ROS Crash Course

Class 8

UNLV | Howard R. Hughes College of Engineering

DASL
Drones and Autonomous Systems Lab @ UNLV

Agenda

-Final Project

-Where to go next

Final Project

-Make a new package and and create a number of nodes, msgs, or services that allow you to do the following. Open 3 different turtlesim_nodes, and have each one do something different. In the first one you will be able to spawn any number of turtles, each of them being controlled with the same keyboard inputs. However, as you move them around, when they touch the edge of the simulator they are “killed”. In the second one, You will have 2 or more turtles. You are only able to control 1 turtle with keyboard inputs but when it gets close to the other turtles they will move out of the way to avoid a “collision”. In the third one you will have 1 turtle that you can control through keyboard inputs. However, when it moves over 3 different positions on the simulator it will 1. Spawn a new turlte, 2. Kill the newest turtle, 3. Teleport the turtle to another place in the simulator.

Final Project

-I don’t care how you do it or how many nodes you make. As long as there are 3 turtlesim nodes and they each do one of the assigned tasks I will be happy.

-This project is due by next monday (07/09). Please send me a zip file of your package so I can try it on my own computer.

Where to go next

-Gazebo (Simulator which allows you to connect simulated robots to ROS)

-MoveIt (Robot motion planning for manipulators)

-OpenCV/PCL (computer vision)

-Dynamixel (Motors with wide support for ros control/available in the lab for students)