Robot Programming

Instructor

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Credits: 4

Synopsis

In the past years there has been growing interest in the robotic community on the problem of software engineering in robotics. This has led to the development of various software middleware (ROS, OROCOS, YARP to mention just a few) supporting development of libraries, components, code reuse and their integration. Among the possible alternative, publish-subscribe architectures are becoming a de-facto standard as a paradigm for communication between component. This course will illustrate how to develop code to control a robot using open source tools. We will use YARP: the middleware adopted on the iCub, Coman and Walkman robots at IIT and the iCub simulator. We will provide a general understanding of the software architecture, a description of the main YARP functionalities and the robot API. Finally we will see how to write iCub modules and integrate them in the iCub build system using GIT and github.

Syllabus

Total of 10 hours in 5 classes of 2 hours each.

There will be a final examination decided by the instructors.

Prerequisites

Throughout the course we will use C++ so a basic (but not advanced) understanding of the language is required.

Reading List

- http://eris.liralab.it/yarpdoc/namespaces.html
- Towards Long-Lived Robot Genes

Venue

TBD.

Course dates

June/July 2015