Gruoup 9

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Lab 6 Report

**Command line arguments**

The program should be launched using two command line arguments: the first is the path for the input video while the second is the path of the folder contaning the objects images. No further input are requested to the user.

**Process workflow**

The process starts by saving each frame of the input video into a vector of images,

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After performing the feature matching we get into the last part. For each frame and for each input object we compute the new positions of the feature points with calcOpticalFlowPyrLK(), we compute the movement with findHomography() and with perspectiveTransform() we get the new positions of the corners of the surrounging box.

The user can see this process evolving from some frames displayed - We decided to show one frame every 40 to speed up the interaction.

**Difficulties and lessons learned**

While tracking the features was pretty straightforward, the boxes started to lose the rectangular form after some iterations, we prevented this as much as we could by modifying the threshold for ransac and the window size in the function that implements Lukas - Kanade algorithm.