Presentation Digital Engineering Project: Flying Swarm

Prof. Mostaghim, Christoph Steup
Chair of Intelligent Systems
Organization

• Time and location:
  – Start: 20.10.2017
  – End: 15.02.2018++
  – Time: 13:00 (1:00 pm) (probably)
  – Place: G29-035

• Contact:
  – Christoph Steup: steup@ovgu.de
  – Sebastian Mai: sebastian.mai@st.ovgu.de

• Meetings:
  – Individual meetings organized by Team Leader

• Web:
  – DE Project Overview
Energy Awareness

• Currently Copters have no Energy Measurement Hardware
• Energy Model is important for Optimization
• Energy Model extends Life-Time Prediction
• Goal:
  – Provide Current Measurement
  – Integrate Current Sensors in SW
  – Evaluate Copter Behaviours regarding Energy
• We have:
  – Flying Copter
  – Current Sensors
  – Extensible Copter Software

Source: http://www.robotshop.com/media/catalog/product/cache/1/image/900x900/9df78eab33525d08d6e5fb8d27136e95/p/o/pololu-30a-ac715-current-sensor_1.jpg
3D Magnetic Mapping

• Copters contain included 3-Axis Magnetometer
• Use Magnetometer to create 3D Map for Indoor Environments
• Enable Positioning
• Enable Compensation of Magnetometer Data

• Goal:
  – Evaluate Precision of Magnetometer
  – Create SW to acquire Map
  – Check Location Capability
  – Check Correction Capability

Source: