#### Dev Shah

#### WEEK 7:

**Date:** 2/25/22  
**Total hours:** 6  
**Description of design efforts:**  
This week my work was divided into multiple small tasks to ready our team for the midterm presentation. These tasks ranged from ideas we needed to consider but never got around to implementing to starting to complete the midterm slideshow. The idea of debouncing the buttons are using was first introduced to us a couple of weeks ago but we hadn’t tried it yet. I helped my other team members look at different ways we could debounce the buttons through hardware or software. One way we found was to insert a capacitor in parallel with the button and then have the power go to the LEDs, but this did not work as we wanted. We then found a method, Image 7.1, that worked how we wanted it to.

Diagram, schematic

Description automatically generated

Image 7.1

Another task I worked on this week was looking at the schematics for the finalized accelerometer and LoRa’s that we will be using in the project. We were originally going to be using the ADXL343 accelerometer but noticed that the packaging of the chip would be difficult to solder, so we changed to the STEVAL-MKI178V2 accelerometer. This meant I had to change the already existing code to work on the new accelerometer instead of the old one. However, both are able to send data using I2C so only ADXL343-specific variables needed to be changed. Finally this week, I started working on the slideshow presentation for the midterm review. Because I have been developing a lot of the software for this project, I added the statuses of our various software modules under the “Software Development Status” slide.