Work Completed:

After deciding to scrap the use of the decoder, I wrote a program that controls the motor while keeping track of its current position by using distance = velocity * t. This program was written in its completion and is currently fully functioning. The front panel of the software can be seen below:

Notice the program's ability to simultaneously control the motion of all three axes, all while thousands of calculations are being performed on the sensor readings.

Another major area of progress was in our future direction of work. Bethany and I sat down with Mike Holbert this past Monday to discuss what future directions need to be taken with the project. We updated Mike on our progress with the mechanical design and discussed with him the changes that we had made to our original plan. We went through how he was the software to function, capabilities that he wants it to have, and how the data should be displayed and processed.

Along those lines, I started working on how the data from the motors and the sensor will be organized, stored, displayed, and saved. While I am still in the beginnings of
working on this part of the program to get it to Mikes specifications, I am hoping that this will be a smooth area and progress will made daily since this part of the program uses no external equipment, hardware, or software.

**Future Work:**
In our meeting with Mike, we talked about a lot of changes and special functions that he wants to be incorporated into the software. As of right now, there are hours and hours of work to be done on this. The majority of this work I am anticipating to be in the way in which data is organized. This may serve as a hard area because we are collecting thousands and thousands of data points per second, and we need to be able to determine which ones are important to mike, and save and display only those points.

**Project Review:**
We have a lot of work to get done, most of which is getting done at a slow pace. As the deadline is approaching, I hope that the pace of our progress begins to quicken.

**Hours Worked:** 21