## EECE.4520/5520 Microprocessor System 2 and Embedded System

Fall 2020

v2020.08.31

## Lab Demonstration Guideline

Your finished lab must be demonstrated to the TA or the instructor. The format of the demonstration can be via either a live zoom session or a recorded video that shows the operation of the completed lab assignment.

If a zoom session is used for demo, all the team members must be present and ready to answer questions while the completed lab work is shown to the TA or instructor.

If video demonstration is chosen, the video must show the date and time of the recording (e.g. capturing the date and time displayed on a smartphone or computer) **and** all team members should be visually present (e.g. join a zoom session with webcams turned on) and introduce individual effort on the lab to which the student has made contribution.

## Lab Report Guidelines – Template

**Each Group produces one lab report shared by all the team members.**

**Each Student Must Submit a Copy of the Group Report to Blackboard to acknowledge the contents in the shared group report and to receive lab grades.**

1. General Information

Student Name:

Student ID number:

Team Name/Number:

Team member names:

Date of completion:

Demonstration method: zoom or recorded video

1. Design:
   1. Hardware Design

You need to explain the hardware perspective of the design with schematic. Drawing schematic is a the widely used approach to document the hardware design (e.g. the wiring of components). You need to use a software (e.g. KiCad EDA) to create and edit schematic, and generate a pdf file to include in the lab report. The team members can discuss and agree on the choice of the PCB schematic software.

* 1. Software Design

The software designed for the lab must be well documented and described. The design process of the software should be explained in terms of the design principle, major elements of the design (e.g. state machines and pin assignment), the flow diagram of the software program, and any important consideration about the software design. You must host the source code on Github.com, where accounts are free to apply for, and allow the instructor and TA to access.

**Pasting source code in the report is NOT allowed. Instead, the report should include a link to the source code hosted on github.com**

* 1. Results

The results of the lab work should be described in the report. Illustrate the results with screen shots is recommended. You can also use charts and diagram to describe the results.

1. Problems Encountered and Solved:

It is expected that the students will devote effort to address the challenges and eventually overcome them to reach the solution. It is important and useful for everyone to document the problems encountered and how the students solved them: debugging methodology, alternative ways attempted, etc.

1. Personal Contribution to the Lab (Technical Details):

In the lab report, each student needs to clearly state the technical contribution made to the lab with **specific details**. For examples, student A debugged functionA() in the program, student B designed the state machine to switch on/off LEDs, and student C drew the schematic and wired up the circuit.

You are strongly recommended to record your work and effort in a lab notebook whenever you spend time on the lab either with our team members or individually. Such lab notes or meeting notes can be used to support the contributions that you claim.

1. Lessons Learnt:

You need to summarize what you have learned from this lab. Please be specific on the new knowledge and skills.