

LED 2 Executive Project Summary

The LED cube was created not to fulfill any practical need, but rather to act as more of a decoration, conversation starter, or desk toy. We were guided by the engineering requirements that were set up for us at the start of the project in addition to two of our own.

The first phase of our project was to do research on our respective blocks, and come up with a game plan for how we would design our blocks and how they would all come together. For the second phase, we completed all of our first blocks, which were the controller driver, power block, LED matrix block, and display block, and had them verified. For our third phase, we completed all of our second blocks, which were the sensor block, enclosure block, LED controller block, and main controller block, and had them verified. The last phase of our project was the project unification, which was by far the most challenging phase of the project, as nothing seemed to go as planned, and we had to make a lot of last minute changes to get it to work.

We learned a lot from this project, and we agreed that we would have done a lot of things differently if we were going to do it again. We would have been a lot quicker on getting the hardware necessary to implement the code that would be the foundation of our project, and therefore prevent a several day long coding time-crunch. We also would've used different hardware to drive the LED matrix that would've made coding and overall project management easier. We learned to be more realistic in what we would be able to do for the project, as our initial engineering requirements were far too involved to fit into a 10-week project, we learned to be more proactive in working on projects, and we learned an assortment of skills in using various tools in engineering.

LED Cube

Project Lead

Project Start: Fri, 1/14/2022
Display Week: 1

TASK	ASSIGNED TO	PROGRESS	START	END
Design Phase				
Research on LED controller, Display system potentially draw schematic for them.	Sharon	0%	1/14/22	1/21/22
Research 3D printing and controller encoding	Blake	0%	1/14/22	1/21/22
Research/Purchase LEDs and accompanying resistors Research temperature/pressure sensors	Austin	0%	1/14/22	1/21/22
Research Power and Coding Requirements	Matthew	0%	1/14/22	1/21/22
N/A	N/A	N/A	1/14/22	1/21/22
Build Phase				
Build LED Matrix and sensor PCB.	Austin	0%	1/21/22	2/4/22
Design controller encoder and enclosure	Blake	0%	1/21/22	2/4/22
Generates codes for LED controller design display screen	Sharon	0%	1/21/22	2/4/22
Build power system. Code LED control system	Matthew	0%	1/21/22	2/4/22
Task 5			1/21/22	2/4/22
Test Phase				
Test power system and code	Matthew	0%	2/4/22	2/18/22
Test controller encoder on hardware	Blake	0%	2/4/22	2/18/22
Print enclosure prototype	Blake	0%	2/4/22	2/18/22
Test the controller and record the results test if the display screen works	Sharon	0%	2/4/22	2/18/22
Test LED matrix and sensor PCB	Austin	0%	2/4/22	2/18/22
Present Phase				
Make a video on our project	Austin	0%	2/18/22	3/4/22
Assemble entire project within enclosure	Blake	0%	2/18/22	3/4/22
make a power point	Matthew	0%	2/18/22	3/4/22
Double check if all the codes and hardware works check if all the requirements were met	Sharon	0%	2/18/22	3/4/22
Task 5		0%	date	date