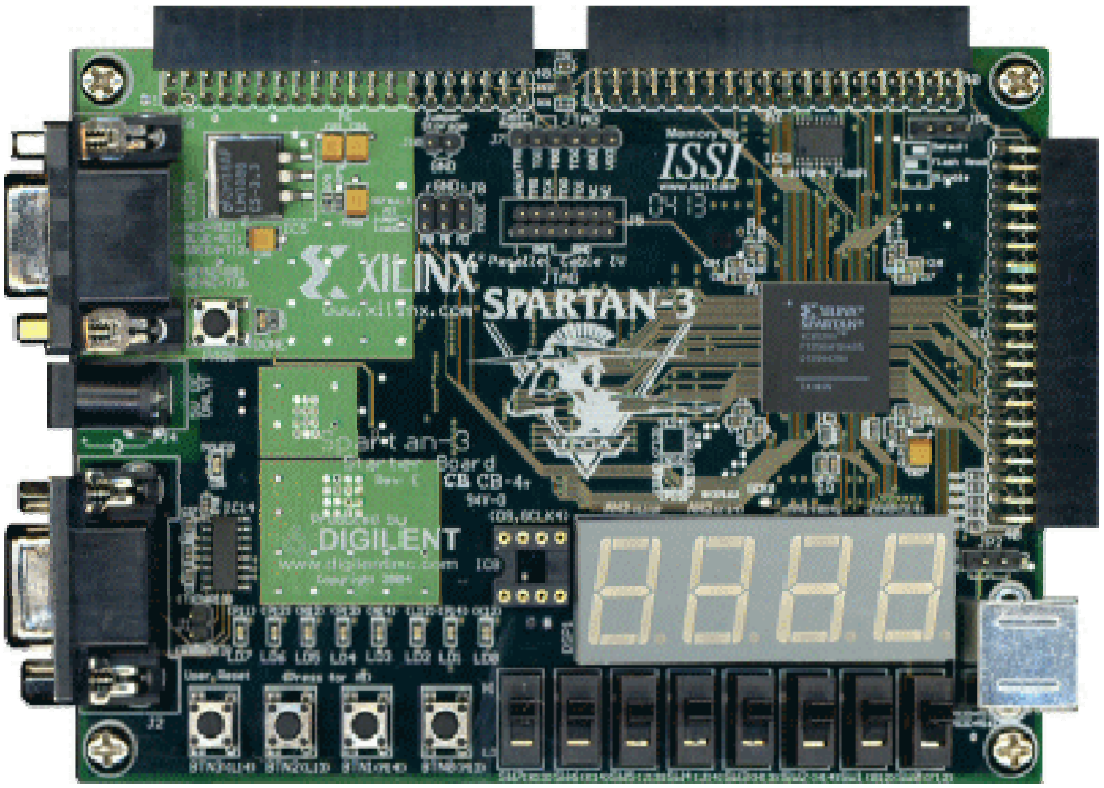
CS M152A
DIGITAL DESIGN LAB



Lab 6 Final Project

Your Final Project will be an open-ended project in which you will show what you have learned throughout the quarter.

CS M152A DIGITAL DESIGN LAB

FINAL PROJECT

Introduction

For your final project, you will design, implement, and demo a circuit for a project of your own choosing. Your project must utilize the FPGA board and must be approved by your TA. Your TA may add requirements to your project idea to ensure it meets class standards. You will be graded on the initial project idea proposal, the creativity of your ideas, the complexity of the end result, the quality of your design, and the project write-up.

Formal Project Proposal

- Due on the first day of the lab.
- Clear presentation of the project description with motivation and specification of input and
- output.
- Clear sketch of the solution, again, either by hand or with a program like Logism

Project Proposal Rewrite

- Due on the second day of the lab.
- Re-write of the initial project proposal incorporating all of your TA's comments.
- Used as guidelines for your project's grading rubric.

Project Demo

- Due, at the latest, by the last day of lab class
- During the demonstration, you must concisely summarize your project.
- You must properly demonstrate your implementation for your TA.

Project Write-up

- No write-up

Sample projects from the last quarters

- Elevator Controller
- Whack-A-Mole
- Slot Machine
- Blackjack game (Twenty-one)
- Calculator
- Vending Machine controller
- Several types of simple games that can be implemented with LEDs, buttons, and the RS232 (serial) port controller
- Designing an 8-bit microprocessor with instruction set including Data Transfer instructions, Mathematical operations, Program Flow instructions and Special Operations (NOP, END, WAIT, ...)
- Designing a floating point unit