EECS 395/495: Engineering System Design 1

Homework 8: Final Design

Due: Mar 15, 2017

To get credit for your work, you must demonstrate your functioning project to me during our final exam time slot (7-9pm). You must also submit your finalized Atmel Studio project (as a zip file), website (as a zip file), and report on Canvas.

For this assignment, you will complete your project and write a final report. Please follow these specifications:

- **Final project.** Please demonstrate the following.
  - Program initialization, with program waiting for network connection or web setup button.
  - Program main loop, where the program queries open websocket streams and only takes a picture if a stream is open.
  - Website with image streaming.
  - Project enclosure with proper fitting.
  - Reset and web setup buttons.
  - Properly-functioning LEDs.

- **Final report.** Each student must submit their own report. You may have the same "Introduction" and "Design Process" as your group members, but the "Learning" and "Conclusion" must be individual. Please include at least the following, separated by appropriate section headings. Use pictures and code snippets as appropriate. You report should be $\sim$10 pages long, including everything.
  - Introduction
    - Briefly introduce the project.
  - Design Process
    - Discuss how you approached your:
      - PCB design.
      - C code.
      - Website.
      - 3D design.
    - Discuss what you learned through the design process.
      - What challenges did you encounter?
      - How did you overcome these challenges?
    - What would you change if you had the chance to start over? Mention what you would change in:
      - Your approach to the problem.
      - Your actual design.
    - If your final PCB did not work, explain why.
  - Learning
    - Why did you take this class and what did you hope to learn?
    - Did you learn as much as you hoped to in this class?
    - Were there any topics that you hoped to learn but did not?
    - Do you have any suggestions for improvement of the class format or structure to increase learning?
    - Do you think the workload was too high, appropriate, or too low? Please elaborate on your response. If too high, could it be lowered without decreasing the amount learned? If too low, what would you like to see added?
  - Conclusion
    - Sum up your thoughts to this project, the class, and your overall experience.