Autonomous flying drone for building surveillance
Topic Motivation

- Use AR drone for building surveillance
- Addition to existing watchmen
- Fly a predefined path through a building
- Video stream 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
- Testing & Debugging
Problems, we had

- Team lost a member due to time issues
- Control node had problems finding the correct point on the line to go to
- Some formulas were incorrect
- In bad light, the line was not visible clear enough
  - Strap a light to the drone
What can we do?

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