

sdmay19-12: Automatic Solder Dispenser

Status Report 13

February 4 - February 10

Client: Leland Harker

Team Members

Jason Austin – Software Lead

Justin Wheeler – Mechanical Lead

Zachary Bumstead – Electrical Lead

Kevin Carlson – Mechanical/Electrical Integrator

Trenton Allison – Software/Electrical Integrator

Samuel Willford – Report Manager and Meeting Facilitator

Summary of Progress this Report

- Created new revision of coiler - Jason
 - Coiler needed to have extensions made to connect to cutter
 - Holes were placed on extensions
- Added email input to GUI - Jason
 - Administrators can add new emails to the contact list.
 - Emails in this list get “power out” emails, usage emails, etc.
- Tested capacitors - Trent, Jason
 - Tested supercapacitors with Pi
 - Found a major issue
 - Pi will not power back up until the capacitors are under 2 volts.
 - This takes a long time (about an hour)
 - We decided to not solder supercapacitors onto PCB for now
 - This way PCB will function correctly--without power loss protection
 - New revision will be made to fix problem
- Designed and created support brackets for spool brackets - Kevin
 - Spool brackets needed more support (for connecting to baseplate)
 - Simple right angle brackets were created
- Cut holes for attaching output tube and mounting cutter - Justin
 - Holes were cut in box for attaching the cutter
 - Large hole was cut for output PVC/plastic tube
- Updated CAD drawing of box layout - Justin
 - Box arrangement was changed, CAD layout was updated
 - Driverboard located in the back

Pending Issues

- Capacitor power issue
 - Pi will not power back up until the capacitors are under 2 volts.
 - This takes a long time (about an hour)
 - We decided to not solder supercapacitors onto PCB for now
 - This way PCB will function correctly--without power loss protection
 - New revision will be made to fix problem
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Plans for Upcoming Reporting Period

- Solder new driver board and sensor board - Trent, Zach
 - PCB should arrive this week
 - Boards need to be soldered and tested
 - Any issues should be addressed immediately
 - Finish and test extruders - Justin
 - Finish putting aluminum extruders together and test
 - Parts should arrive this week
 - Mount driver board - Justin
 - Hole needs to be cut for power connector
 - Create code for priming and retracting solder - Jason
 - When inserting a new roll of solder, the stepper motor must initially "calibrate".
 - After each use, solder may need to retract a couple inches to avoid jams.
 - Finish layout of user interface - Jason
 - General layout of the user interface needs to be finished
 - Prepare for presentation/meeting with professor - Zach, Sam
 - Powerpoint needs to be made
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Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Sam Willford	Report 12, organization & coordinating	5	125
Jason Austin	Created database resetting button, reorganized source code, refactored admin GUI, created new revision of coiler	8	134
Trent Allison	Testing and troubleshooting capacitor circuit	5	118.5
Justin Wheeler	Cut hole for output tube, cut holes for mounting cutter, updated CAD drawing for layout of box	8	107.5
Kevin Carlson	Designed and created support brackets for spool brackets	6	78
Zach Bumstead	Made powerpoint template for meeting with professor	2	87