Week 4 (27-Jan to 2-Feb) Zac Carico

Goal/Task	% Done	Hours (Act.)
Find 3 possible temperature sensors to use	66	2
Find 3 possible radiation sensors to use	0	1
Research into creating software-configurable PWM	80	3
Research into RISC-V ISA	100	3

Hours on task during the week (On track ≥ 13 / wk)	13
Total hours on task so far this semester (On track ≥ 44 hrs)	

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Progress made during the week (Log)

(What I did)

- Found 2 possible temperature sensors: 1 analog & 1 digital. The digital one can be used as a possible termperature sensor for the FPGA itself
- Watched multiple videos on RISC-V ISA and the assembly code
- Started research and code into creating a software-configurable PWM on an FPGA

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Difficulties encountered during the week
(What I did not do and why)

- Setting up Altium and Libero

Goals for this coming week

(Ones that move the project forward the most)

Goal/Task	Stop Date (Est.)	Hours (Est.)
Finish PWM	Sun	3
Determine sensors and create schematics	Sun	10

Estimated time needed to work on goals for this coming week (typ. 13 hrs)	

How can we help you achieve your goals?

- Help getting Libero set up with github

Week 4 (27-Jan to 2-Feb) Michael Ashford

Goal/Task	% Done	Hours (Act.)
Get acquainted with Libero	25	5
Build modules for LCD screen	25	2
Build RISC-V Processor	25	1
	0	0

Hours on task during the week (On track ≥ 13 / wk)	8
Total hours on task so far this semester (On track ≥ 44 hrs)	21

Progress made during the week (Log)
(What I did)

- Read some documentation on Libero, started a sample project
- Found a problem with the Libero install, attempted to reinstall
- Looked over specs for our LCD screen

Difficulties encountered during the week
(What I did not do and why)

- Libero uninstalled, need to figure out why it wasn't working
- Career fair took up a lot of my time

Goals for this coming week

(Ones that move the project forward the most)

Goal/Task	Stop Date (Est.)	Hours (Est.)
Install Libero (again)	2/10/20	3
Create baseline RISC-V processor in TMR	2/17/20	8
Build I2C interface for LCD	2/10/20	3

Estimated time needed to work on goals for this coming week (typ. 13 hrs)	14

How can we help you achieve your goals?

- Believe in me
- Bro. Smith use his admin privileges to help install Libero

Week 4 (27-Jan to 2-Feb) James Thomas

Goal/Task	% Done	Hours (Act.)
HPC FMC Connector research	100%	5
Schematic	50%	4

Hours on task during the week (On track ≥ 13 / wk)	13
Total hours on task so far this semester (On track ≥ 44 hrs)	33

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Progress made during the week (Log)

(What I did)

Found datasheet with pinout for HPC FMC of our board.

In the process of learning Altium and designing my part of the schematic.

Researching HPC FMCs.

Difficulties encountered during the week

(What I did not do and why)

- Didn't do any additional UART research. I was focusing on the schematic
- Didn't start the UART VHDL implementation. Focusing on schematic

Goals for this coming week

(Ones that move the project forward the most)

Goal/Task	Stop Date (Est.)	Hours (Est.)
Finish schematic	2/8	5
UART research	2/8	5
UART implementation	2/28	5

Estimated time needed to work on goals for this coming week (typ. 13 hrs)	15

How can we help you achieve your goals?

- Help with VHDL

Week 4 (27-Jan to 2-Feb) Max Bakes

Goal/Task	% Done	Hours (Act.)
Find an ADC and create on Altium	50	5 .5
Learn VHDL	1	5
SPI	0	0
Altium tutorials		2.5

Hours on task during the week (On track ≥ 13 / wk)	13
Total hours on task so far this semester (On track ≥ 44 hrs)	34

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Progress made during the week (Log)

(What I did)

For example: Resources found (links, manuals), Designs created, Decisions made and corresponding rational, Phtos of prototype progress, etc.

https://www.analog.com/media/en/technical-documentation/data-sheets/AD7490.pdf

ADC: SAR, 16 channel, 12 bit, a 2.7 V to 5.25 V supply. When operated from a 5 V supply and provided with a 20 MHz clock, the AD7490 is capable of throughput rates of up to 1 MSPS.

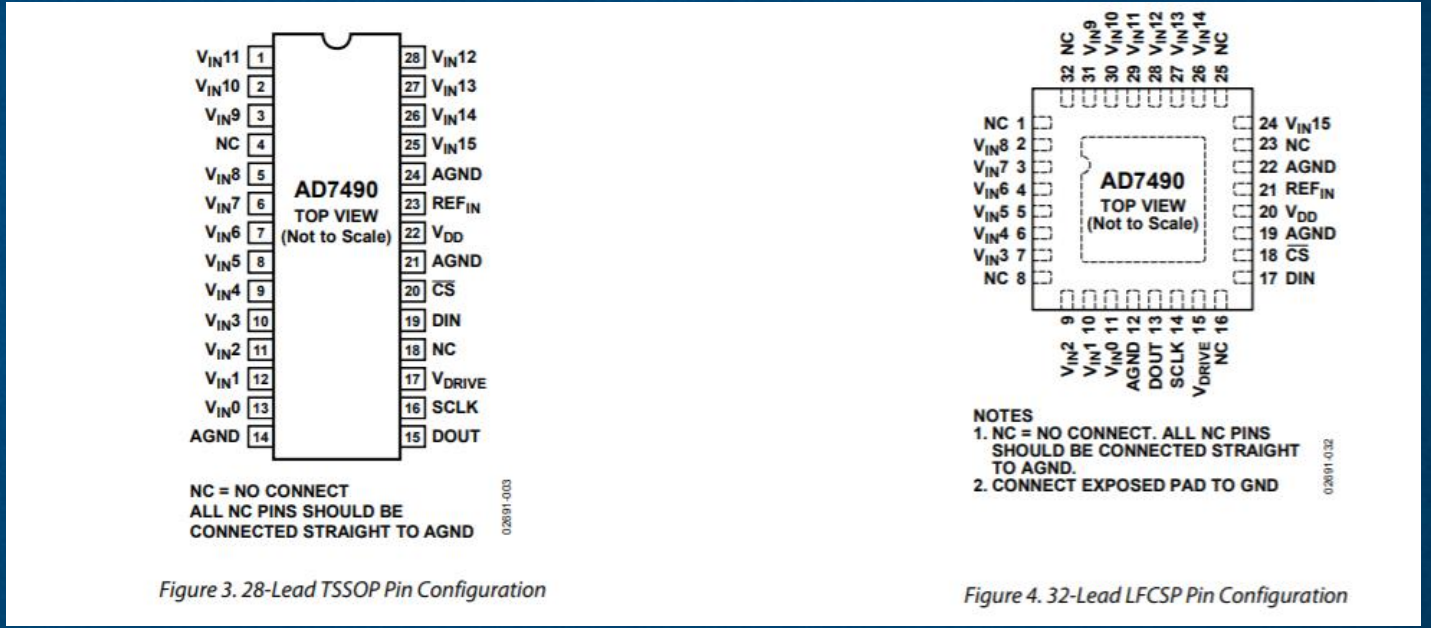

Figure 3. 28-Lead TSSOP Pin Configuration

Figure 4. 32-Lead LFCSP Pin Configuration

Difficulties encountered during the week
(What I did not do and why)

- There were a lot of variables involved with picking the ADC.

Goals for this coming week

(Ones that move the project forward the most)

Goal/Task	Stop Date (Est.)	Hours (Est.)
Become familiar with Altium	2/28	10
Create ADC in Altium	2/10	9
SPI	2/17	12

Estimated time needed to work on goals for this coming week (typ. 13 hrs)	13

How can we help you achieve your goals?

- Insure ADC meets the requirements for other elements of the board.

Week 4 (27-Jan to 2-Feb) Samuel Bagley

Goal/Task	% Done	Hours (Act.)
Work on implementing I2C in VHDL / Learn VHDL	30	6
Research different heartrate sensor and pressure sensors to use	100	2
Altium work	10	3

Hours on task during the week (On track ≥ 13 / wk)	11
Total hours on task so far this semester (On track ≥ 44 hrs)	26

Progress made during the week (Log)

(What I did)

I set up Altium to be able to save into our github repository. This allows everyone on the team to work on the same design together very easily.

I went through several VHDL Tutorials in order to understand the language.

Found a sensor which combines tempurature, pressure, and humidity into one chip; the BME280

Difficulties encountered during the week

(What I did not do and why)

After going to the STEM fair I must've shaken hands with the wrong person and caught something and so was unable to do anything for a few days.

Goals for this coming week

(Ones that move the project forward the most)

Goal/Task	Stop Date (Est.)	Hours (Est.)
Work on implementing I2C in VHDL / continue Learning VHDL	March	10
Sensors into altium for PCB	Mid February	5
Class assignments	End of Semester	3

Estimated time needed to work on goals for this coming week (typ. 13 hrs)	18

How can we help you achieve your goals?

- Make sure Altium VCS works correctly so we don't lose any work.