HW07 ROS Services

Hermena Mikhael

hlmikhael@mail.lipscomb.edu

get_model_pose.m

Retrieve robot handle from options dictionary

Create a ROS message for get_model_state

Set the model name in the message

Try to call the ROS service to get the model state.

If fail, print "Error - model pose could not be found” to the terminal

getModels.m

Retrieve the robot handle from options dictionary

Create a ROS message for the get_models_client

Try to call the service and get the models

If fail, print "Error - model properties could not be found" to the terminal

resetWorld.m

print “resetting the world..."

Retrieve the robot handle from options dictionary

Create a ROS service client for resetting the simulation

Create an empty message for the service

Call the service to reset the simulation

hw07_services_main.m

Clear workspace and shutdown any previous ROS connections

Pause 2 seconds before connecting to ROS

Define IP addresses and connect to ROS

Create robot handle by calling rosClassHandle_UR5e class and displaying "Creating Robot Handle..."

Create global dictionary for options

Reset the simulation by calling the function resetWorld and displaying "Resetting the world..."

Get model names from Gazebo using the getModels function and displaying "Getting object goal pose(s)..."

Loop through all models from i = 1 to n

    Get the ith model name

    Get model pose

    Print model position (x, y, z)

    Print model orientation quaternion (x, y, z, w)

    Print newlines for readability

END LOOP

Youtube link: https://youtu.be/Kj0r5eqGEPQ

Github Repo link:
https://github.com/HermenaMikhael/matlab_ros_support/tree/40687859743e1bf7d34d109d7c9a22c20d542d22/hw/hw07_services