

EE 491 Weekly Report

May15-27

Week # (10/12/14-10/19/14)

Advisors: Dr. Jones, Dr. Elia

Team Members:

Alberto Di Martino * Team Co-Web *
Dylan Gransee * Webmaster *
Robert Larsen * Team Leader *
Ian McInerney * Team Key Concept Holder *
Aaron Pederson * Team Communications *
Rohit Zambre * Team Secretary *
Fengxing Zhu * Team Comm. Co-leader *

Work Hour Totals:

Team Member	Weekly Hours	Running Total
Aaron	13.00	59
Alberto	6	54
Dylan	7	56
Fengxing	5	39
Ian	8.5	49
Robert	8	56
Rohit	9	43

Weekly Summary

Pending Issues:

Individual Contributions:

- Rohit
 - Installing the LabVIEW modules on the windows 7 machine (with Matt) (2hr)
 - Assisted with correctly setting up the mixing matrix (with Alberto, Aaron and Ian) (1hr)
- Feng
 - Simulink modelling and simulations (2hr)
 - helped with camera system (with Rohit)(1.5hr)
- Dylan
 - Tuned PIDs for the omni-BOT (3hr)
 - found out why the XBOX controller wasn't working
 - got the controller to work (1hr)

- Ian
 - Assisting with setting up of mixing matrix (with Alberto)
 - PID tuning for 1-D pendulum
 - Miscellaneous Simulink stuff
- Alberto
 - Worked on 1-D matrix implementation
 - Made sure the matrix implementation was correct. Just need to test with physical 1-D setup
- Aaron
 - Getting the quad ready when the 3-D parts are ready on Monday
 - Soldering ESCs to the PCB.
- Robert
 - As for me, I've done some reading of the softDMC manual. It looks like there is indeed a flag to toggle whether PID is in the control loop, but I'm not sure how that would work with wanting to do both, and changing the setting may require one of their utilities (Ian knows what I'm talking about). I'll be emailing Mesa on Monday or Tuesday after I look at a few things to see what they have to say about the utilities (see if we can run them on something newer, or even on Linux). I'd like to have a PWM output by the end of the week. This ultimately depends on how soon Mesa gets back to me, what they say, and how much I can figure out on my own in the meantime.

Next week goals:

- Rohit
 - get the camera system working on the windows 7 machine (with Feng)
 - attach the camera to the windows 7 machine
 - modify the script logging data (with Feng)
- Feng
 - Work with Rohit to set up camera system
 - Work with Ian on obtaining PID constants of the new system
- Alberto and Aaron
 - assemble the mechanical structure of the system

- will try first with the wooden one
- try to implement the metal shaft
- Ian
 - testing on the 1-d pendulum testing
 - document the 1-d testing system more
 - if time permits, start deriving 2-d stuff
- Dylan
 - work on interacting with the localization system
 - work on xbox controller to work
 - help Robert
- First design document draft
 - have the first draft done by Thursday night
 - Come up with ideas for section outlines by Tuesday and decide on who's writing what.
 - finalize the outline
- Assign someone to research for gimbal
 - Rohit will do this
 - see if we can get a small scale one to proof of concept
 - main purpose is measurement
 - Actuation is secondary
- Revision of name
 - discuss on Tuesday

- We'll need to meet on Tuesday. Search for room.

Total Contributions for the project:

Meeting Notes:

10/16/14 –

Duration: 1hr 15min

Members Present: All but Alberto

* Overview *

Short summary of tasks NEEDS to be sent out on Tuesday night.

- Look at changing this for the E E 491 class as well
- main purpose to get a quick short summary

Paul wants to meet with everyone to further learn

- meet with Robert and Dylan
-

Make a list of things that people need

- 2 cell battery
- not sure about the current capacity and performance for the cells

Gimbal research

- Need someone to take care of the task
- What are our options
- How good they are?

Need to primarily get the prototype to work

- might be holding us back the most

Keep everyone posted on the ongoing status

Went over the contraption that is going onto the quadcopter

- Two bases on each side to hold the quad firmly
- Add the shaft to the bottom base firmly

Camera tracking tools don't depict the actual angles

- The GUI shows the right values

Xbox controller

- issue found; needs a small fix; can be fixed
- part of next week's goal, maybe.

Omnibot

- primary goal: Be able to send PWM and observe that on the robot
- swap Eris's encoders with Kryten's

Add Paul Uhing to the git

Whenever git is updated, always update the README while adding files to describe what you added.