MST Google Project 2 – 16/11/15
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Overview of previous weeks

The project was on hold for one week but resumed over reading week. We had an important meeting with MSF and Dr. Kostkova, which gave us a new perspective on the project and what it means for their team. However it shifted the focus of our original plan, so we designed a new plan for the following weeks. We discussed new ideas such as thermal cameras for applications on population density, aggregating areal photographs to map an area, and calculating terrain/building heights.
We are now looking at implementing the sensors and data collection as well as the video footage, instead of just concentrating on the sensors during this term.

Meetings

13/11/15: Meeting Dr. Kostkova and our first meeting with MSF. We updated them on our current progress and MSF gave us their perspective, explaining what is helpful to them on the field.

Tasks completed and time estimate

We have identified and defined the components we wish to incorporate to the project but realise some components will have to be put on hold until term 2. The different parts include: the sensors, which includes setting up the drone, collecting, relaying and displaying the data; the camera, which includes getting videos and photographs, possible aggregating photos; creating the virtual reality environment in the Cardboard; setting up the server. Given the time we have left until the end of term 1, we are trying to get sensor readings and displaying them on the Cardboard, as well as video footage.
We have ordered the sensors for the drone and are waiting on them to arrive so we can start assembling the parts.

Problems to be resolved

Following our meeting with MSF, we understood that the main objective of the project for them is to have a population count and capture areal views from the drone. However Google's perspective is to use sensors attached to

the drone to collect data, and interpret this data to be displayed on the Google Cardboard. Therefore we are coming up with an innovating way to merge the two aspects together.

There is also a question of whether the video and sensor data will be relayed live (minimizing the quality and reducing speed of translation) or if some data will be sent to the backend, and analyzed/read after the flight.

Plan for upcoming weeks

Team 1 will now work on creating the main menu in the Google Cardboard, adding textures to the Cardboard view and research on plotting the data collected from sensors.

Team 2 will be working on setting up a server to send information between the drone/drone/backend, creating an algorithm for capturing camera footage and will also assist in plotting the data.

Carla Hyenne

Over the last two weeks Carla has designed a motion detection and contour detection algorithm using OpenCv and Java. She has started working on population density algorithms and researching methods involving thermal cameras. She has also been finalising the website template and updating the documentation and research content.

Daniel Eldar

In the last two weeks, as we've had scenario week, that week did not have much work done, however, during the second week, I have looked at how to send a faster video stream over the network, where I saw we have two main choices, one is to send over the differences between the frames which would take much longer to implement, or to send each frame on its own. However, in both scenarios, we'll have to downscale the image to a much smaller size than we currently have as I do not believe we can achieve 720p video live stream.