ROS-I Basic Training "Mobility"
Example application

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1 Introduction

By now you should be familiar on how to interact with ROS regarding Topics, Services and Actions. The simulated Youbot incorporates features to navigate and manipulate.
Within the Gazebo environment one can easily spawn new objects of any type.

2 Task definition

Develop an application which picks up a number of objects at known positions and drop them in the middle of the long shelf.

The known positions can be defined by making use of the spawn_model node within the gazebo_ros package.

3 Objectives

You can feel free to either move to fixed positions and manipulate fixed positions or have a look at object recognition capabilities as shown in the Object Recognition Kitchen.

4 Options

You can either create procedural behaviours by simply executing one task after the other within C++ or Python or you can make use of a behaviour engine like SMACH or FlexBE:
http://wiki.ros.org/smach
http://wiki.ros.org/flexbe

5 Motivation

By achieving mobile manipulation including object recogntion you're basically ready to go for participating at the RoboCup @Work League!
Feel free to have a look at http://www.robocupatwork.org in general and in particular at http://www.robocupatwork.org/rules.html for a clarification of the current rules.