TEAM E+2

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FINAL PROJECT PROPOSAL

DESCRIPTIOM:

We will have an iOS application that will allow the user to control a quadcopter and to take a short video of a “target” person. When selecting a target the idea is that the quadcopter will follow around the target person and it will transmit a video feed of what the quadcopter is seeing.

LAB PROJECTS:

Lab 4 (OpenCV/ video processing): we will use OpenCV to train a classifier in the images send by the iOS app of the “target” person. Then we will process the vide feed from the quadcopter looking for the “target” person.

Lab 6: tornado POST request. This will handle the upload to the server of the pictures later on used to train the classifier.

Lab 1: it used several different iOS UI elements.

DESIGN CONSTRAINTS:

The tornado server and the OpenCV processing will be done on an NVidia embedded system (jetson tk1), which will be placed in the quadcopter.

The phone will connect to the NVidea network.

The iOS application will allow the user to control the quadcopter.

The iOS application will extract 200 pictures out of the video the user takes of the target person. These images will be sending to the Tornado server thorough POST requests.

When all the POST request have been served the Tornado server will create a txt file with the paths to all the pictures. Then it will send the path to this file, thorough a socket connection, to the OpenCV application.

The OpenCv program will do the training and then it will be able to control the quadcopter based on the vide feed.