Lab Report 4

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Summary:

15.5 hours of work.

Monday(4 hrs): I learned how to read the terminal to realize the reason my reason for timestep issues was due to many errors in my code. I may have called “colcon build” at least 30 times in the process. I ended up having timestep running infinitely after all my debugs and spelling errors were done.

Tuesday(3 hrs): Today I attempted for a good amount of time to have my robot drive or just move. I was unable to do that so instead I decided to try and set up distance sensors. I eventually had it to where I could get a reading from my front sensor and converted it to inches. I tested by manually moving the robot.

Wednesday(4 hrs): I began by finishing the distance sensors on the right and the left. Then I worked on getting the robot to drive again. Finally after changing variables I simply realized that the “cmd.linear.x” requires a float and a float has to be initialized with a decimal!!!! So I reverted to original plans and my robot could drive now. I set my robot up to when the world loads it will drive and stop at 10 inches from the front wall. I then began looking at position sensors.

Thursday(1.5 hr): Today I finished setting up position sensors and only got to test them through the terminal commands. I have an exam in an hour.

Friday(3 hrs): Very early day today. I implemented my position sensors to where my robot turns when it is close to the wall, and then once it has driven 100 units, it stops. This is very cool to have that working. I have spent the rest of my time before work this morning looking at IMU and trying to understand how to get that working. Does not seem like the other sensors sadly.

Next Week:

I have successfully gotten my distance and position sensors working as well as my timestep! On top of that I can make my robot drive straight and turn. The process for doing these is very different than my Webots implementation of working with the robot so I am quite cheerful at that. I need to get my camera and my IMU set up so that I can record my angular position. IMU looks like it will be much more difficult than the sensors. For next week my goals are to get IMU and camera set up and if I get those I can try to transition my solution into the formatting of how ros2 needs it. I already know in advance that my solution will look and feel quite different in the smaller details compared to webots because the entire “master file” has to run in order to get sensor feedback. I believe I have made good progress this week. Thank you for your time professor!