



# 3D MODELING & ELECTRONICS

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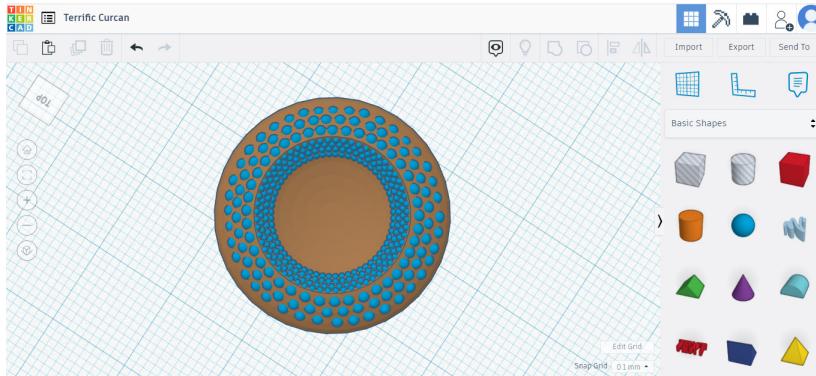
ART2602C Intro to Digital Media  
Fall 2021

# DESCRIPTION

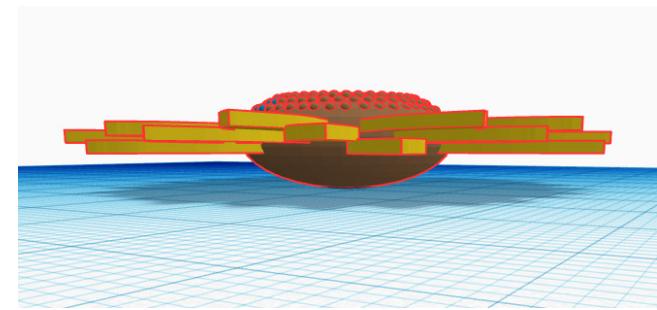
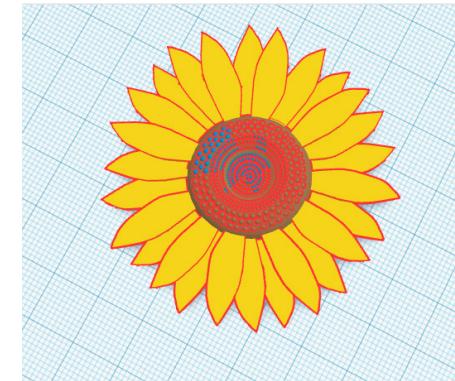
This project tested our ability in many different areas including: Tinkercad, 3-D forms, Meshmixer, soldering, and circuits. We started in Tinkercad with designing a 3-D form that we got to choose. From there, we put it into Meshmixer to make it hollow for lights to fit into it later on in the project. We worked with creating our own circuits and learning the process of it. Lastly, we put it all together to have our 3-D forms set up on a box that contained our circuit and battery within it to hide them. A page in our webpage portfolios was also created in the final stages.

# PROCESS

# FIRST STEP: Tinkercad

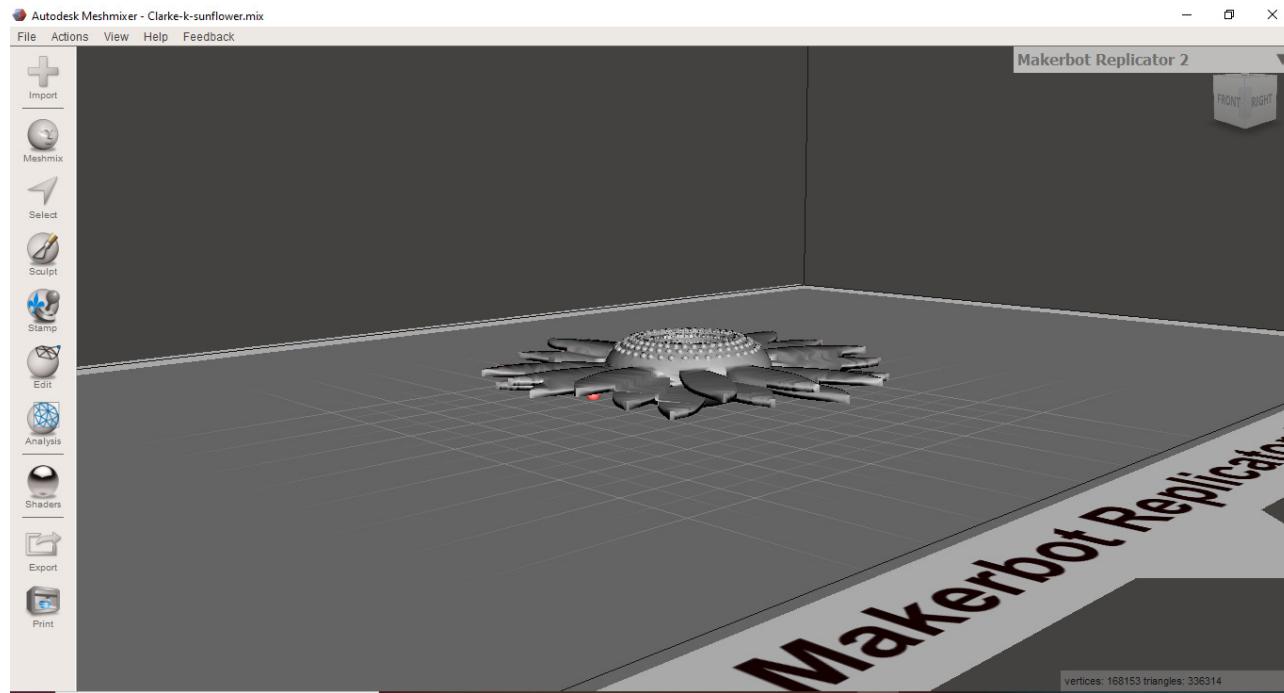


I started with the center of the flower and used mini spheres to form texture like a sunflower would have in real life. I did slightly bigger spheres around the outside and did smaller ones in the center in rings.



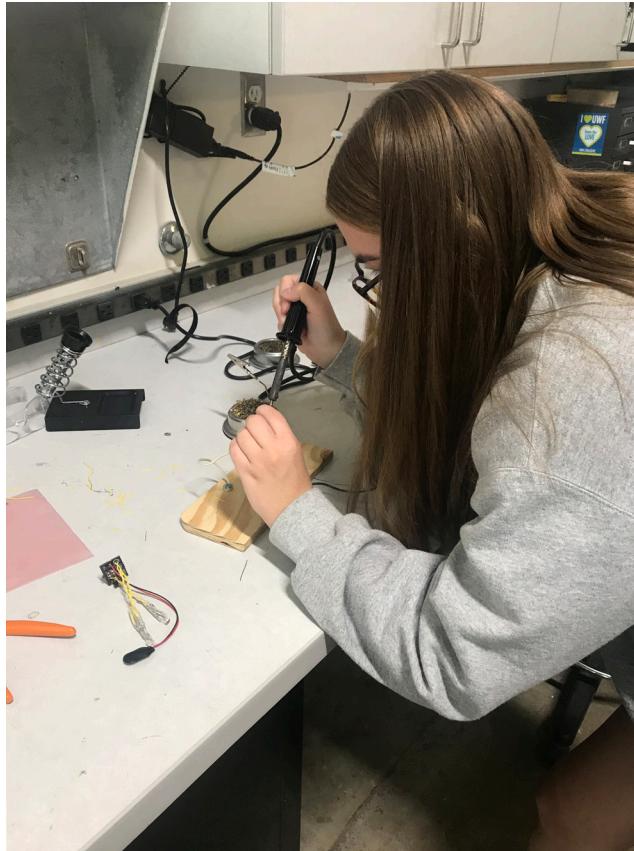
I then hand drew the petals in the scribble feature in three different versions. I alternated the petals in different positions to create depth and make it more life like.

# SECOND STEP: Meshmixer



Next, once I made sure the flower was the way I wanted it, I put it into Meshmixer to check the dimensions, make sure there was no places that would cause problems, and create a hole for the lights.

# THIRD STEP: *Circuits*



While my sunflower was being printed, I put my circuit together with solder and a circuit kit. The first thing that had to be mastered was making a small dome with the solder to make sure the parts were securely attached to the circuit board. Halfway through, I learned that I put both lights too close to the board to properly go up into my 3-D form the way I wanted them to. I started the circuit over again with a brand new board and kit. One of my lights did not work in the end, but I was able to fix it so that both worked with the light sensor.

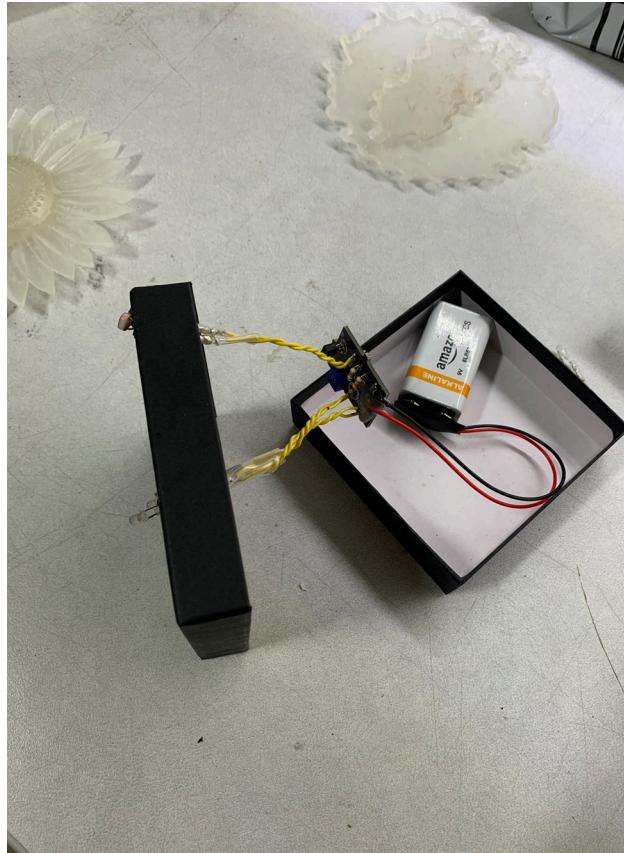
# **FOURTH STEP:**

## *Cleaning up the 3-D Prints*



Both of these pictures show the 3-D print before I did anything to it. I took all of the supports off after this and took a sandpaper to it to smooth all of the areas where the supports were.

# FIFTH STEP: *Putting it all Together*



Once all the pieces were done, I put the lights and sensor through the top of the box where I would put my 3-D print and hot glued them in place. After that, I hot glued the actual 3-D print in place, so that it was secure.

# Final Pictures



# **ARTIST'S STATEMENT**

For this final project, I started with an idea of doing a football player as my 3-D form to reflect my love for sports. My idea ended up turning into a sunflower because I loved the detail I could convey within the simplicity of the design. I wanted the lights to shine through the middle and out towards the petals to make your eyes start in the center and then move out around edges.

I began the process of designing it with the middle of the flower. I researched some images to make sure I would represent a sunflower in the correct way and found that the center had some texture to it. I chose spheres to protrude out of the center piece to create the same texture as I had seen with two different sizes on the outer edges and in the caved-in centerpiece. From there, I created three petals and alternated them all around the middle and at multiple heights to create shadows and depth. I used Meshmixer to convert the design into a hollow form to allow for the lights to be put inside. While it was being printed, I put together my circuit for my lights and sensor to work properly. After everything was working correctly and my 3-D print was sanded, I put it all together so my sunflower could be operated in the cleanest way with the lights inside of the flower secured tightly to the box, and the sensor is the only other thing seen.

# REFLECTION

This project showed me that there is so many ways to create art than just on the computer, on paper, on canvas, etc. It showed me that you can create art starting on the computer, but you can also use your hands to form something special like the light within the 3-D form that's similar to a night light. This project also introduced me to new softwares and taught me how to use it. There is still lots of things I would love to learn within each one, but now I am familiar enough with it that I feel comfortable to play around with it more.

There are a few things that I would have done differently with this project like coming up with a more complex design or thinking of more creative ways to insert the lights up into the design. I did love how much it challenged me though and I am looking forward to taking more classes like this, where I can design things on the computer and still use my hands in different phases of the project.

Overall, I really enjoyed this class and this final project was a great way to end this semester.