Robotic Manipulation Course

Exercise 1

January 16, 2020

Preliminaries

Instruction to ROS and git are available on slides and ROS tutorials.

1 Assignment

The goal is to periodically (25 Hz) read transformation from tf tree and publish the pose of frame *lumi_ee* with respect to the frame *base_link* to the topic */tf_pose* using *c++* template we provided to you via gitlab. We created a C++ template node `ros_intro.cpp` in the course gitlab group. Your goal is to modify that node to perform following steps:

- read the pose from tf tree
- publish it at a frequency of 25 Hz to a topic called */tf_pose*.

To test your code you need to launch the simulation:

```
roslaunch lumi_description show.launch
```

and than run your node with

```
rosrun exercise1 frame_publisher
```

The same commands will be used by TAs for testing. Therefore, do not change the package/node names.

2 Report

No report is needed for this exercise.

3 Submission

The solution needs to be pushed to a gitlab repository at `version.aalto.fi`. For the gitlab repository, we created one subgroup for each one of you. You can use the following pattern to access that:

`https://version.aalto.fi/gitlab/robotic_manipulation_students_projects_2020/<your_email_address_without_@aalto.fi>`

for example if your email address is `eshagh.kargar@aalto.fi` use:

`https://version.aalto.fi/gitlab/robotic_manipulation_students_projects_2020/eshagh.kargar`

Then you can fork every exercise into your subgroup. In addition, also fork the following repositories:

robotic_manipulation_2020/lumi_testbed and *robotic_manipulation_2020/mujoco_ros_control*.

You are now ready to modify the code in your forked repository of *robotic_manipulation_2020/exercise1*. Be sure to push your code before the assignment deadline. **Commits pushed after the deadline are ignored**.

4 Deadline

Deadline for this assignment is 28th of January at 23:59.