how the sensors and the camera will be attached to the drone, and whether we want to build our own drone if the ones available to us do not permit the customization we need.
We will also need to decide on a design and interface for the Google cardboard, and how the user will be able to see the live feed from the camera (lower resolution) and the resulting data/graphs captured and sent from the back end.

Plan for upcoming weeks

In the upcoming weeks we want to record a video to start analyzing it. For example, taking a 5-minute video from a high floor of UCL could allow us to detect movement, analyze the traffic of students, etc.
We need to order the sensors, and as soon as we have them available start testing and collecting data.
In the upcoming week we will also be meeting with Dr. Kostkova and Medecins Sans Frontieres, to update them on our project and get their perspective.

Carla Hyenne

Over the last two weeks Carla has started designing the website for the project, which includes an overview of the project, regroups our research and keeps track of our progress. She has also done research into OpenCv for Android, Python and C. The OpenCv framework will help with features such as motion recognition and detection when analysing the video recorded by the drone.

Daniel Eldar

During the second week, Daniel had researched how to stream video between devices using sockets, those sockets will send the data of each image individually on a server as the client requests it and then the client is to display the image once it is fully downloaded. As well as, setting up a GitHub

repository to be used between the team member so that we can help each other more effectively and split the work as required in the future.