

Sensors and Motor Control Lab

Individual Lab Report

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Team E

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Individual Progress

This week I was able to get the planning code from last year's team working with the physical robotic arm. I verified that the arm was able to determine the difference between viable paths and non-viable paths via some output on the terminal and having the arm stay stationary when a path is not viable.

I also did some minor work to update the planning scene with a new mount, but was unable to complete this update before the progress review.

Challenges

My main challenge involved interfacing with the physical robot via ros. There was an issue with the arm's firmware being out of date and not working with the more recent arm driver. With the help of Alex I was able to find an older driver that works.

Another challenge was when I attempted to update the planning scene. I was not completely familiar with the code, so I spent a few hours reading tutorials and mimicking how other objects were placed in the planning scene.

Teamwork

I spent some time with Jin working on the turn table. This was mostly just help with tools and finding material.

Most of my teamwork was working with Leo to get the planning working. I did not fully understand the differences between the physical and simulate robot launch files, so Leo helped me determine how each file worked. We were able to narrow down the possible errors to a point where Alex made a quick diagnosis about the firmware being out of date.

Future Plans

I will completely update the planning scene and include the ability to change it further in an easy way. This is important because the current robot mount is temporary and will go through at least one more iteration. This will also help me learn a little more about how the entirety of the planning scene is generated.

I also want to update the firmware on the UR5. I have the pleasure of Dimi (who lent us the arm in the first place), and I am confident that this will ease some issues in the future.