Autonomous flying drone for building surveillance

Base / Charging station

Team Red One

Luft (Atrium)

Philipp Freyer
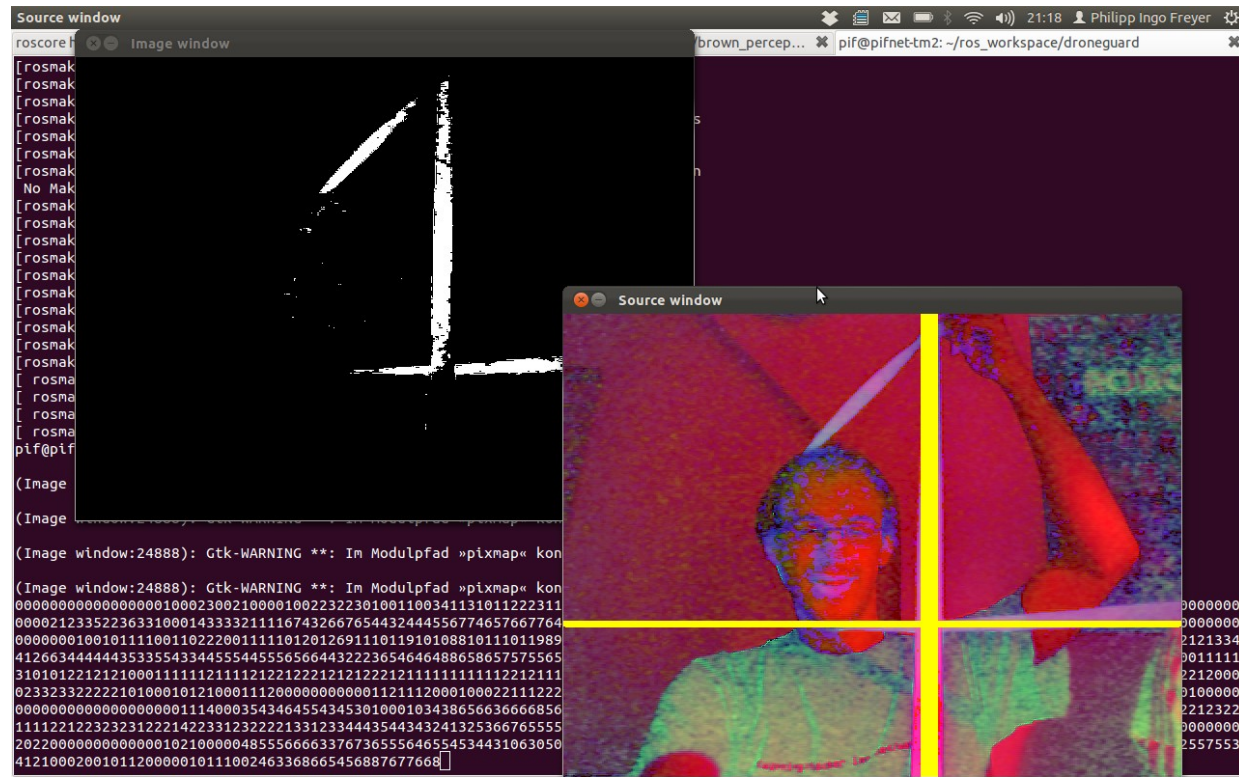
Stefan Stöckl

Informatikzentrum 1. OG

Topic Motivation

- Use AR drone for building surveillance

- Addition to existing watchmen

- Fly a predefined path through a building

- Videostram of the drone's camera image to the guard-room

- Take pictures of points of interest for security archive

- Learns map of the route for case of occluded waypoints

Done so far

- Read image stream into OpenCv images

- Find red lines in the image

- Extract vector path from lines

- Concept for Map

- Implemented basic control node

What comes next?

- Actually follow the line
- Find crossways
- Send waypoints out of EKF to Map
- Implement battery monitor
- Include ar_recog for marker recognition
- Include marker database for EKF position correction