Procedure

Open computer and robot then connect each other by USB hub, and plug the gamepad into the USB hub together.

1  Open an terminal windows and input:

roscore

2  Open another terminal windows and input:

roslunch socspioneer p2os\_teleop\_joy.lunch

Now the robot can be controled by the Gamepad.

3  Open 3D visualization tool for ROS by input the command

rosrun rviz rviz

4  In the software,click 'Add' and choose a 'Laser Scan'

5  In the 'Displays' pane on the left, expand the Laser Scan section and find the 'Topic' variable. Choose base\_scan.

6  Under 'Global Options', in the variable of 'Fixed Frame', choose '/base\_link' from the drop-down list.

7  Open an terminal input the following command to start the laser

roslaunch socspioneer p2os\_laser.launch

8  In order to record the map data, run the gmapping software

rosrun gmapping slam\_gmapping scan:=base\_scan

Using the gamepad to control the robot walk around the house slowly.

9  Save the map data

rosrun map\_server map\_saver -f name

After finished map\_saver, the data of map will stored in the hard disk directory as /home/map.yaml and map.pgm. The map.pgm is an image. The map.yaml could be load by the map\_server.