Final Project Introduction:

Final Project Assignment

ECE 540 Final Project -- Propose, design, implement, and demonstrate a project of your choosing

This assignment is worth 100 points. Demo day is on TUE, 16-MAR from 2:00 PM - 4:30 PM PM via Zoom. Deliverables are due on Thu, 18-Mar by 10:00 PM. *No late submisions without advance permission*

We will be using GitHub classroom for this assignment. You should submit your assignment before the deadline by pushing your final project deliverables to your team's shared GitHub repository for the assignment.

After completing this assignment students should have:

- Proposed and executed a team-based final project involving an SoC including an embedded CPU, custom hardware, and firmware
- Completed a technical presentation and demonstration of the project
- Gained experience in participating in team-based project development and management for a "significant" project

Summary

The final project is a chance to put what you learned this term into practice. Each team will propose a final project which must be accepted by the instructor. Once the project has been accepted, the team will complete the design of the project, implement and debug it, and show it off to their classmates, the instructor and T/A and, perhaps, a few invited guests. Your team project will be in a friendly competition with the other project teams, with the oft-coveted "Wall of Fame" award going to the best overall project (design, documentation, presentation, etc.). There is no cash award to the Wall of Fame winners, no bling, no s.w.a.g. ["stuff we all get" according to the Urban Dictionary (https://www.urbandictionary.com)]. So why bother? Bragging rights! Impress your friends! Impress your classmates! Impress the hiring managers!

We will be using the Group Project support in GitHub classroom for this assignment. This means that your team will share a private repository on GitHub that can also be accessed by the instructors, T/A and Grader for the course. You will submit your work via that repository. We will review your work and provide feedback based on what your final submission was. The process for accepting this assignment is the same as that used for project #2. Since final project teams may be different than the project #2 teams, each team will need to create a new group in D2l and in GitHub Classroom the same way as you created your Project #2 team.

Since some of you are taking both ECE 540 and ECE 558 this term we are willing to consider combined final projects (one final project you can use for both ECE 540 and ECE 558). Please contact Roy before the proposal is due if you are interested in doing a combined project. We will try to work out an acceptable concept giving all team members an equal chance to contribute to the final deliverables.

Where to submit your deliverables for the project:

- Project Proposal: Submit to your Final Project Proposal dropbox on D2L. Include a .pdf of your approved proposal in your GitHub deliverables
- Progress Report: Submit your progress report as a .pdf to D2L and include the .pdf in your GitHub deliverables

- Demo presentation slides - Include a .pdf of your final project presentation in your GitHub deliverables.
- Video(s) of your demo. Include a narrated video (.mp4 or equiv) that demonstrates the functionality of your final project in your GitHub deliverables
- Design Report: Include a .pdf of your final project design report in your GitHub deliverables
- Source code, etc.: Include your(System)Verilog, firmware, and any other source code, transcripts, etc. you produced for this project in your GitHub deliverables. This should be automatic since you will be managing your project in GitHub.
- (semi-optional) A team photo with your project. Just what I need to highlight your project in the coveted wall-of-fame family.
- Final GitHub repository - to GitHub…obviously, but we'd also like you to upload a .zip file of your repository to your Final Project Deliverables dropbox on D2L. Some of you will not be able to do so because D2L places a size limit on uploads. Still, we'd appreciate it if you could give it a try. It's not a big deal either way, but it just might make our grading more efficient.

Grading Rubric:

- Written final project progress report – 5%
- Demo day presentation (all team members should present) - 20%
- Correctly implements committed functionality – 40%
- Quality of design report – 15%
- Quality of code (comments, clarity, etc.) – 15%
- Degree of difficulty – 5%
- Extra credit - up to 8 pts. Extra credit is just that…extra. You should have demonstrated all of your committed functionality, given good presentations, and had high quality documentation for your project to be eligible for extra credit.