

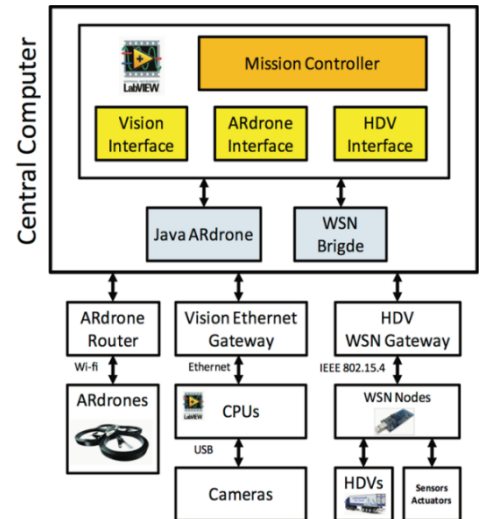
Master Thesis / Semester Project / Summer Project

Cooperative Control of Aerial and Ground Robots

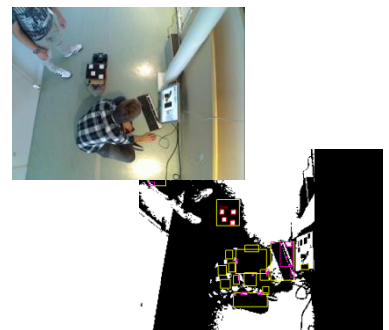
Description:

Multi-agent systems are more and more often employed to obtain inherently robust solutions to many robotic applications, such as exploration, surveillance, and platoon. In such situations, agents need to cooperate with each other using locally available information and inter-agent communications.

An experimental testbed for mobile robots has been built this summer at **Automatic Control Lab, KTH**. The primary architecture of the testbed is shown in the figure on the right, with a vision-based localization system, distributed wireless sensor networks, and several quadrotors and small scale trucks. The testbed is being used to evaluate controllers for autonomous driving of the trucks, and autonomous navigation of quadrotors.



One possible direction of this project is to develop traffic flow control algorithms involving trucks, small car-like robots and quadrotors and evaluate them in the testbed. Another potential topic is to include human behaviors in the automatic process and design controllers for different scenarios.



Prerequisites:

Courses in Automatic Control, Matlab/Simulink and general programming skills

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