

Dissertation Weekly Report

March 20, 2015

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Supervisor: Lus Filipe Teixeira

Thesis: *Visual-Inertial based autonomous navigation of an Unmanned Aerial Vehicle in GPS-Denied environments*

1 Accomplishments

- Image processing
 - Vanishing point detection completed.
 - A few adjustments were made to the edge detection.
 - A new method to detect stairwells started to be researched.
- Video
 - Vanishing point detection in a video feed almost completed.
 - The basic components for the navigation in empty corridors is almost completed.
 - Video stabilization methods started being worked on.

2 Difficulties

- There was some difficulties removing the outliers from the video feed:
 - Video Frames with posters on the walls strongly interfere with the vanishing point detection.

3 Notes

- A meeting with the supervisor was scheduled for the 13th of March at 16:00 PM.
- The colleague *Filipe Trocado Ferreira* was contact in order to get some advice about video stabilization and the usage of the ROS package.