EE/CprE/SE 492 Biweekly Report 3

3/5/2023 - 3/24/2023
sdmay23-28

Digital Chip Fabrication

Client &/Advisor: Dr. Henry Duwe

Team Members/Role:

Katherine Gisi: Spokeswoman, SNN neuron design, Leader

William Zogg: SNN neuron Design

Tyler Green: Software tool research, Environment setup, Component RTL design

Aaron Sledge: Software tool research & Documentation

Fulai Zhu: Documentation

Weekly Summary

- Group meeting on March 20th and March 6th, discussed progress and problems with advisor and talked through design.
- March 9th and 23rd group meeting, the group discussed issues about chip design, finishing the tutorial document, and subsequent project planning.

Past week accomplishments

With the time between this report and last report including spring break, we were able to do a little testing and some major discussion about functionality. The writing and combining of documentation is reaching a point of completion. Formatting was done on the documents. The repo was re structured for ease of use going forward.

Pending Issues

1. Figuring out how to split up tasks best (who can write verilog, who can help write tests, how much documentation should each person work on, etc)
2. Making time to work on the project amongst other commitments.
3. Assigning new tasks to certain members of the group now that some have come to an end on their previously assigned tasks.

Individual Contributions

NAME	Individual Contributions	Hours this week	Hours cumulative
Aaron Sledge	Finished the remaining parts of the tutorial document, as well as emailed the 492 professors asking for guidance on the industry review panel.	6	36
Katherine Gisi	Worked on testbench tutorials, kept working on design diagrams.	6	31
Fulai Zhu	Continue working on Nucleo board, to find how to evaluate and test the board, so that the PCB can work well, and give correct output value.	5	33
Tyler Green	Working on making more components, such as FIFO queue for spiking neurons. Helping to integrate things together and determine control logic. Added documentation for tutorial document for wishbone and logic analyzer. Updated our repository to the newest version from efabless.	10	46
William Zogg	Continued work on Control Unit and surrounding logic that allows our neuron to work through its different stages.	6	32

Comments and Extended Discussions

(Optional)

Plans for the upcoming week

- The plan for next week is to continue working on the RTL development and begin a testing plan for the RTL.
- Overview of whole process document (In Progress)
- Test Control Logic
  - Test Modules and help debug
  - Automate testing images
  - Integration Testing
- Make a bring-up plan
  - Start test plans
- Start Final presentation to communicate well
- Find a way to demo using visuals such

Summary of weekly advisor meeting:

In the last meeting, we discussed next steps in testing, expectations of work over spring break, and how to divide tasks more among the team.