

# **LED Cube Project Summary**

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For this project, our team was tasked with creating a system to visualize 3d images or animations. As a team, we decided that the best way to fulfill this task was to create a 5x5x7 cube of LEDs that features a user programmable interface.

For our approach to the project, we decided that the best course of action was to divide and conquer each individual aspect of the design. Our development phase began with a brainstorming session where we created our initial draft of the entire system that included all of the technology that we wanted to use as well as how we wanted to go about building the cube. With all of our team members still being affected by the pandemic, we knew that our scheduling and planning had to satisfy our need to be able to work remotely. With this in mind, we were able to create a Gantt chart (See Gantt Chart PDF) that laid out our entire project timeline that included important due dates and personal assignments to individual blocks in the system. After completing the initial brainstorming meeting, our team had an initial design that we believed would satisfy all of the customer and engineering requirements.

Over the course of the nine weeks that we spent developing the cube, our project underwent many different revisions as we thought about improvements that we could make to the system. These improvements consisted of new devices that we could use for the physical control interface as well as design improvements to our cube's enclosure. Also, with every single test of the system, our team went back to revise the system code where we saw the need for improvements.

At the end of our development phase, we were able to build a system that we believed to be the best representation of our skills and abilities. As a team, we were extremely happy to see how well the project turned out and were excited to be able to show off to the public. Throughout the time that we spent on this project, our team learned some valuable lessons that we will be able to take with us in the future. We learned that regardless of the team's situation and location, with well thought out planning and scheduling, a project can be completed effectively even when working remotely. We also learned that when working as a team, it is important to get feedback on your individual work from your team members. If you are unhappy with your designs or having issues with certain parts of them, someone else on your team will likely be able to help you.