
R5-COP

Reconfigurable ROS-based Resilient Reasoning Robotic Cooperating
Systems

Academic workshop

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1 Introduction

1.1 Summary (abstract)

This report documents the organized academic workshop at the ROSCon conference, Hamburg, October 3, 2015. The workshop was on the topic of motion planning using ROS, current practice and future plans.

1.2 Purpose of document

The purpose of the document is to present a short summary of the workshop discussion.

1.3 Partners involved

Partners and Contribution	
Short Name	Contribution
SMR	report authoring and workshop organizer
ALT	Reviewing (and present in workshop)

2 Workshop

2.1 Workshop setup

The workshop was organized at the ROSCon conference, Hamburg (Germany), October 3, 2015 [ROSCon15].

Time: 15:30 – 16:30

Number of attendee: 32 persons (amongst which Michael Ferguson (CTO Fetch Robotics, new maintainer MoveIt!), Dave Coleman (University of Colorado Boulder, creator and maintainer MoveIt!), Dirk Thomas (OSRF).

Title: Motion control for robot arms

Topic: Motion planning for robot arms in ROS, current practice and future plans.

For the workshop, an open and active way of working was chosen, in which a lively discussion was moderated.

2.2 Workshop results

- Discussion on MoveIt! And underlying planner OMPL
- Discussion on alternatives for OMPL, partly within the MoveIt! framework:
 - MIT Drake
 - Descartes (ROS-I)
 - STOMP
 - CHOMP
- Discussion on short-comings of current motion planners, amongst which force control implementations
- Discussion on improvements to MoveIt! w.r.t. usability, code quality and documentation

- Discussion on the possibilities and usefulness of integration of a motion planner on a GPU
- Discussion on plans for ROS2
- Discussion on collision checking (FCL)

The below Figure 1 presents two photos of the workshop.



Figure 1: Photographs of the workshop

3 Summary

The workshop was well-valued by the participants, and valuable information was shared among the participants.

References

[ROSCon15] Online: <http://roscon.ros.org/2015/>.