Name: \_\_Replace with your name(s)\_\_\_\_

EID: \_\_Replace with your EID(s)\_\_\_\_\_

Semester: Spring 2024

Course: ECE445L

A) ***Requirements Document:***

1. I have updated my PRD at the end of this lab report to reflect any loss of functionality from lab 3 during lab 4 development (Check box if true).

B) ***Objectives*:**

1. In a few sentences, describe the purpose of the lab and the features of your alarm clock.

C) ***Hardware Design Deliverables:***

1. Deliverable 1: Using **KiCad**, create a schematic for your design. Include a screenshot in the space below.

D) ***Software Design Deliverables:***

1. I have pushed my code to GitHub for grading (Check box if true).
2. Deliverable 2: System call graph including all endpoints that you added for this lab.

E) ***Measurement Data:***

1. Deliverable 3: data dumps, and jitter measurements
2. Deliverable 4: System in action
3. Deliverable 5: Power characterization
4. Deliverable 6 (5pt EC): Sensor interfacing

F) ***Analysis and Discussion Questions:***

1. Explain the differences between frames and iFrames.
2. Explain what console.log() is used for? Show how it is used on your Web App Page.
3. Explain how the functions are called from mqtt\_app.htm and executed in clock\_page.js?
4. In the client server paradigm, explain the sequence of internet communications sent from client to server and from server to client as the client saves data on the server. Assume the client already is connected to the Wi-Fi AP and the client knows the IP address of the server.
5. What is the purpose of the DNS?
6. What is the difference between UDP and TCP communication? More specifically when should we use UDP and when should we use TCP?

G) ***Project Requirements Document:***

Include any changes to the Project Requirements Document from your Lab 3 Report below. At minimum, update sections 2.2 and 2.5 to reflect the addition of wireless communication.

1. Function Description
   1. Scope: List the phases and what will be delivered in each phase.
   2. Usability: Describe the interfaces. Be quantitative if possible.