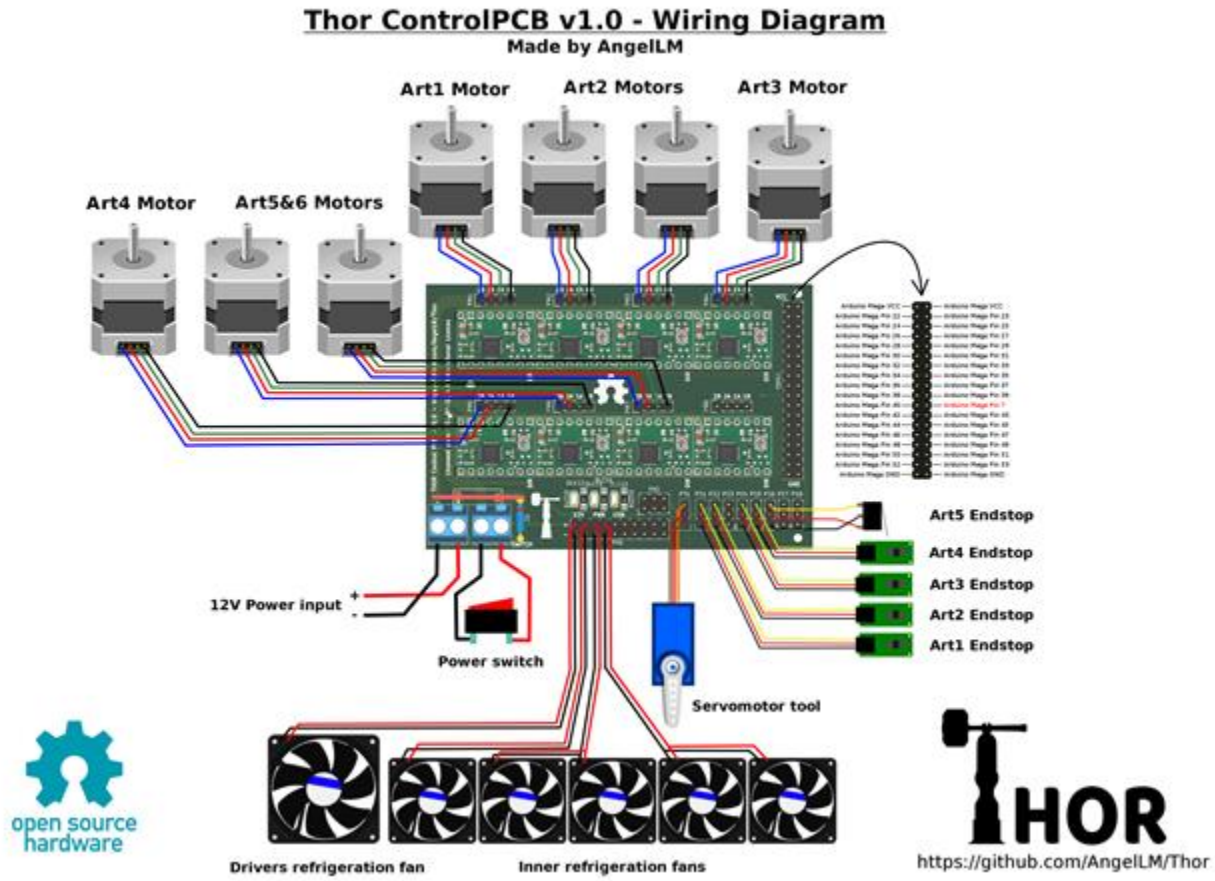
EE/CprE/SE 491 - sdmay19-31:
Multi-Purpose Automated Robotic Mixer (mpARM)
Week 6 Report
October 15 - October 21
Client: Alexander Stoytchev/Brett Altena
Faculty Advisor: Alexander Stoytchev

Team Members

Drew Caneff — *3D Printer Specialist/CAD Designer/Accountant*
Amos Hunter — *Electromechanical Specialist/Meeting Scribe*
Brett Altena — *Meeting Facilitator/ Computer Vision Developer*
Kristian Wadolowski — *Report manager/Front-end programmer/Computer vision Developer*
Jase Grant — *Embedded Systems/ Assignment Manager*

Summary of Progress this Report

- **Project Plan v2 was completed** – The original project plan document was found to be severely lacking in a number of areas, and so much of the original was completely re-written, with the rest being heavily edited.
- **Electrical components** - Compiled a list of electronic components such as switches, capacitors, cable ties, electrical tape, plywood, screws, etc. we might purchase for the project. The list was compiled based on components needed for current design plans, and based on knowledge of electrical components.
  A power strip is currently being considered as the primary power supply, as the project should not require a complicated power supply and a power strip fulfills all needs.
- **Project housing** – 3D printing was initially considered for the project housing, however a pre-fabricated enclosure would be significantly cheaper and stronger. Plastic containers were determined to have electrically insulating properties, while metal containers would safely ground the electronics as well as offer electromagnetic noise shielding.
- **FlipJacks prototype** – A prototype pancake flipping robot was created using a sheet metal flipping design. While the design differs greatly from the proposed robot arm, a variety of technical data was gained from the prototype. Including information on adhesion between the cooking surface and the pancakes, cooking time, and possible issues with a gravity pour system for pancake batter.
- **Thor Electronics** – Upon review of the Thor electrical components it was found that the power distribution board would be completely controlled by and Arduino Mega. This board has the ability to interact with additional electronics, and can be pre-loaded with advanced code.



Pending Issues

- Detailed budget of parts
- Return the prototyping materials

Plans for Upcoming Reporting Period

- Learn 3D modeling
- Consider mounting options
- Review Thor code
- Return prototyping materials

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Drew Caneff	➢ Participated in group meetings ➢ Review electric motors of Thor arm ➢ Review power distribution boards or Thor arm	4	59
Amos Hunter	➢ Participated in group meetings ➢ Worked on shopping list for components ➢ Discussed component specifications ➢ Research project enclosures ➢ Worked on project plan v2	6	40.5

Brett Altena	➢ Participated in group meetings ➢ Facilitated meetings ➢ Created prototyping plan ➢ Researched batter gravity flow ➢ Purchased griddle ➢ Tested prototype ➢ Recorded demo footage	36	66
Kristian Wadolowski	➢ Participated in group meetings ➢ Worked on project plan v2	6	30
Jase Grant	➢ Participated in group meetings ➢ Researched FPGA's for computer vision ➢ Researched camera options	4	25

Gitlab Activity Summary

Action: joined, Tue Sep 04 2018
Author: dvcaneff
