

# May14-10 Weekly Report

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MicroCART 2013-2014

Week 22: March 3 - March 9, 2013

Advisors: Nicola Elia & Phillip Jones

Name	Weekly Hours	Running Hourly Total
Kevin Engel	6	139
Nathan Ferris	8	114
William Franey	6	124
Michael Johnson	5	141
Kelsey Moore		134
Lucas Mulkey	4	139
Aaron Peterson	6	114

## Weekly objectives

Completed Objectives:

Working Objectives:

- Get the board responding to PWMs **Luke+Mike**
- Packet Integrity Checks (checksum), though our current if statement workaround is reliable for testing **Luke+Mike**
- GPS C code, and pin assignments for attaching to FPGA **Kevin+Nate**
- Nested PID code **Kelsey + Aaron**
- Kalman filter c code and modeling **Bill**
- Arduino filter **Luke + Aaron**

## Issues/Concerns

- My Kalman filter from the book is still at a standstill. I still think that it is due to not having correct Q and R matrices and i'm unsure how to find them. I will try contacting Dr. Elia.  
-Bill
- GPSBee's flash memory doesn't seem to be writeable. I am trying to configure the

baud rate using several methods described in the U-Center guide, but when loading the changed config file to the GPS flash there is a problem.

### Individual Accomplishments

Kevin Engel:

- Reading through U-center and GPSBee guides - trying to get GPS sentences with C program in order to parse the data. Problems configuring the GPSBee's flash.

Nathan Ferris:

- Continued individual work with configuration of GPSBee module and setup. Took a look at some C code for the tasks Kevin was having trouble with. I believe my computer is still having similar issues I experienced with Kevin, in that the settings were not saving and the setup process must be repeated for each trial use.
- My goals for next week (considering we are not meeting):
- - Talk to Kevin in regards to C code for the GPS module, and if we plan to use the new module.
- - Try to take a look at how the GPS board will mount and connect to LABET board (if there is currently no mounting scheme then create one)
- - Figure out solution to the flash problem.

William Franey:

- Finished the CAD models and will be working with Matt Rich to import and analyze them before sending them to the Simulink environment for testing.

Michael Johnson:

- Helped test PWMs and compared them between the board and RC
- Dropped the CLI code into a Qt Gui project and have it up and running, GUI design needs to be completed still

Kelsey Moore:

Lucas Mulkey:

- Trying to get something flying...
- Working with Aaron to get MWC code for pitch/roll estimations

Aaron Peterson:

- PWM comparison testing between the board and RC
- Began Arduino "good enough" filter