HRW ROS Assignment 3 Week 6 Part 1

In this part you will add the necessary states to the "Final Project" behavior so that: after Turtlebot brings the part next to `robot2`, `robot2` picks it from the Turtlebot.

Open and modify the "Final project" state machine to achieve this behavior, follow the instructions below:

1. Add the necessary states in between the state that makes the Turtlebot navigate lo the location next to `robot2` and "Move R2 back Home", so that `robot2` picks the part from the Turtlebot.

   Hint: See which set of states were used to pick the part with `robot1`, and how they are configured. Hint: Be aware that over `robot2` there is another logical camera (camera 2) that works analogously to the camera on the conveyor belt (camera 1).

   Important note: when adding a state you may notice, that there are two versions of the `MoveitToJointsDynState` type, one in the package `flexbe_manipulation_states`, and another one in the `hrwros_factory_states`. For the assignments, you need to use the one in `hrwros_factory_states`.

2. In the Statemachine Editor, Click on the "Data Flow Graph" button.

3. Save your changes in the behavior and close the FlexBE App.

4. Start the simulation using:

   `$ roslaunch hrwros_week6 hrwros_final_project.launch`

5. On another CCS terminal, launch the full flexbe app:

   `$ roslaunch flexbe_app flexbe_full.launch`

6. Load the "Final Project", then go to the Runtime Control, and Execute the behavior.

HRW ROS Assignment 3 Week 6 Part 2

In this part you will add the necessary states to the "Final Project" behavior so that `robot2` places the part in the output bin.

1. Add the necessary states between "Move R2 back Home" and the final "finished" outcome of the state machine, so that:

   - `robot2` moves its gripper above the output bin. (Hint: to move the robot you can use the state implementation "SrdfStateToMoveit" and the joint configuration "R2Place". See how it is configured in "MoveR2 back Home").

   - `robot2` drops the part on the bin.

2. Go back to the Statemachine Editor, and select the new state that puts the gripper above the output bin, so its information is shown.

3. Make sure you have saved your changes, and close the FlexBE App.

4. Start the simulation using:

   `$ roslaunch hrwros_week6 hrwros_final_project.launch`

5. On another CCS terminal, launch the full FlexBE App:

   `$ roslaunch flexbe_app flexbe_full.launch`

6. Load the "Final Project", then go to the Runtime Control, and Execute the behavior.

This completes HRW ROS Assignment 3 Week 6