Meeting Minutes with Jeff Peebles

February 16th, 2018

Executive Summary:

The team made a trip to MWI Labs in Phoenix to discuss different options for motor coding and to discuss the potential use of accelerometers or encoders. It was decided that the encoder will be used for positioning and the accelerometer will be used for measuring vibrations. The team will need a new motor driver in order to properly communicate with the motor. Mike, the electrician, helped the team understand more about Arduino and stepper motor coding.

Motor Wiring

- Red and red with white wires go together while green and green with white wires go together.
- New motor driver has a 5 V, 12 V, and ground. These will be used to connect to Arduino, power supply, and ground, respectively.
- If needed, purchase more wires, part number 2835E5.

Arduino

- The team needs to find an Arduino sketch for an encoder in order to implement that code into the final code for the motors.
- May need two boards, one that controls the movement of the motors and on that controls the speed of the motors.
- Look up to see if sketches exist for ramp speeds.
- Find a new, working sketch online for accelerometer.
    - See if one for rotation and forward and backward g exists.

Motor

- For when the power is on for the motor, a click will be heard and that is the brake engaging or disengaging.
- A relay is needed to fire in order to turn off brake, the motor driver we will get will not have a brake feature.
- Try to find a relay that works with Arduino.
- Output = anything you want to happen.
- Input = encoder reading, accelerometer reading, etc.
- To tell if brake is engaging/disengaging, go to the electrical lab and find a variable power supply. Set it to 5 volts, turn it off, and then apply positive and negative wires. Turn the power on and if it clicks, it goes off, if not, the power is not enough.
- If we need a new motor, go to automationdirect and find one with an encoder. This way we will have all necessary documentation.