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ELEC 6200 Project

Part 5

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1. **What did you learn from this project?**

The project taught me that organization is everything when designing and implementing CPU designs. Also, it showed me the true importance of timing components I computer architecture design. I also learned that sometimes writing the code isn’t the hardest part but sometimes implementing the code on the assigned board is the toughest aspect of the project.

1. **What would you do differently next time?**

I would probably try to create an instruction set closer to the MIPS instructions so that debugging and troubleshooting might be easier during development. I would give myself more time to write more simple programs on the FPGA for testing and to get more familiar with the IDE and tools, Quartus II especially. Further, I would be more involved in assigning pins to my signals for implementation on the DE2 board. That proved to be the biggest challenge for me.

1. **What is your advice to someone who is going to work on a similar project?**

I would recommend starting as soon as possible on the ISA so that you can get thinking about what it is you want to do with the project. I had to go through an extreme re-design and simplification because I was trying to do too much for just me to implement in the allotted time and used up a lot of time on design aspects that I didn’t even end up implementing in the final design. Most importantly, I would have looked at the implantation onto the board much sooner than I had. I had significant problems assigning my signals to appropriate pins on the DE2 board even though my simulations ran just fine off of the board.