Automated Microbial Analysis Weekly Meeting Notes

11/14/19

* Group Members in Attendance
  + Bendt, Zachary
  + Bruslind, Jorian
  + Hall, Macklin
* Project Unknowns and Risks
  + Can a single Raspberry Pi be used to do image processing AND motor control?
  + Should we include a depression to catch the finished samples?
  + How can we ensure accurate motor movement?
  + Do we need to implement half-stepping in the motors? If so, will we still have enough torque?
  + What purpose does our final project aim to fulfill?
  + What type of user interface should we have?
* Tasks from This Week
  + Zach
    - Continue work on code for image analysis test. (2 hr)
    - Work on user interface design (3 hr)
    - Client Update (1hr)
  + Jorian
    - Continue adding modifications to assembly (1.5hrs)
    - Started assembling 3D printed parts for real life prototyping (2hrs)
    - Researched encoder configurations and debugging (2hrs)
  + Mack
    - Researched running grbl on Raspberry Pi (30 min)
    - Designed custom PCB to replace CNC Shield (3 hrs)
    - Researched and ordered parts for custom PCB (2 hrs)
    - Researched and tweaked grbl settings (30 min)
* Group Meeting Topics
  + Looking into porting grbl from the Arduino to the Raspberry Pi
  + Block diagram revisions
  + How to pitch the project succinctly in order to intrigue others
  + Role of custom PCBs in our system
  + Role of grbl in the future of our system
* New Items
  + Custom PCBs and accompanying parts have been ordered
    - Everything should arrive by next week
* Tasks for Next Week
  + Zach
    - Continue designs for user interface. (1 hrs)
    - Continue refining image analysis (3 hrs)
    - Make any updates to the GoogleSite. (1 hr)
    - Research the use of GRBL on the RaspberryPi (1 hr)
  + Jorian
    - Finish 3D printing parts and begin assembly (2hrs)
    - Purchase final units for prototype (30min)
    - Test encoder feedback (2hrs)
    - Optimize/fix any physical errors (2hrs)
  + Mack
    - Assemble vacuum pump system (1 hr)
    - Implement limit switches (30 min)
    - Assemble/test/implement custom PCBs (2.5 hrs)
  + Everyone
    - Do good; don’t do bad.
* Hours This Week

|  |  |  |  |
| --- | --- | --- | --- |
|  | Total Hours | Hours w/ Team | Hours Helping |
| Bendt, Zachary | 6 hrs | 1.5 | 1.5 |
| Bruslind, Jorian | 5.5hrs | 1.5 | 1.5 |
| Hall, Macklin | 7.5 | 1.5 | 1.5 |