Lattice FPGA Project Weekly Progress Report - Week 6

Report date: 2025/2/13

- **Last Week (time in hours)**
  - Team Review
    - Finalize RISC-V and dependency setup for open-source
  - Nathaniel Fraly
    - Test subject for Riley's setup docs (7)
    - Install and attempt to test Radiant (1)
    - Troubleshoot Icicle synthesis in Radiant (2)
    - Assist MA, XL, HH toolchain setup (3)
  - Riley Cox
    - Worked on and finished WSL/toolchain setup documentation (8)
    - Installed and setup Radiant (1)
    - Helped teammates troubleshoot toolchain setup (3)
  - Mohammad Alshaiji
    - Finished setting up toolchain in accordance with the toolchain Document (2)
    - Wrote preliminary SPI controller (3)
    - Setup Radiant toolchain completely and ensured functioning of Questasim (1)
    - Created Preliminary SOC block DIagram (3)
  - Xiang Li
    - Review UART to SPI IP from opencores (1)
    - Setup Radiant toolchain completely following teammate's guidance(3)
    - Installed and working with Radiant (4)
  - Haoyang Han
    - Setup Radiant toolchain completely following teammate's guidance(3)
    - Installed and working with Radiant (4)
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- **Next week**
  - Team Plan
    - Rahul ordering 1.44" LCD screens; 1.8" out of stock
    - Start working on Radiant synthesis
    - Finalize SPI implementation methodology
    - SPI library skeleton
  - Nathaniel Fraly
    - Work with SPI team on getting custom C library ready for SPI communication
    - Work with Roy/Rahul/Lattice resources on getting Radiant synthesis complete
  - Riley Cox
    - Start working on the C code to have the RISC-V core communicate with the LCD
    - Work on synthesizing project via Radiant
  - Mohammad Alshaiji
    - Run Questasim simulation of SPI controller
    - Begin Integration of SPI controller with Icicle
    - Catch up on Meeting Notes Backlog
    - Redo SOC Block DIagram and take into account Rahul's Requirements
  - Xiang Li
    - Upload the documents so far
    - Research on how to write to registers inside the LCD screen

- ■ Test the IPs on hand
  - ○ Haoyang Han
    - ■ 3D Printing Modeling
- **Blocked**
  - ○ Team Blocks
    - ■ Soft Block; Radiant complaining of duplicate modules, no duplicates found.
  - ○ Nathaniel Fraly
    - ■ Will need SPI team to settle on implementation methodology for SPI library work to begin in earnest
  - ○ Riley Cox
    - ■ None
  - ○ Mohammad Alshaiji
    - ■ None
  - ○ Xiang Li
    - ■ None
  - ○ Haoyang Han
    - ■ None