

ECE 440 - Project #9

Collin Heist

7th April 2020

1 Trials and tribulations

I encountered no problems until I needed to integrate the custom IP into the Vivado project. Whenever I went through the IP Creation Wizard and clicked *Finish*, no IP source files would be generated – and no helpful error messages were provided. This ended up being a problem with how Vivado is installed on Ubuntu, because you have to launch Vivado and the SDK through commands given through the terminal, simple permissions with regards to how Vivado is installed and how its launched lead to parts of the program being unable to create files. I fixed this by reinstalling Vivado with user-level permissions in the user-directory, and then launching it through terminal with a command I found online that set the ownership of all files to the proper user.

The next *problem* I encountered was more of a slight-confusion caused by the discrepancy between us creating the **LED Controller** project in Verilog, but the tutorial giving descriptions in VHDL. Luckily the additions to the IP code were so small that with my limited knowledge of Verilog I was able to do as outlined in the tutorial.

The final problem I had was launching the SDK. This was once again related to running Vivado on Ubuntu (specifically through a VM). This time, launching the SDK through the Menu in Vivado did not work at all. The SDK launch menu opens and then immediately closes, again with no error or messages. After even more searching through Google, I found that I needed to close Vivado and then launch the SDK through a few more very particular commands inside the terminal and it would work about half the time. I was then able to finish the project.