

5/5/16

TO: Casey Howard

FROM: Ryan Brody, Anthony Caffaro, Ava Mistry

Subject: Milestone 8 Completion

In pursuit of the completion of milestone 8, team 4 split up to address several tasks that needed to be accomplished regarding operation of the printer as well as finalizing the documentation packet. Ryan focused primarily on the construction of the circuit and cleaning up the wiring, Ava developed familiarity with the software required to run the printer, and Anthony coordinated efforts to put together the finalized documentation packet.

The documentation went fairly smoothly, as most of the files were easily accessible from previous milestones. A few files were missing and needed to be redone, but these were in the minority. The primary difficulty with this area was developing a consistent part naming and numbering structure, which required altering a majority of the drawings to fit the new part names and numbers.

More difficulty was faced on the build side of the milestone. After the initial completion of the circuit, the wiring was too messy to leave in its current condition. Accordingly, all of the wires needed to be labeled, removed from the breadboard, trimmed to an appropriate length, and reinserted into the appropriate location. After this process was completed, the temperature sensor for the syringe heater stopped functioning correctly and needed to be replaced, which further delayed the process. Finally, while attempting to level the printer, the y-axis motor would periodically stop working, a problem that we determined was due to overheating of the motor-stepper driver. We determined that the issue was caused to a potentiometer on the driver that had been twisted out of place, and the issue appears to be resolved after moving the pot back to the correct location. As of the writing of this memo, the print bed has not been leveled and a test print is still necessary, but we anticipate (and hope) that no further significant difficulties will occur.

Sincerely,

Team 4