ECEN 5613 | **Embedded System Design** | **Fall 2019**

Lab #2 Signoff Sheet

You will need to obtain the signature of your instructor or TA on the following items in order to receive credit for your lab assignment. Signatures are due by **Friday, September 27, 2019 (Part 1 Elements) and Friday, October 4, 2019 (Part 2 Elements)**.

Print your name below, sign the honor code pledge, and then demonstrate your working hardware & firmware in order to obtain the necessary signatures.

Student Name: Rucha Bowantar

Honor Code Pledge: "On my honor, as a University of Colorado student, I have neither given nor received unauthorized assistance on this work. I have clearly acknowledged work that is not my own."

Student Signature: Rucha

Signoff Checklist

Part 1 Required Elements

- [x] Schematic of acceptable quality, correct memory map, SPLD .PLD file — De-coupling Capacitor missing in schematic.
- [x] Pins and signals labeled, decoupling capacitors, and two 28-pin wire wrap sockets present on board
- [x] NVRAM (as EPROM substitute), decode logic, and LED functional
- [x] Understands device programmer.
- [x] Demonstrated ability to use logic analyzer to capture bus cycles and view fetches from NVRAM. Shows detailed knowledge of both state and timing modes. Captures latched address lines A[15:0], data lines D[7:0], ALE, /PSEN, and NVRAM chip select signal on the logic analyzer display.
- [x] Shows and discusses logic analyzer screen captures:
- [x] Assembly program and timer ISR functional:

TA 9/27/19

TA signature and date

Part 2 Required and Supplemental Elements

- [x] AT89C51RC2, RS-232, and FLIP functional
- [ ] 74LS374 debug port functional
- [ ] Understands timing analysis, setup/hold/propagation
- [x] MSP432 code build process, LED program, version control

Instructor/TA Comments: ☐ ☐ ☐

Tamara 10/5/2019

TA signature and date

FOR INSTRUCTOR USE ONLY **Part 1 Elements**	Not Applicable	Poor/Not Complete	Meets Requirements	Exceeds Requirements	Outstanding
Schematics, SPLD code	☐	☐	☑	☐	☐
Hardware physical implementation	☐	☐	☑	☐	☐
Part 1 Required Elements functionality	☐	☐	☑	☐	☐
Sign-off done without excessive retries		☐	☑		
Student understanding and skills	☐	☐	☑	☐	☐
Overall Demo Quality (Part 1 Elements)	☐	☐	☑	☐	☐

FOR INSTRUCTOR USE ONLY **Part 2 Elements**	Not Applicable	Poor/Not Complete	Meets Requirements	Exceeds Requirements	Outstanding
Schematics, SPLD code	☐	☐	☑	☐	☐
Hardware physical implementation	☐	☐	☑	☐	☐
Part 2 Required Elements functionality	☐	☐	☑	☐	☐
Supplemental Elements functionality	☐	☐	☐	☐	☐
Sign-off done without excessive retries		☐	☑		
Student understanding and skills	☐	☐	☑	☐	☐
Overall Demo Quality (Part 2 Elements)	☐	☐	☑	☐	☐

NOTE: This signoff sheet should be the top/first sheet of your submission.

★ supplemental not done

★ Interrupt based LED blinking program not done. 10/4/2019 Tanmay

Button

★ LED program shown. 10/5/2019 Tanmay