## Project Summary

The Interval Timer that we designed is a system that tracks user-specified time intervals on a clock and plays an alarm tone when the time interval is reached. For example, if the user were to set a time interval of 00:05, the timer would play an alarm when it reaches the time 00:05, 00:10, 00:15, 00:20, and so on. This can be used for a variety of different tasks that require a consistent and repeating alarm tone - such as an exercise class or a meditation / pomodoro time tracker.

We wanted to take a unique approach to this design and explore a product that doesn't simply act as a countdown to 0. This timer has the ability to repeatedly count to a specific time period, allowing the product user to set a constant reminder while performing a task. The most obvious use for this timer is fitness related activities such as warm-up stretches, gym reps, or yoga sessions where short, repeated timers excel at keeping track of progress. To make the design easy to use, two buttons will add one to their respective seconds and minutes of the user's desired time interval. A single switch will begin the timer, as well as stop it at any time, resetting the system and allowing a new interval to be set. The brightness and volume of the timer can be adjusted to fit the user's preferences as well.

This project required the use of a custom-designed PCB, and this was the first time that either of us had designed a PCB circuit - we created a PCB that worked in theory, however a few key design issues led to the board not working as we intended it to, and so we had to bypass some of its components to get a working timer system. Another design element to keep in mind for the future is the physical size of the enclosure, and calculating how much space the electrical components and boards actually take up inside of the enclosure you're designing.

Project Timeline: