



# Paint by Bits

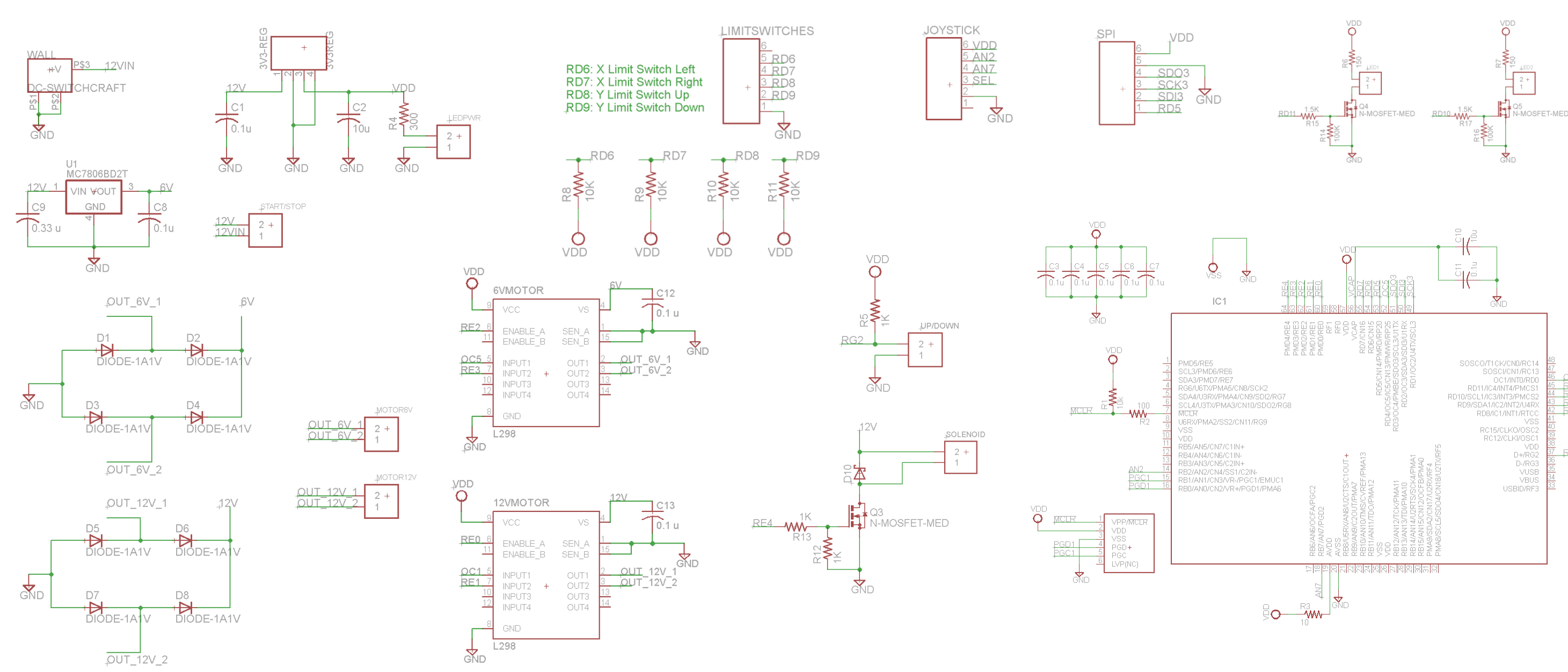
## Art Therapy and Technology Fused

Tim Bontrager, Sarah Divel, Kelsey Han, and Elizabeth Huschke

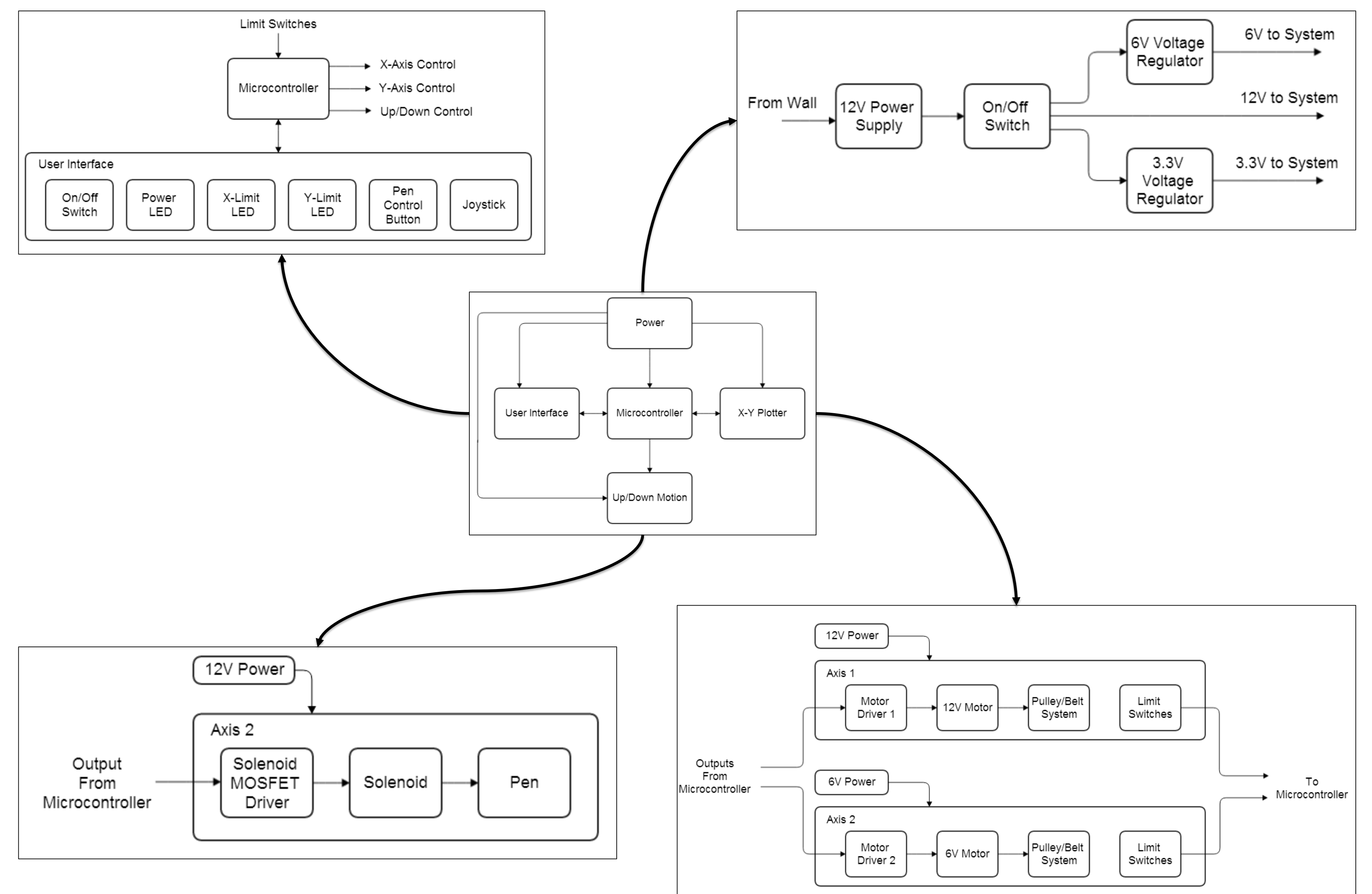
### Proposal

The paint-by-joystick design project was introduced by ADEC. The premise of this project is to create a system in which a user utilizes a joystick that controls a robotic device which dispenses paint on to a piece of paper. Our goal is to design a cost efficient and user friendly system that improves the quality of life of the individuals at ADEC.

### Schematic



### Solution

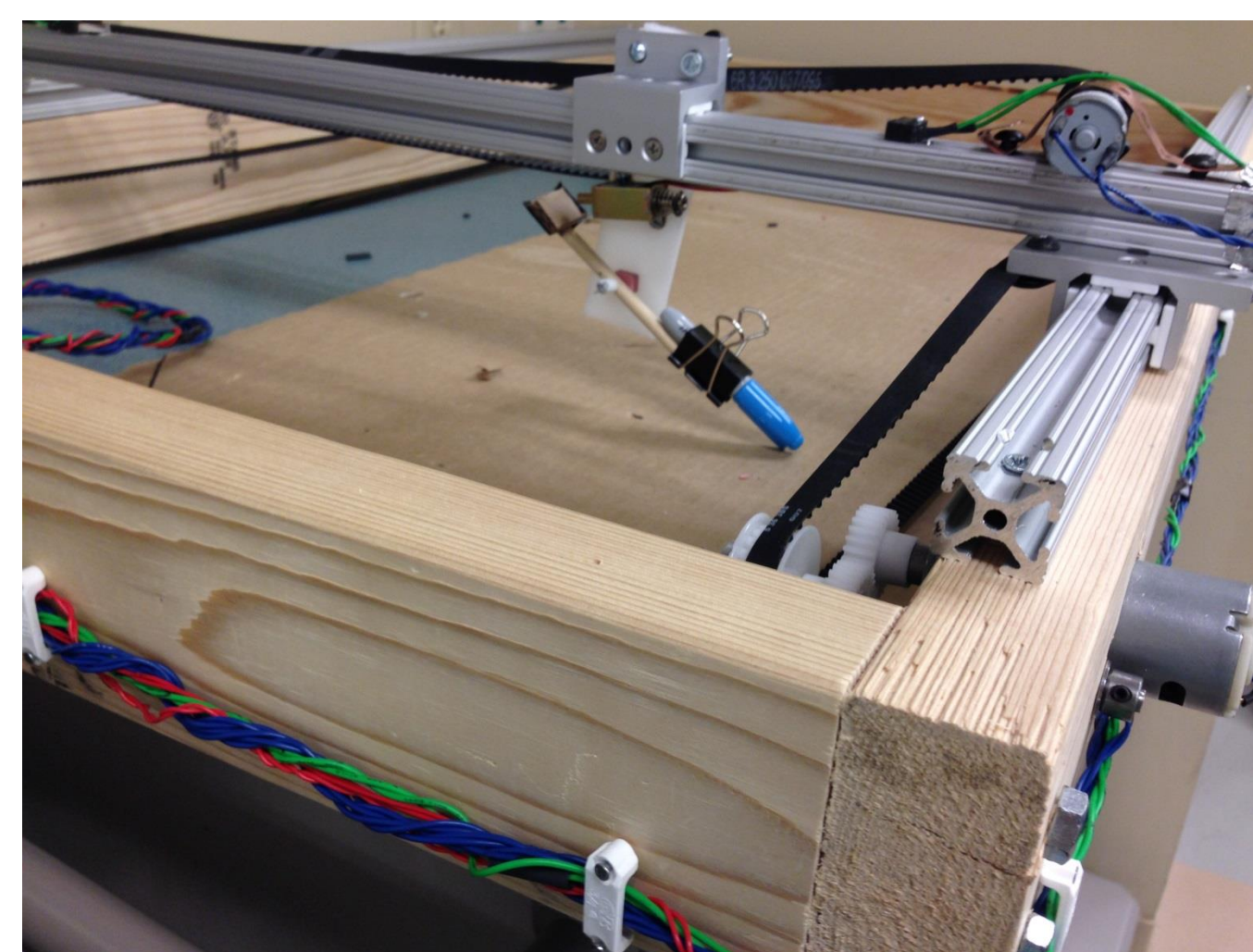


### Features

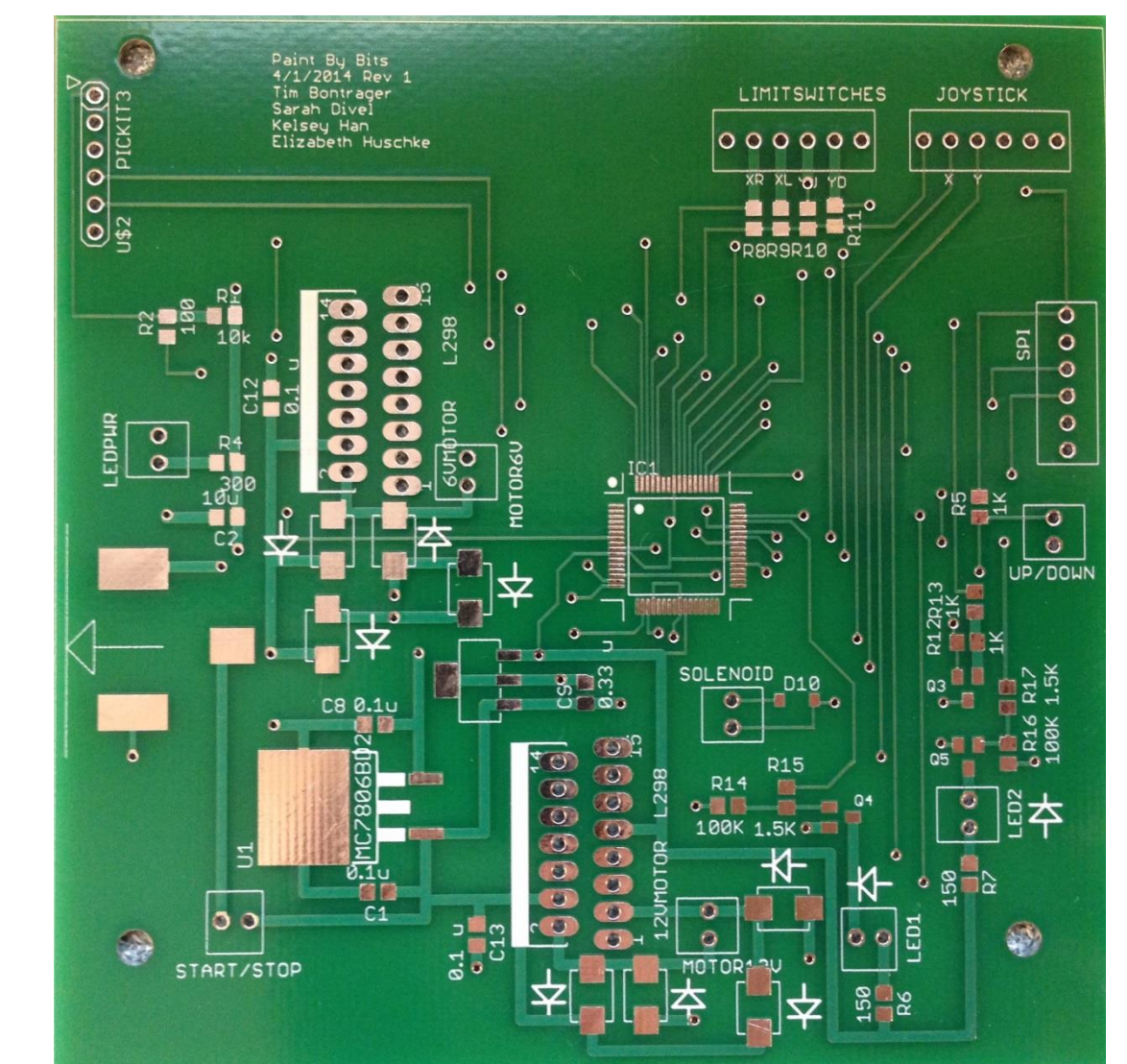
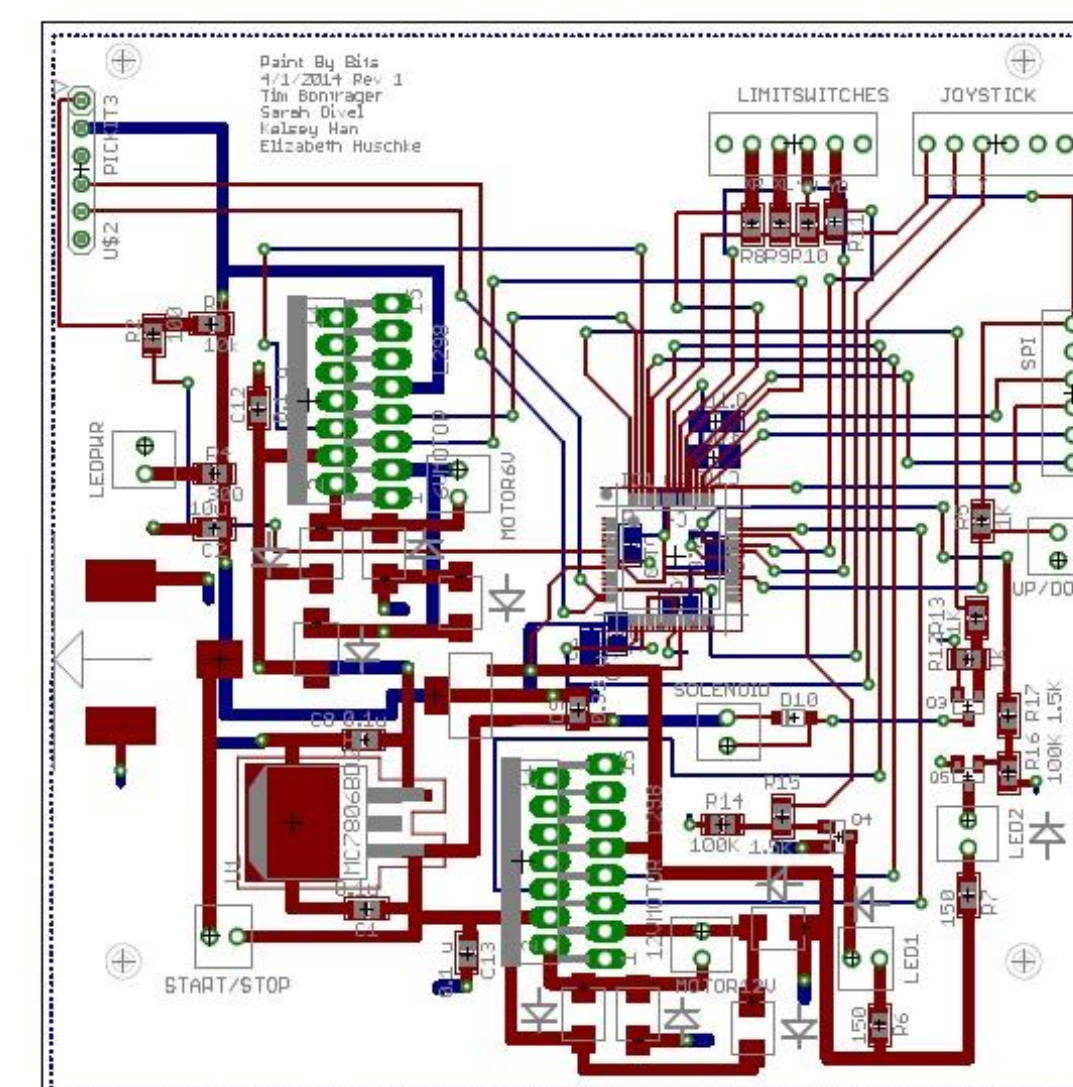


The user interface includes a joystick that controls the x and y motion of the motor, including speed control. LEDs indicate power and when the pen reaches the end of the track in both directions. A button controls when the pen is lifted.

The X-Y plotter is constructed using three T-frames, mounted on a wooden frame. A solenoid is used to lift and lower the pen. Both sides of the long axis have a belt in order accurately track the color dispensing carriage.



### Board Design



### Conclusion

Through our efforts, we were able to demonstrate a viable prototype for controlling an X-Y plotter with a bidirectional joystick. We successfully implemented discontinuous motion by using the solenoid, as well as a user interface that gives meaningful feedback to the user.