Journal Report 14

1/13/20-1/20/20
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Daily Log

Monday January 13

Started looking into why we got one successful run of recordtrainingdata.py but then no more after that. We think it has something to do with the port naming. We looked at ultra_simple and it always defaults to USB0. That might be an issue, since sometimes the Pi names it USB1 or USB2.

Wednesday January 15

Continued trying to make recordtrainingdata.py work. We found that we accidentally switched the baud rate on the LIDAR sensor, so that might be the issue. Also, the Pi is not recognizing the ACM coming from the Arduino. Instead of one USB and one ACM, the Pi detects 2 USBs. We tried editing the program to prompt for port numbers, but the ultra_simple program consistently defaults to USB0. We began tweaking ultra_simple to default to USB1 near the end of class.

Friday January 17

Tony found the source of one of our problems this entire week - it was the knockoff arduino board. When we connected it to the Pi, it would show up as a USB, but we want it to show up as an ACM. We tried to fix this by getting a real Arduino and then uploading our traxxas controlling program to the real Arduino, and then plugging the real Arduino into the Pi. It fixed our problem and we got our data logging program to work a few times, but the LIDAR's ultra_simple program defaults to searching for USB0 and dosen't work unless the Pi names the lidar USB0. We think that USB numbers are assigned based on the order you plug them into the Pi. So we can make the LIDAR USB1 and Arduino input ACM0.

I am currently working on the XBee. I got some sample code from Mr.Seyler, but it didn't work as expected when run. Mr.Seyler was kind enough to offer to help us debug our problems next class.

Timeline

Date	Goal	Met
Today minus 2 weeks	Find a way to gather steering, throttle, and Lidar data at the same time	Yes
Today minus 1 week	Find a way to gather Lidar, steering data, and throttle at the same time	Yes
Today	Have our data logging program work reliably	No, but have been able to narrow down where our problem is coming from
Today plus 1 week	Make the collection of data wireless using the XBees	No, but have been able to send sample strings back and forth using the XCTU software
Today plus 2 weeks	Make the collection of data wireless using the XBees	No, but have been able to send sample strings back and forth using the XCTU software

Reflection

We have hit another roadblock. We met our winter goal when we demoed it to Dr. White, but due to the port issues, we have only been able to run the data logging script a handful of times. We have gradually narrowed down our list of problems, and have come to realize that it is not the lidar part of the code that is failing, but the steering and throttle part of the data logging process that isn't being executed properly. Tony has been at the forefront of debugging these issues while I have been working on having wireless communication between two arduinos using XBee radios. This is so that we can control the car wirelessly while gathering training data.