

Senior Design May 24, 32

MicroCART Senior Design Team

Week 17 Report

January 19 - January 26

Faculty Advisor: Philip Jones

Members:

Justin Kenny - Scribe

Steve Frana - Technical Lead

Trevor Friedl - Project Manager

Travis Massner - UI/UX Designer

Clayton Kramper - Technical Lead

Will Maahs - Team Organization Lead

Links

- [Shared Google Drive Folder](#)
- [Tentative Project Gantt Chart](#)
- [MP4 Timing Data](#)
- [Microcart Packet Structure](#)

Summary of Progress this Week

We have begun working on the partitioning of the cores on the raspberry pi. Since we are unable to use the keyboard on the Zero 2W, we are completing the process on the Raspberry Pi 3 first and then we will attempt to move everything over. We have the first pi registered on the network, and have been able to follow last year's instructions to cross-compile and launch u-boot. After some more difficulties with IO, we were able to get into the U-boot console.

Pending Issues

- It is unclear whether the movement of the sd-card with partition to the Zero 2W will be successful.

Individual Contributions

Member	Contributions	Weekly Hours	Total Hours
Justin Kenny	<ul style="list-style-type: none"> ● Got Pi Zero 2 registered to the network. ● Cross-compiled u-boot and put it on the sd-card. ● Debugged issues with launching the u-boot console. 	7	95
Steve Frana	<ul style="list-style-type: none"> ● Helped with cross-compiling u-boot ● Read-through Raspberry Pi material ● Made serial connection with the bare-metal side of the Raspberry Pi using gpio pins 	5 (8 winter break hours)	93
Clayton Kramper	<ul style="list-style-type: none"> ● Worked on the loading params from JSON file ● Began frontend for new plotting packet type ● Haven't tested 	4	82
Travis Massner	<ul style="list-style-type: none"> ● Testing the new cflib adapter with MP4 ● Ran into issues with the logging not working ● Tested on multiple machines and unable to find solution 	8	64
Will Maahs	<ul style="list-style-type: none"> ● Worked on the loading params from JSON file ● Reviewing flipi documentation/videos ● Haven't tested 	4	80
Trevor Friedl	<ul style="list-style-type: none"> ● Pushed Virtual Machine download, import, and export information onto wiki (still trying to get a link for .ova on there) ● Pushed .ova file onto repo branch to begin building artifacts with on CI/CD job <ul style="list-style-type: none"> ○ Compression gave about a 100MB file size different (1.4%) ● Continued to read through documentation for bare metal and FreeRTOS interfacing 	7	69

Comments and Extended Discussion

Plans for coming Week

- Run the sample application on the FreeRTOS core from the repo:
https://github.com/TImada/raspi4_freertos **(High)**
 - Continue following instructions after this is finished.