Meeting Minutes

Leader: Elizabeth
Note Taker: Tim

1. Review status of parts ordered: All
   a. Digikey buy order has not been submitted, but the order for T-bolts has.
   b. Bridges have been ordered.
   c. Motor has been ordered.
   d. T-Frame and assorted pulleys have been ordered.
2. Power and XY Plotter: Tim and Elizabeth
   a. Questions/concerns
      - Fuses
        o Talk to Clint and try to find a 5A in-line fuse for prototyping.
        o Final Project should have a nice chassis mount presentation.
        o We will probably never need to blow the fuse, but that is something that we should check as we as we are constructing the plotter.
      - Stall current concerns with software
        o Possibility of turning on the motors at a slight delay in order to control the stall current.
        o Ramping up the motors as opposed to applying maximum voltage instantly.
        o Experiment with changing the PWM duty ratio as you accelerate the motors.
   b. This week's action items
      - Get parts in
      - Assemble XY plotter frame
3. Microcontroller and User Interface: Sarah and Kelsey
   a. Update: last week's action items
      - Software
        o ADC two channel interfacing requires either switching a mux or scrolling between the two inputs.
        o Turn stream off and switch to other stream, should simplify the process of creation.
      - Board design
        o We have hand drawn our own schematic.
        o Helps visualize the Eagle design before we use it.

- Need to remember the external inputs, like Limit Switches and Joystick interfacing.
- Connections need to be easy to change in case we break a piece.

b. This week's action items
- Get parts in
- Update software for kit board – PWM
  - Should not run PWM circuit at the top frequency.
  - Cannot run too quickly because of the RL equivalence of the Motor.
  - We need to test to ensure that the bridge can handle the voltage spikes generated by the motor.
  - 1-2 kHz is a good ballpark figure for switching frequency.
  - Check for the slowest PWM frequency obtainable with a 10MHz peripheral clock.
- Assemble user interface

4. Other questions/concern: All
a. Soldering Irons:
- Tips in the boxes?
- Solder flow vs Hand Soldering for the board design and construction