ROS Commands

Nano .bashrc (allows you to edit the documents like gedit, bashrc is a list of important functions and commands)

Control H to show and hide hidden files in the folder (With Graphical interface)

roscd will take you to your workspace

rosdep check “package name” (from one folder up, checks to see if the package is complete)

control alt t – to bring up terminal from main screen

sudo apt-get remove ros-kinetic-package-package\_name (to remove a package via terminal. Otherwise just delete the folder)

cd .. (to go uo one file)

mount (finds what is plugged into the pi)

ifconfig (Checks basic info on internet)

Issues with Kernel Load

<http://raspberrypi.stackexchange.com/questions/54326/getting-error-on-raspbian-boot-up-failing-to-start-load-kernel-modules>

<http://askubuntu.com/questions/779251/what-to-do-after-failed-to-start-load-kernel-modules>

Issues with serial Ports

<https://www.clearpathrobotics.com/assets/guides/ros/Udev%20Rules.html>

Issues with no virtual memory

<http://answers.ros.org/question/214767/catkin_make-error-virtual-memory-exhausted-cannot-allocate-memory/>

<http://askubuntu.com/questions/178712/how-to-increase-swap-space>

<http://askubuntu.com/questions/115619/using-usbdrive-as-ram-in-ubuntu>

<https://www.digitalocean.com/community/tutorials/how-to-add-swap-space-on-ubuntu-16-04>

Cross Compile

<http://wiki.ros.org/ROS/CrossCompiling>

Octomap (Might be best choice)

<http://wiki.ros.org/octomap_server>

RVIZ with RPLIDAR

### Install ros (Jade) according to this guide: http://wiki.ros.org/jade/Installation/Ubuntu

sudo sh -c 'echo "deb http://packages.ros.org/ros/ubuntu $(lsb\_release -sc) main" > /etc/apt/sources.list.d/ros-latest.list'

sudo apt-key adv --keyserver hkp://pool.sks-keyservers.net:80 --recv-key 0xB01FA116

sudo apt-get update

sudo apt-get install ros-jade-desktop-full

### init ros

sudo rosdep init

rosdep update

echo "source /opt/ros/jade/setup.bash" >> ~/.bashrc

source ~/.bashrc

sudo apt-get install python-rosinstall

#clone package to src in workspace

### Create a ROS Workspace

mkdir -p ~/catkin\_ws/src

cd ~/catkin\_ws/src

catkin\_init\_workspace

### Clone the ROS node for the Lidar in the catkin workspace src dir

git clone https://github.com/robopeak/rplidar\_ros.git

### Build with catkin

cd ~/catkin\_ws/

catkin\_make

\*\*\*\*\*Run commands for RPLIDAR are as follows (must be in designated workspace)\*\*\*\*\*\*

### Set environment when build is complete

source devel/setup.bash

### Launch demo with rviz

roslaunch rplidar\_ros view\_rplidar.launch

\*\*\*\*Alternate method to see raw code\*\*\*\*

###run this on a terminal

roslaunch rplidar\_ros rplidar.launch

###run this on a separate terminal

sw  
rosrun rplidar\_ros rplidarNodeClient

\*( rosrun rplidar\_ros rplidarNodeClient > text.txt) ~to output data to a text file.

You should see rplidar's scan result in the console

$ ls /dev/ttyUSB\*/

$ sudo chmod 666 /dev/ttyUSB0

\*\*\*\*\*Hector Slam Run?\*\*\*\*\*\*

catkin\_make

roslaunch rplidar view\_slam.launch

GIT HUB

\*must set up git config

EX:

git config --global user.email “email”

git config –global user.name “Name”

(\*while in repository, Senior\_Design for Ex)

git checkout –b eloza (creates a branch named eloza, -b creates a new branch)

git checkout eloza (after branch has been created)

git checkout master (to switch to master)

git add \* (will add all files in local repository and new changes)

git commit –m “add commit message”

git push origin eloza (pushes new data and files into git hub account)

git pull <https://github.com/exl8454/Senior_Design.git> eloza (pulls data from online to specific branch)