Project Summary

The original design requirements that needed to be completed are as follows;

- The system should display at least 10 unique colors.
- The system display should have a resolution of at least 5x5x7.
- The system should have at least 3 pre-programmed animations.
- The system should have a GUI that allows users to design at least 3 new messages and animations.
- The system display should not appear to flicker to at least 2 people other than the project designers.

The first step we took to approach the design requirements was to first figure out what type of system of LEDs we wanted to use. For this we had a few optional, we could use normal RBG LEDs with each having an LED driver, or we could use addressable LEDs. After some research, we went with addressable LEDs as it allowed for better and easier control of each LED and also cut down on the number of wires for each. The next step was figuring out all the parts that would work together. The Microcontroller choice was obvious as we all had experience with the Arduino brand which allowed for better corporation in that field.

Below is our project Timeline

Task Name	Who	Start Date	End Date	Week 12	Week 13	Week 14	Week 15	Week 16	Week 17	Week 18	Week 19	Week 20
Communication	Group	1/14/2022	1/16/2022									
Schamatic	James Beans	1/16/2022	1/30/2022									
Parts List	Group	1/17/2022	1/16/2022									
Enclosure	Ethan Masiel	1/15/2022	1/30/2021									
Soldering	Ethan Masiel	1/18/2022	2/6/2022									
PCB Design	Ethan Masiel	1/19/2022	1/30/2022									
Assembley	Group	1/20/2022	2/6/2022									
Programming	Mico Santiago	1/21/2022	2/13/2022									
Testing	Group	1/22/2022	2/20/2022									
Video	James Beans	1/23/2022	3/6/2022									
Presentation	Group	3/5/2022	3/12/2022									

Team Members:	James Beans
	Mico Santiago
	Ethan Masiel
	Group

Some lessons that we learned from doing this project would be first to plan far ahead and give yourself some time just in case you have a problem. This was very relevant for us as we did not anticipate extended wait times because of shipping problems or defective equipment.
Another major lesson we learned was the effectiveness of testing each block of our system as we assembled it. As we completed each step we made sure that they all worked which made troubleshooting in the future a lot easier to narrow down the problem.