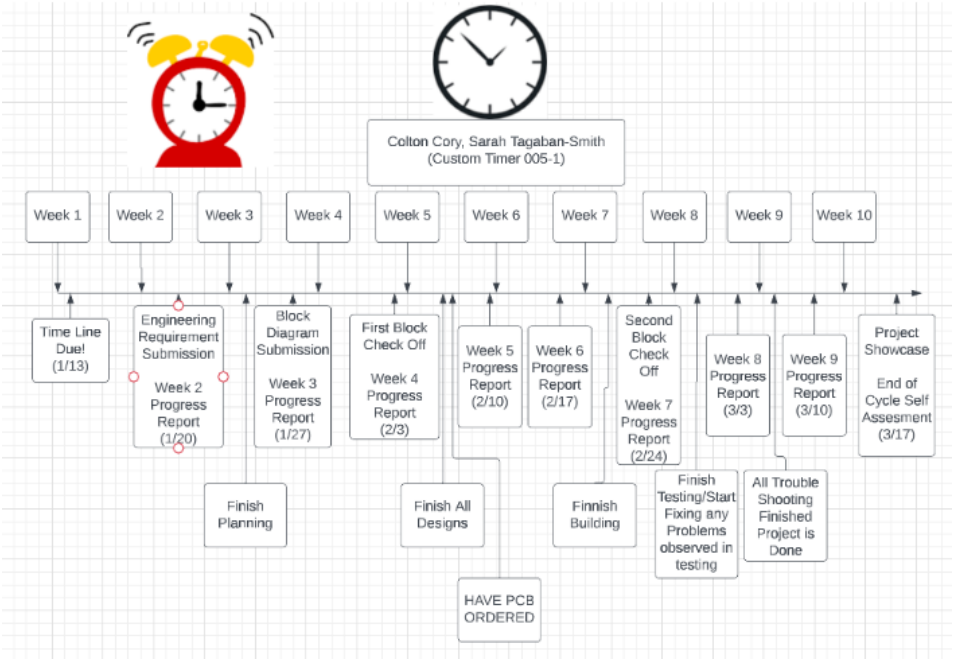
Our project was a Custom Timer. This custom timer acts as an alarm clock and will count down from a selected time, and flash lights and make a continuous sound once that time reaches zero seconds, allowing the user to be able to use this alarm clock to help them keep track of time. In the very beginning our team were given very vague instructions on what the project needed to do, as well as given a couple more specific instructions that acted as customer requirements. Some of these requirements were things like, the interface needs to be readable from 3 feet away, and the timer can be no more than one second off for every minute that passes. After that we had to make a couple more requirements of our own, so we would have something solid to go on for building the project in the future.

We made a timeline to go off of, detailing what big parts of the project needed to be worked on, and when each of those individual parts needed to be completed by. Below is the image of the timeline that we created.



We stuck to this timeline and never ended up falling behind it, getting all of our individual parts in time.

We made sure that our requirements were going to be things that we were confident we would be able to complete. We did have other goals and pieces that we wanted to implement, thinking we could not have a good working timer without one. Some of these additions, for example the exact functionality of what a singular button does, at some point during building we would decide needed to be tweaked a little in order to make sure all parts of the system was able to cohesively work together. We stayed pretty true to our original design of our system, the biggest change being that we initially intended on using some sort of speciallised IC to create the 440Hz signal the speaker was supposed to produce, but we eventually just changed to having the arduino itself produce that signal. This change was made before the PCB was designed so it was a change that made the final product simpler rather than more difficult on us.

We learned a lot building this project over the past term that will be useful to know creating future projects in the future including senior capstone. We learned to be very cautious while working with the enclosure constraints and to make sure that all component sizes and

spaces are considered far in advance to making the actual encolure, so when everything needs to be put together there is no real issue doing so. And most importantly we learned about having to work with other partners schedules and how to jump in and help each other out in situations where someone is unable to what what they were supposed to do on their own, weather that be from knowledge, or time constraints.