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ART 499 – Senior Project

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When I first started college I majored in Psychology. Then I switched from Psychology to International Business, finally settling on Digital Arts. I officially became an art major because I love art; its possibilities, the creativity, and the program. Throughout my undergraduates degree I was introduced to various techniques and software; I was taught how to model 3D objects, how to use Adobe products, code, and beginning drawing techniques. Over all the things that I learned, I established a bigger interest in HTML.

During my junior year I took course ART 310. In this class I was taught more information about coding, such as creating shapes, altering images, and inserting text or videos. I really enjoyed several projects that we had to do. Our projects included making mandalas; The mandalas had to be in various forms like geometric form, text, and videos. Making these mandalas was very fun and it inspired me to try and do more with HTML. Now finishing my senior year I decided to take the course, Physical Computing. In this class we learned how to operate and program an Arudino board. When operating an Arudino board you have the abilities to create various electronic devices. For our first project we had to program our Arudino boards in order to make LEDs show our name across the board. This project was difficult at first considering it was my first time coding a computer board and soldering. Overall I enjoyed the result of my work, which led t me researching more tricks that the Arudino could do. I stumbled upon several examples on the Internet of people who created their own LED cube. After watching videos of their finished work I wanted to try and build one of my own.

For the LED cube you need LEDs, wire, a soldering iron, an Arudino board, and a template. The template that I used was a square shaped wooden board, with 36 holes drilled in it; each hole is approximately one inch apart and they are used in order to keep the LEDs in place.
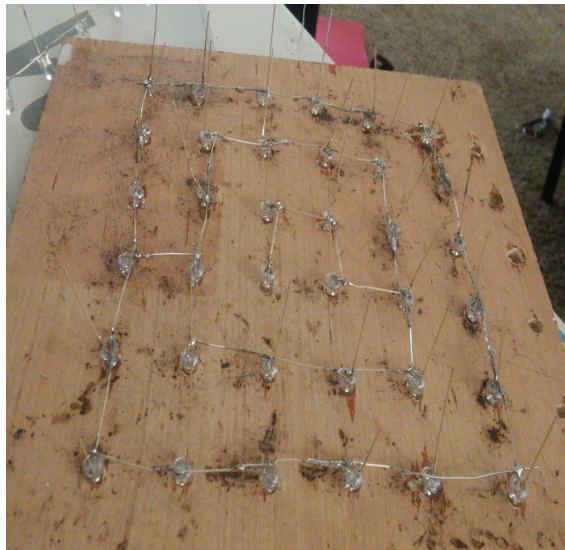




You solder every short LED leg so that it connects to the next. This step was repeated five more times in order for me to have the complete six layers. Along the way I also had to be careful of the longer LED leg that was left untouched so that it wouldn't interfere with the electricity being sent to the short leg. After I finished making the layers, I now how to stack them vertically. The

LED leg that was left untouched is now being used to help connect the layers together. By bending the tip to form a hook I have the ability to connect the legs to one another. Once the legs are connected and soldered, I begun to wire the LEDs to run with the Arudino.
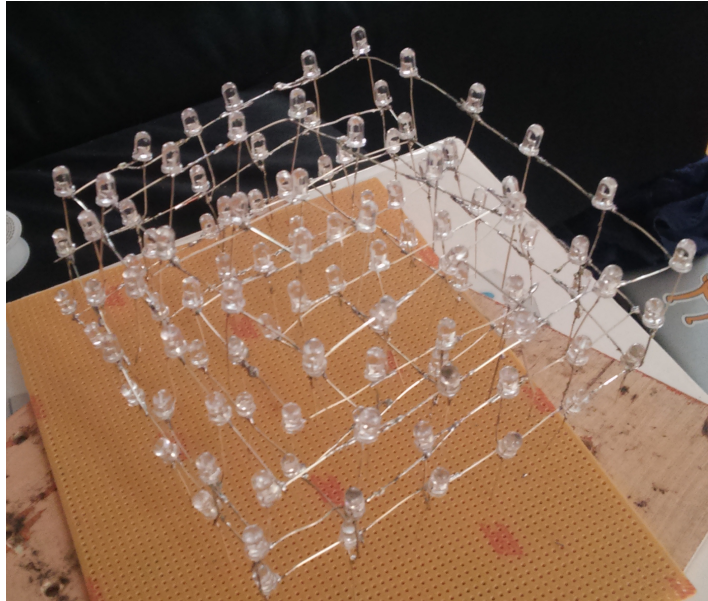


Even though I enjoyed working with the Arudino board again I had a lot of problems with this project. A major part of this project required you building it and in order to build it you needed to have average to expert experience with soldering. Soldering has proven to be very problematic for me, especially considering I struggled with soldering throughout our first project. I constantly had to solder and resolder LEDs numerous times because it would either break or not be fully attached. Another problem I had was with stacking. This step was difficult because as the cube got higher there was less space for my hand and the soldering iron to reach certain areas. As I would reach for an area with the iron the heat would melt a leg that I had previously attached. This happened several times throughout the project and made the process even longer. However I don't regret making this cube, my main concern right now is if the LEDs will light up to show the animation. I had fun making this project and I have also learned from any mistakes

that I encountered. I would definitely try to create another LED; one that is bigger and has the ability to perform other cool animations.