

## Meeting Minutes

Leader: Tim

Note Taker: Sarah

### 1. Power and XY Plotter: Tim and Elizabeth

#### a. Discuss the status of the MechE senior design project

- Mechanical Engineers are not doing the same project this semester
- How to adopt their projects to fit our needs:
  - Depends on which project we adopt
  - Find out status of XY Plotter projects
    - a. Should not use the spinning disk project
    - b. Should have the carriage on 2 screws
  - Still some mechanical issues with each project
- Likely do not want to try to fix what they did; probably easier to build own and use their projects for ideas/parts

#### b. Motor controller design

- Parts needed to assemble
  - Must spec electronics for current
  - 12V Motor preferable
- Multiple boards needed?
  - Multiple boards O.K.
  - Could do separate H-bridge boards placed near the motors
    - a. Have 1 cable running to the motor and 1 cable running to the microcontroller board

### 2. Microcontroller and User Interface: Sarah and Kelsey

#### a. Joystick Implementation

- Extra feature: Possibly 3d print hand rest with joystick underneath
- Slide potentiometers vs. joystick
- Adafruit analog joystick
- USB Joystick would be versatile
  - Need USB software from microchip
  - HID (Human interface device)

#### b. Paintbrush Implementation

- Paint vs. printing
- Airbrush possible
- Sharpie-like

### 3. Other questions/concerns: All

#### a. Comments on High Level Design

- Parts: available vs. advisable
  - Must consider every part cost (even donated) because end production cost matters
  - Example: \$50 motor controller vs. \$10 H-bridge
    - a. Can get single chip H-bridge up to ~3A

#### b. For Next Meeting

- Have a plan for subsystem demo
- Determine how to divide subsystems
- Eventually would be beneficial to have spreadsheet to keep track of microcontroller pins