sdmay19-12: Automatic Solder Dispenser
Week 3 Report
September 17 - September 23
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

- Create administrator screen - Jason
    - Accessible only when admin card is swiped
    - Initial admin is whoever swipes card first on program start-up
    - Basic window created for opening and closing, no objects created yet

- Driver Board Layout - Zach, Trent
    - Simplified design to where it only uses driver chip
        - Took out MOSFET, diode, and resistor
    - Designed rough draft of schematic
    - Put parts needed in parts list
    - Started PCB work in MultiSim

- Design and Draw accumulator - Justin
    - Accumulator will combine the four solder exits and combine then into one.
    - Should be made of aluminum

- Figure out how to get more extruders made - Kevin
    - Received extruder Inventor file
    - Downloaded and installed Inventor
        - Received student license
    - Explored files

- Fit components in enclosure design - Justin
    - Components 80% fitted to enclosure
    - Larger box needed than expected
        - Cost $50 more
        - Necessary to ensure everything fits neatly

- ○ New box was found and modeled.

Pending Issues
- Solder tube/collector piece design
    - ○ Needs to keep people from grabbing the solder and pulling more out
    - ○ Needs to look nice (No elephant trunk/tail hanging from box)
    - ○ Can't be risky in terms of a clog or jam

Plans for Upcoming Reporting Period
- Change GUI library - Jason
    - ○ Changing to a better GUI library will make programming easier
    - ○ Resizing buttons and images will be easier
    - ○ Need to learn syntax

- Driver Board Layout - Zach, Trent
    - ○ Create footprint of ribbon cable header
    - ○ Finish schematic
    - ○ Make sure parts are ordered
    - ○ Start layout in MultiSim

- Decide on which guide tube size (if any) will work - Zach
    - ○ Lee gave us different sized tubes for transporting solder from extruder to cutter
        - ■ Tube should force solder to keep a spiralled shape
            - ● This will make depositing solder to customer much easier

- Start hole patterns for box - Justin
    - ○ Using designs, determine where hole placement will be
    - ○ Holes used for attaching parts firmly inside

- Figure out how to get more extruders made - Kevin
    - ○ Talk to 3D Print Lab techs in Black Hall about printing more extruders
    - ○ These will be used to ensure the improved design will work
    - ○ Later we will create them out of aluminum

- Fit components in enclosure design (this week and next) - Justin
    - ○ Need to make sure components will fit in box selected.
    - ○ Need to know where to place each component.

- Project Plan - Sam
    - ○ Create project plan rough draft
    - ○ Specify schedules, designs, and project description

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Sam Willford	Managing schedule, reports, updating website	6	21
Jason Austin	Built basic admin window	6	17
Trent Allison	Started design of PCB in MultiSim, determined components needed	6	14
Justin Wheeler	Fit components into box, designed accumulator	7	19
Kevin Carlson	Got Inventor licensed and downloaded, looked at extruder files	4	13
Zach Bumstead	Started PCB design in MultiSim	4	12

Gitlab Activity Summary

```
-----------------------------------------------------------
Action: pushed to, Sat Sep 08 2018
Author: willford
Title: Added Parts List
-----------------------------------------------------------
Action: joined, Sat Sep 08 2018
Author: wheeler1
-----------------------------------------------------------
Action: pushed to, Sat Sep 08 2018
Author: jsaustin
Title: Added stepper pinout file
-----------------------------------------------------------
Action: pushed to, Tue Sep 04 2018
Author: jsaustin
Title: updates
-----------------------------------------------------------
```

Action: pushed to, Tue Sep 04 2018
Author: jsaustin
Title: Upload of test app and env set

Action: pushed new, Thu Aug 30 2018
Author: jsaustin

Action: joined, Tue Aug 28 2018
Author: carlson5

Action: joined, Tue Aug 28 2018
Author: zrbum

Action: joined, Tue Aug 28 2018
Author: willford

Action: joined, Tue Aug 28 2018
Author: jsaustin

Action: created, Tue Aug 28 2018
Author: sd