EE CprE 491 – May 1819
sdmay19-41 Senior Design Team
Week 14 Report

November 14 - November 26
Faculty Advisors: Phillip Jones

Team Members:

Brian Bradford — *DSP Engineer and Meeting Facilitator*
Louis Hamilton — *FPGA Engineer and Meeting Scribe*
Jared Danner — *FPGA Engineer and Report Manager*
Nick Knuth — *FPGA Engineer*
Vishal Joel — *GUI Developer and FPGA Engineer*

Summary for Progress this Week

This week encompasses the end of the week before Fall break and Fall break. We didn't meet with anyone and worked on our list of goals we had made to accomplish by the end of the semester.

Past Week Accomplishments

- Documentation - All group members
    - Discussed reflection due at the end of the week.
- PYNQ Overlays -Louis
    - Creating a Overlay to flash onto the ZCU106 board.
    - Continuing to create other Overlays to test PYNQ Z1 board's functionality.
- Began to Implement PetaLinux and PYNQ tools on Ubuntu Server - Brian & Nick
    - Completed installation of PYNQ and PetaLinux
    - Attempted configuration and make of PYNQ project.
    - Still need licenses and setup work to complete PYNQ implementation
- Investigating GNU Radio tools python for GUI development. - Joel
    - Followed GNU radio companion tutorials in Python - Running and testing the provided libraries to check if they are suitable for the project.
- Porting to migen - Jared & Brian
    - Finished porting the RFSoC ZCU111 to work within migen. (Jared)
    - Provided full support for RFSoC migen object. (Jared)
    - Finished porting the MPSoC ZCU106 to work within migen. (Brian)
    - Provided full support for MPSoC migen object. (Brian)
    - Created "Hello World" blinking LED app via Migen for ZCU106 (Brian)
- Began porting current CASPER ethernet implementation - Nick and Brian
    - Continuing Read through current implementation
    - Began looking at what can be kept and what needs to be changed

Pending Issues

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Brian Bradford	Ethernet, PetaLinux, Server, Documentation, Github Corrections	10	65.5
Louis Hamilton	Research into ZCU106/ZCU111 Overlays, Documentation	6	53.5
Jared Danner	Finished porting the ZCU111 (RFSoC) to migen.	8.5	59
Nick Knuth	Ethernet, PetaLinux, Server, Documentation	4	54.5
Vishal Joel	GNU Radio in Python and documentation	4	53

Comments and Extended Discussion

Plans for Coming Week

Continue work on porting existing branches of PYNQ and Migen to new branches for our ZCU106 and ZCU111 boards. Continue investigation into GNURadio. Continue working through creation of a PYNQ overlay using the ZCU106 board. Begin work on final versions of documentation for 491

Summary of Weekly Advisor Meeting

This week we discussed what was accomplished as noted above and that we have an action plan for the rest of the semester and Winter break.

Minutes

- Spoke about the importance of at least doing something during break and setting

  objectives

- Spoke about receiving workstation to use as server.

- Spoke about continued progress of implementing and installing needed tools.

- Discussed current objectives for each member and what each of us is working on

- Dr. Jones stressed making sure we continue progress as the class winds down so that we don't fall behind.