plan to submit hard-copy, it is a good idea to make a copy of your report for each member of your team and bind the original for submission. In the past, many CS150 students have used their project lab reports in internship and job interviews with success.

Table of Contents

One page.

Executive Summary

The executive summary should contain a high-level description of your project and a few words about why you selected it.

You should then describe the overall aspects of your design, using a block-diagram, flow graph, or whatever descriptive approach conveys the major elements of your project as concisely and clearly as possible.

You should also describe all of the high-level decisions you had to make and why you made them (e.g. "we chose to use a controller-based approach rather than building hard-wired logic for this aspect because…," "if we had gone with our fist approach, the wiring would have dominated...").

Finally, you should summarize the end state of your project (e.g. "we were able to complete the implementation and demonstrate all of our tests...", "we completed the I/O blocks, but could not finish debugging the controller software because..."

This section of the report should not exceed 3 pages.

Technical Documentation

In this section you should provide step- by-step instructions on how to operate the machine and how walk through all the capabilities of your design, almost like a tutorial or detailed user's manual. This documentation will also help the TA's as far as what to do to test the capabilities of the machine.

This section of the report should not exceed 5 pages.

Overall Description of the System

Here you should summarize the final implementation of your design in detail. You should use high-level schematics, code fragments, block diagrams and flow charts as appropriate. You should refer to your final schematics and code listings in the Appendices as necessary. The documentation should be complete enough that a TA could implement and debug your design using the information contained in this section.

This section of the report should not exceed 5 pages.

Design Review

In this final section, please include a summary of your experiences throughout the project—what you learned, what mistakes you might have made in planning, approach, etc. What were the most important aspects of the project for you? Where did you spend most of your time? What aspects seemed unimportant or redundant? Please review your "Risk Assessment" section of the previous checkpoint and comment on how realistic it was. Include an "if I were to do this again I would..." paragraph.

This section of the report should not exceed 5 pages.

Appendices

Appendix A: Checkpoint #1: Preliminary Project Plan.

Appendix B: Checkpoint #2: Final Project Plan.

Appendix C: Checkpoint #3: Project Evaluation Plan.

Appendix D: Checkpoint #4: Schematics and Implementation

Appendix E: Final Schematics

Appendix F: Software Listings (if any)

Don't forget, your project report must be submitted to the TAs by Tuesday, May 13th, 5pm. If you submit your project for demonstration on or before Friday, May2nd, 5pm you will receive a 10 point (~10%) bonus for completing the work early (the report deadline is then Tuesday May 6th.). If you

Department of Electrical Engineering
and Computer Sciences

CS 150 - Spring 1997
Prof. A. R. Newton

DIGITAL LOGIC DESIGN PROJECT FINAL REPORT

The final report provides complete documentation of your design as well as the history of your thinking about it throughout the semester. In that regard, it *should contain enough information so that one of the TAs who didn't know anything about your project could understand what you are trying to build, build it and evaluate it.* In addition, *it should contain all of the checkpoints that you submitted along the way as appendices.* You can refer to the appendices in the report, rather than duplicating information, and comment on them.

As with other work throughout the semester, the report may be submitted in hard-copy form or may be submitted via the Web. If you choose the Web, then simply mail the URL of your final submission, as explained below. Naturally, we would prefer Web-based submissions!

The report should begin with an abstract of your project (the abstract ***must*** be included on your title page), a summary of how you approached the project and a description of your final implementation, it should include full schematics, block diagrams, state diagrams, timing diagrams, software listings, parts lists, and final technical documentation of the design in the form of an operations guide ("user's manual"), as described in detail below.

As in all technical writing, your objective here is to convey the maximum amount of relevant information in as little space as possible. Each section has a maximum page limit, but feel free to write less than the maximum amount if you can do so and maintain your effectiveness. Each paragraph in good technical writing conveys one point. Its first sentence makes the point, and the remaining sentences embellish it. For example:

> "The system digitizes two input formats: NTSC (composite color video), and SVIDEO (separate luminance [brightness] and chrominance [color] signals). A TDA8708 video ADC digitizes the composite or luminance signal at 13.5 MHz, eight bits per sample. A similar TDA8709 digitizes the SVIDEO chrominance signal."

In addition, the contents of your updated title page (or a URL) must be mailed electronically to pchong@cory.eecs.berkeley.edu with the subject "Title Page." before 5pm, Friday May 2nd.

OVERALL OUTLINE OF YOUR REPORT

Your entire report should be less than 20 pages long, including all figures but excluding the Appendicies listed below. Each section of the report described below has a maximum recommended size listed for single-spaced, 12 point text.

Title Page

Title of your project (e.g. Intelligent Refrigerator)

Design Team: Name(s), e-mail addresses, and Lab Sections of you and your project partner(s).
Name of your Project TA
Date
Project Abstract

Brief summary of the problem you are trying to solve (1-2 paragraphs).