

Sketchy Arm 2.0

Steven Landis and Nathan Bornfreund (Dream Team lets get it)

Overview

We will connect a mouse to the board and use it to control a 2-pivot drawing arm that we built for ECE5. The mouse will control the position of the arm in real time and the mouse button will lower/raise the pen for drawing. We will also use buttons on the mouse and the LPC board to record a set of mouse movements and store them as a macro for future replay.

Peripherals

- LPC Board
- Proximity Sensors (x2)
- Stepper H-Bridge with Microstepping
- Mouse
- Buttons (located on the LPC Board)
- Stepper Motors (x2)
- Servo Motor

Goals

- Upgrade motor controller for smoother movement.
- Minimize latency between moving the mouse and moving the arm.
- Add sensors to home the arm like a 3D printer
- Learn how to use mouse drivers
- Implement macros after making mouse work

Group Responsibilities

We will work on implementing the mouse driver together, as it will most likely be the most intensive programming part of the project. Nathan will work on fine-tuning the mechanical aspects of the arm and implementing the proximity sensors, while Steven will finish repairing the circuitry and fixing the stepper motor microstepping.