

ECE1373S Project Requirements and Report

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1 Project Demo

Your demo should include the following:

- brief overview of your project, including block diagram and explanation of how it works
- brief overview of your design environment – how you organized your project development to ensure success
- how you did your testing/verification
- demo of your system

2 Report

This is a guideline to help you organize your report with a list of the major sections that you should include. You should follow the structure as outlined as much as possible.

The L^AT_EX source for this document is available at

`www.eecg.toronto.edu/~pc/courses/vlsi/2012/handouts`

if you want to use it as a starting point.

3 Introduction

This is an introduction to the design problem. You do not have to be too detailed, just give a basic overview of what you are doing, and cite the appropriate references. This is mainly so that your report can stand on its own.

Some higher level block diagrams would be useful to describe the overall functionality. This is probably useful for later when you need to talk about parts of the design.

4 Current Status

Briefly give the current state of the design.

- What has been done.
- What remains to be done or should/could be done next.

5 Architectural Design

- discuss the steps/process you took to define the overall architecture and come up with the initial specifications that you used to start your design implementation
- If you were given some documents to work from, you should include them as an appendix and refer to them here.
 - an assumption here is that the specs may have later changed, but talk about what you did to arrive at your original specs
- describe the architecture you developed

6 Specifications

- Outline the specifications you developed.
- What problems did you have with the specifications as the design progressed?
- What changes did you later make to the specifications and why?

7 Methodology

Describe your methodology of design and design strategy. How did you attack the problem? Include here descriptions of any tools you had to develop.

7.1 Design Environment

Describe your design environment here, such as:

- platform used – board, chip, etc.
- tools used
- data organization
- source code control
- how you handled multiple users accessing files
- etc.

7.2 Partitioning

- How did you partition the design?
- Why did you do it this way?

7.3 Simulation and Verification

- Describe your simulation, and verification strategy.
- How did you verify the operation of your HDL modules?
- Indicate, if any, possible holes in your strategy that may not cover certain problems.

8 Contributions

Each member should contribute a section here (labelled with their name) that briefly describes what they did in the project.

9 Design Characteristics

9.1 Architecture

Give some more detailed descriptions of the chip architecture.

- What are all the pieces?
- Briefly what do they do.
- How do they go together?

9.2 Resource Utilization

- utilization of chip(s) – PAR report would be sufficient

9.3 Where the Time Went

- Give an analysis of how you spent your time.
- What were the major bottlenecks in your design.

10 Problems

Discuss problems you had.

- Were there management problems?
- Were there interfacing problems (between partitions)?
- Did a particular tool cause a problem? Which one? What was the problem?
- Was there just not enough time, not enough people?
- Known problems in the design and suggest fixes.
- Anything else?

11 Retrospective, Conclusions, Suggestions, Comments

- How was your final design different from what you thought you would do at the beginning? Why?
- What would you do differently next time?
- What do you think you got out of the course, if anything?
- What did you learn about systems design?
- Comments on the format of the course – likes and dislikes
- Suggestions for improvement
- Anything else you care to say?

Appendix: Documentation

Where to find the files, and your directory structure. This should provide enough documentation so that someone else can find all your stuff and continue with the project.

Appendix: Schematics and other Details

Include here any schematics and other details about your design that you feel would be appropriate for anyone that needs to understand the details of what you did.

Appendix: Hints for the Next Time

Please provide any general comments that you feel would be helpful to future users regarding the tools, design environment, computing environment, etc.