ECE/CS 3710 Computer Design Lab

Final Report

Due Wednesday December 16th
(Poster due December 11th during Demo Day, 1-3pm in the DSL)

Your final report should contain three parts.

The first part is a conference-style paper of no more than 8 pages that describes your project. The target audience for this paper is someone who is knowledgeable about computers and digital design, but would like to know the details behind your project. That means that you don't have to explain how NAND gates work, but you should describe the overall project and goals, the application of the project, why it is interesting, what features you added to the baseline description, and how you engineered the project.

The body of the paper should document the work you did on your project. What does the project do specifically? What is the target application? What are the interesting parts of your project? How did you do those interesting parts? What special features did your project include? Why? What is the overall block diagram of your project (i.e. processor, IO subsystems, memory map, external hardware, etc.)? What is the programmer's model of your processor? How does your assembler work and what features does it support? What types of IO do you support and how? What is the testing environment? How did you test the project? What were the results? How would you run your demo software?

Evaluation of the results of your project is an important part of the paper. Include figures and tables as they make sense. Finally, include a conclusions section where you recap the main features of your project, and give some opinions on what you did well and what you could have done better. Include references at the end if they are appropriate.

The paper should flow like a technical publication. This will contain the title, authors. The abstract is short and will very briefly describe what you did, why it is interesting, and the results. The introduction will go into background on the project. The body of the document will contain the technical details of what you built and how it was engineered. That will be followed by a results and conclusion. You should contain an acknowledgments section if you received help that deserves recognition, and a bibliography that contains references that you used to help with your project. I don't care if this is formatted in a single or double column format, but *all of the sections of the document described in this paragraph must be included.* LaTeX is clearly the best editor for creating such reports, but I will accept documents formatted with word. *The file must be turned in as a pdf document.*

The second part of the final documentation is a set of detailed design documents that cover the actual processor design, Verilog code, assembler code, application code, IO system design, and other parts of your project. This is the actual project itself, not a paper describing the project (i.e. part1). It should include schematics, Verilog code (commented!), code for your application (commented!), testing examples, code for your assembler, users guides for your application (demo) program, users guide for your assembler, specs on external hardware that you used. Pretty much anything that is involved with the design and implementation of your project. Turn this in as a `tar` or `zip` file with a README as was required in the labs.

The third part is a poster that describes your project, your final demo application, and anything else that someone looking at your project would find interesting. We'll have open demos of all projects in the DSL (instead of in-class presentations) on Friday Dec 11 from 1:00-3:00pm. You should have your project up and running along with your poster at this time. We'll invite other students and professors to come by and see what you accomplished. Feel free to invite your friends and family.