

Mobile Robots

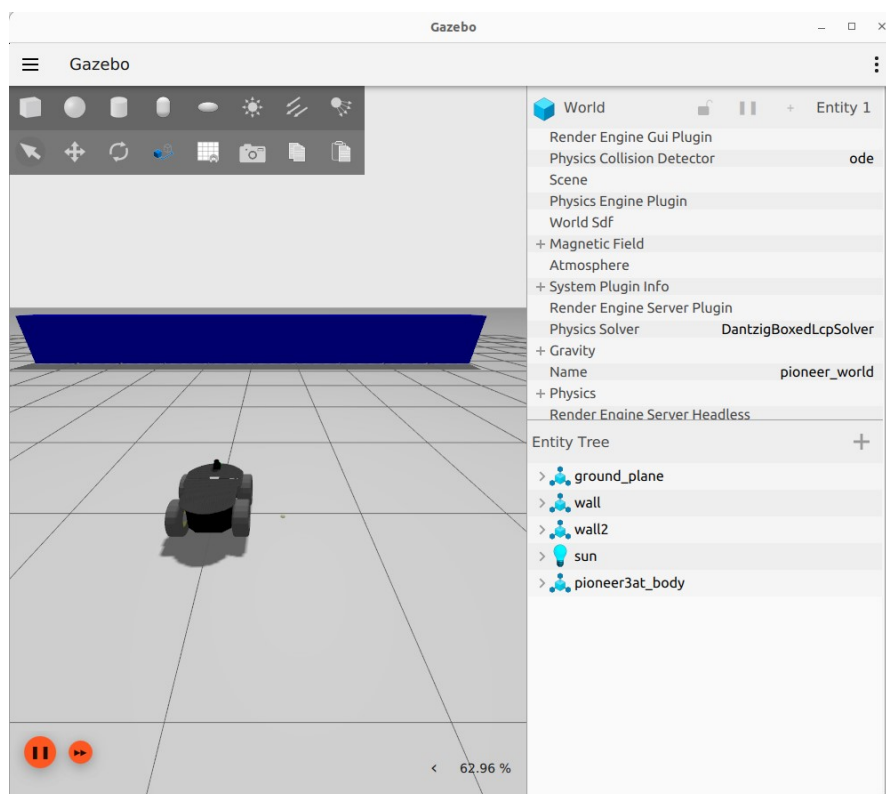
AUTO4508

Lab Assignment – *Individual* – ROS

Points: 10

EXPERIMENT 1 (4 points)

All good roboticist should start their work in simulation, this ensures that your algorithms work correctly in a safe environment before deploying it to the real world. The objective of this lab is to develop a simulation of a pioneer 3at robot, connect it to ROS2 and then use a mapping algorithm. To start with follow the instructions in the README file to build a pioneer model. Inside the Resources file you will also find a base urdf, a launch file, some robot meshes and a config file for mapping.



EXPERIMENT 2 (4 points)

We now have a working model in gazebo but need to connect it up to ROS2 so we run our mapping algorithm. To do this you will need to update the launch file “sdf.launch.py” by adding in a ROS bridge and connecting up the relevant topics.

EXPERIMENT 3 (2 points)

Now that you have a working Robot in RVIZ set up slam toolbox to map out the area you have been given.

