Project Planning and Proposal

ECE532S: Digital Hardware

Spring 2005

Timeline

Proposal Due Wednesday, January 26, at start of lecture. Keep a copy for yourself as we will keep the proposal to start a file for your project. Each week, we will track your progress and you will be asked for a one-page status report that will be added to your project file.

Project Feedback If there are significant issues with the project, we will attempt to provide feedback in the lab on Tuesday and Wednesday (Feb. 1/2) so that adjustments can be made quickly.

Milestone 1 During the February 22 and 23 labs, you will be graded on the progress towards your first milestone.

Other Milestones For each lab period you will be expected to demonstrate some progress from the previous week.

Demonstration March 22/23 labs.

Proposal

This is a template for your project proposal. It does not have to be in perfect prose (point form is okay). However, it should clearly convey the intent and planning for the project. Please provide **all** of the information requested in this template.

The proposal is worth 5%. Marks (1 per day) will be deducted for late submission. Please pay attention to the requirements for each section. All information requested is required.

Project Title

Project Team

It is expected that a typical team will consist of two members. Larger projects are encouraged, but they should be partitionable into distinct two-person projects that can stand on their own to reduce the risks of not getting anything working. Grading will still be done on a two-person team basis but a working demo of a multi-team project will certainly garner extra considerations.

List your team members.

List the members of other related project groups, if any.

Project Description

Describe the project to be implemented. The basic guideline is that your project should incorporate at least one MicroBlaze processor and a hardware block of your own design.

Include a **system block diagram** that shows all of the major components in the system. Indicate which components will be the reuse of existing IP, and which components will have to be implemented. Briefly describe each component.

Note that a component can be hardware or software, i.e., a block in your block diagram could be hardware or software. Depending on the project, you may need one diagram to describe the hardware system, and one to describe the structure of your software.

The diagram and its description shows the work that you have put in to figuring out how your system is supposed to work and it should help you estimate the amount of work required.

Milestones

List the milestones for the Feb. 22/23, March 1/2, 8/9, 15/16, and 22/23 labs, i.e., what you hope to accomplish each week.

For each lab, starting Feb. 22/23, you should prepare a one-page progress report that gives the following:

- Progress towards that week's milestones.
- Plan for the next week.
- Updated milestones, if necessary.

Choose your project in a way that you can afford to "lose" a few weeks and still show something that works. This means that you should have several working stages, each with some additional functionality or features. If you have some unforseen delay, you should be able to still show something that works in the end, even though it is not the full project you initially proposed. This is an important part of planning a project: get some basic stuff working as soon as possible. Add fancy features, optimize your circuits, and

make it beautiful later. Time to market (time to marks?) is often more critical (how to make money) than being perfect (the dreaded perfectionist engineer). Better something that works with basic functionality, than something pretty that does nothing.

Feb 22/23 (4% of your grade) Choose this milestone well. For this milestone you will demonstrate your progress towards your first milestone and be assigned a grade that will be 4% of your final grade. This would likely include significant progress in your hardware design most likely demonstrated by a working simulation.

Other Milestones For each subsequent lab period you will be expected to demonstrate some progress from the previous week. List the progress you expect to show each week.

It is quite possible that you will not meet a milestone. In that case, be prepared to explain what you did during the week. Struggling with a bug and describing how you wrestled with it is acceptable as a delay in your milestones as long as your approach was significantly better than random guessing or trial-and-error.

If you slip (four-letter word that managers hate to hear) in your schedule then **come with a modified set of milestones** prepared on a sheet of paper that can then be appended to your project documentation so that we can follow-up with the new milestones the next week. This will be required as part of your evaluation.

Your overall project grade will depend on how well you meet your original milestones, or, if you encounter difficulties, how well you make adjustments by the end of the project.

March 1/2 done some stuff

March 8/9 done some more stuff

March 15/16 done yet more stuff

March 22/23 (6% of your grade) Done! Demo will be worth 6% of your final grade.

Resource Requirements

List other resources you will need such as microphones, VGA monitors, or video cameras. Microphones and VGA monitors are readily available in the lab. If you have your own camera, that would help. Otherwise, we will have one or two we could scrounge up.