

EE/CprE/Se 491 Weekly Report 10

11/9/24 - 11/21/24

sdmay25-28

Digital ASIC fabrication

Client & Advisor: Dr. Duwe

Team Members

Calvin Smith – Accelerator Design lead

Camden Fergen – DevOps, Testing, and Project lead

John – Caravel Lead

Nicholas – Harden and Verification lead

Levi – Integration Master

Weekly Summary

This week we were able to get DFF RAM into the user area alongside the RISC-V Core. We worked a lot on documentation and making sure that our design document was almost completely done as well as that our High-Level Design was almost fully made.

Pask Week Accomplishments

- Calvin:
 - Hardened the efabless timer test project, as well as hardened the surrounding user wrapper
 - Developed familiarity with openlane and the caravel user project stack
 - Began work with cocotb
 - Debugging STA
- Camden:
 - Team/project planning for end of semester
 - Guided team to make critical decisions to get stuff done
 - Worked on high level design
 - Completed weekly senior design work
- John:
 - Worked on the min/max accelerator
 - Worked on the test plan
 - Worked on the Design Document and High-Level Design
- Levi:
 - Worked on min/max accelerator
 - Worked in team on High level design
 - “Finished” website for now (maintaining as of right now)

- Nicholas:
 - Integrated DFFRAM into wrapper

Name	Individual Contribution	Hours this Week	Hours Cumulative
Calvin	Beginning openlane so poor nick doesn't have to be alone. Became familiar with efabless's testing flow with cocotb. Hardened example projects.	12	77.044
Camden	High level design Team planning Gantt chart update	6	64
John	Test plan Design Document and High-Level Design	8	64
Levi	Finished website and maintaining, found caravel documents for high-level design	6	64
Nicholas	Integrated DFFRAM into wrapper	8	80

Plans for Upcoming Week

- Calvin:
 - Eat Turkey
 - Work with Nick to get a processor integrated with memory to read data over the wishbone bus for demonstration.
 - Develop some tests with cocotb for said processor, hopefully getting firmware on the management area to interact with the user area
- Camden:

- Turkey time!
 - Keep team on plan going into design review pre week
 - Complete the design review presentation
- John:
 - Finish min/max accelerator
 - Keep revising Design Document
- Levi:
 - Do some Efabless tutorials over break and really cement my knowledge of the caravel framework, create a notesheet or some structure to reference back on for caravel related pin stuff.
- Nicholas:
 - Create test that runs a program for the Pico.

Summary of weekly advisor meeting

In this week's meeting, Duwe brought up tasks that should be focused on for the rest of the semester. Those tasks were working on High-Level Design, identifying benchmarks, creating a test plan and revising our design document. Presentation stuff is of the utmost importance, so we need to make sure that almost everything is done.