

ECE 497: Special Project

Weekly Report

Week 07

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What We Did

- ▶ Olimex JTAG debugger came in, works correctly
- ▶ We can now finally upload C code to the FPGA and run it successfully
- ▶ At the moment, we are using the “Sifive Freedom E300” configuration (built on a previous version of Chipyard)
- ▶ Continued to work on making our code a submodule.
- ▶ What happens is we want to extend chipyard while depending on chipyard.
- ▶ Leads to a circular dependency that SBT cannot resolve.
- ▶ Might be an unreasonable task for SBT.
 - ▶ Or, Karl is writing the `build.sbt` incorrectly.

What We Learned

- ▶ Chipyard Arty functionality is actively being worked on.
- ▶ Don't trust documentation, it is not always correct. (Sifive documents provide wrong UART speed, caused issues with UART communications)
- ▶ Making our code depend on Chipyard while also extending Chipyard's does not seem to be feasible.

Next Steps

- ▶ Prepare full documentation of what we have learned so far.
 - ▶ Debugger
 - ▶ Chipyard and its build process
 - ▶ Relevant helpful links
- ▶ Identify reasonable goals in preparation for ECE Research Day.



Alon Amid et al. “Chipyard: Integrated Design, Simulation, and Implementation Framework for Custom SoCs.” In: *IEEE Micro* 40.4 (2020), pp. 10–21. ISSN: 1937-4143. DOI: [10.1109/MM.2020.2996616](https://doi.org/10.1109/MM.2020.2996616).