COMP3766 Lab 1
Intro to ROS
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EDIT THIS IN SUCH A WAY THAT THE STUDENTS DO THE LAB
CONNECT WITH THE QUIZ QUESTIONS
IN LAB 2 A LOT OF STUDENTS DID NOT HAVE THE DOCKER WORKING

Lab repository

The course repository: https://github.com/vncprado/COMP3766 has all the tools required for the lab and a VSCode dev container configuration files.

VSCode dev container

The course repository also has all the software required to run the class examples in a Docker image that can be used inside the VSCode dev container. With the dev container, you have Ubuntu 20.04.6 LTS inside your VSCode containing the required tools and software used in the Lab.

To run the dev container, you need to:

1. Install VSCode.
2. Install the Dev Containers extension. The extension lets you run Visual Studio Code inside a Docker container.
3. Install Docker for your system (Windows, Mac or Linux).
4. Clone the COMP3766 repository.
   If you are using Windows, you need to clone using the following command line:

   git clone -c core.autocrlf=false https://github.com/vncprado/COMP3766.git

   The option "-c core.autocrlf=false" avoids Windows line-endings.
5. Open the folder inside the VSCode. Click the green button at the bottom left of the VSCode window and select "Reopen in container." This option could also be available from a popup at the bottom right corner. The first time you open it, Docker will download an image, which can take a long time.
6. To view the GUI our Ubuntu image is creating, you should open http://localhost:6080/ on your browser.

Introduction to ROS

For this lab, our objective is to get to see the below structure in our localhost.

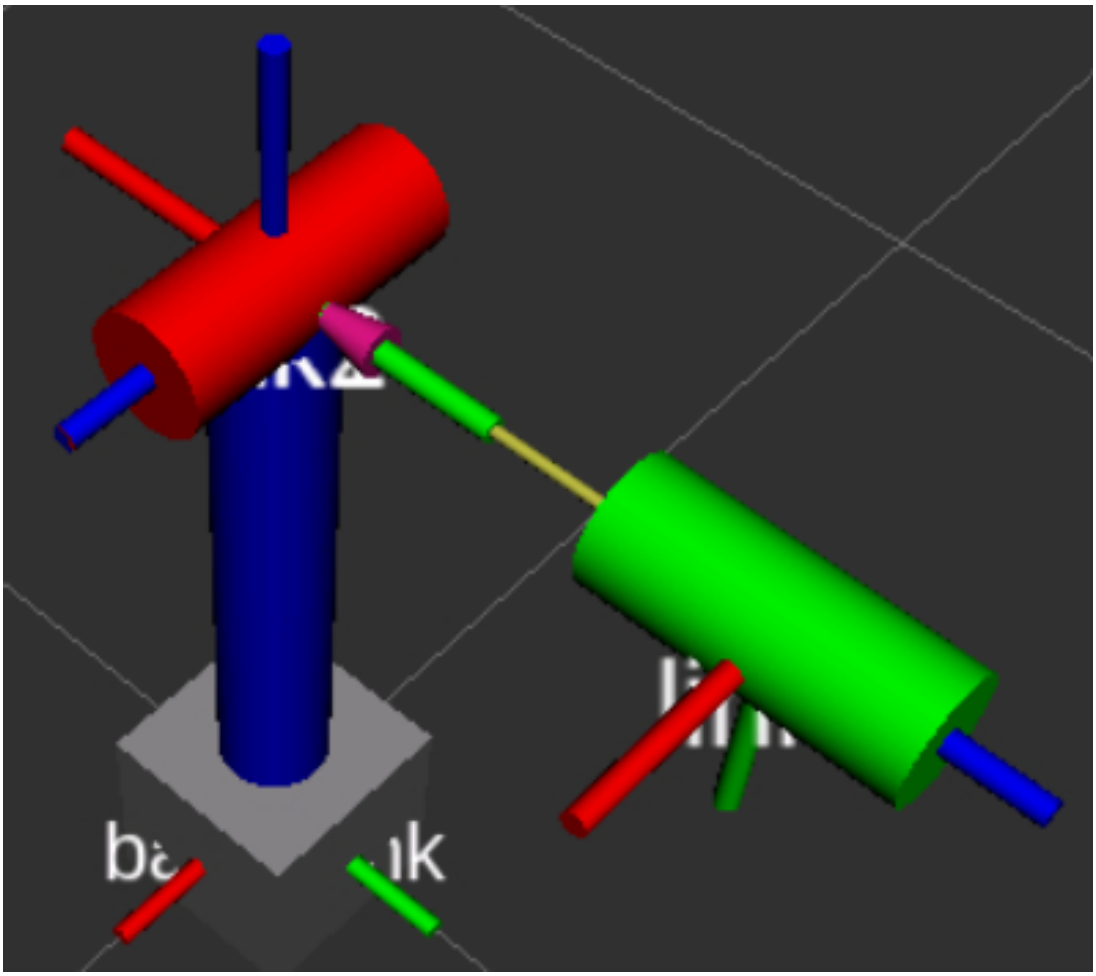

Figure 1: Spherical wrist robot.

Launching a Simulator

This repository already contains the urdf file required to build this "robot". So you do not have to build the robot - the robot is already there, you just need to launch ROS to see it.

To launch the ROS:

```
$ catkin_make
$ source devel/setup.bash
$ roslaunch lab1 lab1.launch
```

Tip: Always run `source devel/setup.bash` when opening a new terminal.

You should see the above structure at http://localhost:6080/ on your browser.

Lab 1 Quiz

After finishing this Lab you should answer Lab 1 quiz on Brightspace to get your marks.