Short Description:

A design proposal for a modernized Big Band Stand Front incorporating technology from a new media perspective to enhance live performance...

This design was informed by many small projects that were prototyped and completed during my internship as a creative technologist at Fairgrounds Projects Inc, in St. Petersburg, FL. A collection that informs a larger idea that is only possible with their collective contributions. This is symbolic of the nature of man, in that the sum of a teams members fall short of that of the team as a whole. In this way, these smaller projects are united as a body of work. The culminating work unites the smaller elements as a culmination of some of their most interesting parts.

Joshua Campbell is a creative technologist at Fairgrounds Projects Inc, in St. Petersburg, Florida. Josh is from Los Angeles, CA and has traveled extensively throughout the United States and South Pacific. In 2018, he retired from the United States Marine Corps, having completed 20 years of honorable service. During his military career, he served as a percussionist, audio engineer, small ensemble leader, and enlisted conductor. Originally from Los Angeles, CA and having travelled extensively throughout the United States and South Pacific, Cultural Exposure and Social Perspective play a significant role in his work. Josh holds a Bachelor of Fine Arts in New Media from the University of Tampa, and plans to pursue a Master of Science in Instructional Design and Technology next year.

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FMX 498 Senior Project
Professor Santiago Echeverry
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Senior Project in New Media: Modern Stand Fronts for Music Performance

Stand Fronts used by Big Bands such as the Glen Miller Orchestra or Count Basie Big Band act as both a visual icon and functional component of music performance. The design and use of this type of stand has been virtually unchanged since its first appearance on performance stages nearly a century ago. While many stage components have been modernized, big band stands seem to have been all but abandoned as a nostalgic relic of the past.

Several modern day performance scenario difficulties could be mitigated with the use of stand fronts. One possible scenario includes touring ensembles that can't afford to take a horn section on the road, forcing them to hire substitute musicians in various cities near their performance location. While Stand Fronts help conceal the sheet music, and enhance the visual appeal of a stationary performer, they often give a very dated look to the stage. Updating the look and functionality of Stand Fronts (Big Band Stands) with modern creative technology is my solution for these types of scenarios. Additionally, it would be ideal in several other applications such as houses of worship, DJ booths, demonstration booths, convention displays, restaurant host stands, kiosks, and mini bars for entertaining at home or for catering.

My proposal for a Modernized Stand Front (Big Band Stand) stems from my experiences that culminated from 20 years of Active-Duty Service in the U.S. Marine Corps. I served as a Musician, Small Ensemble Leader, Enlisted Conductor, and Action Officer for several tours and large performances in the Continental United States and throughout the Pacific. A consistent complaint of mine was the look of musicians on stage in a contemporary setting that required sheet music in order to perform. In general, guitarists and vocalists have a much better reputation for visual stage performance as compared to horn players. The static look of a horn section backing up a contemporary rhythm section often created a visual incongruency that detracted from the overall performance.

While music stands look perfectly in place on an orchestral stage, they are often a distraction on a modern performance stage. These stands are often recognized as a barrier used by performers to hide from their audience. Requiring horn players to memorize their music solves some of the problems of stage clutter and audience engagement. However, horn players have built a reputation for their stiff and awkward visual performance, while backing up an artist or contemporary rhythm section. To be clear, the horn sections I'm referring to are the ones usually seen at the back of the stage next to a drummer, or off to the side. These stand in contrast to horn sections seen at the front of a stage, such as with groups like Tower of Power.

Removing a physical barrier succeeds in revealing 100% of a performer to the audience. This can be less appealing with awkward musicians, since it reveals a weak link in the visual performance. In many cases, less effort is required to improve the aesthetic nature of staging equipment than that of the performer. More consistent results are also achieved since the

equipment can be used time and again, while performers will come and go. Ultimately, aesthetic investment is better placed with staging equipment than on individual performers.

Pre Production:

Several skills and experiences specifically informed the design and process of developing my senior project. While my background in music and performance is key in many ways, it only address the "what" and "why" but not the "how"! Classes in the FMX department at the University of Tampa along with an internship as a Creative Technologist at Fairgrounds Productions in St. Petersburg, Florida provided skills and concepts instrumental to the metamorphosis of an initial idea into a 3D design, and finally a physical state.

During my time at Fairgrounds, I've gained valuable experience and hands-on training with physical computing, 3D design (using Fusion360 by Autodesk), and creative coding. The three main microcontrollers I've used in my projects & prototypes include the Raspberry Pi, Arduino, and ESP32. My IDE of choice has been the Arduino IDE. Most of the components I've used including Ultrasonic Range Sensors, IR & PIR Sensors, Servo Motors, Relays, and LED's were sourced from Adafruit.com or Amazon.com, and supported with libraries compatible with the Arduino IDE. I also used my knowledge of audio engineering and audio components to inform some of my design concepts. One of the specific ideas was to use quarter inch audio connectors to route signals between components and microcontrollers. An early design using this concept incorporates an ESP32 and inputs for 6 sensors that are activated by either stepping on a footswitch or sitting on a stool with an embedded switch. Major advantages to this prototype include the low cost and availability of audio components, and the COVID-19 Friendly integration of hands free sensors.
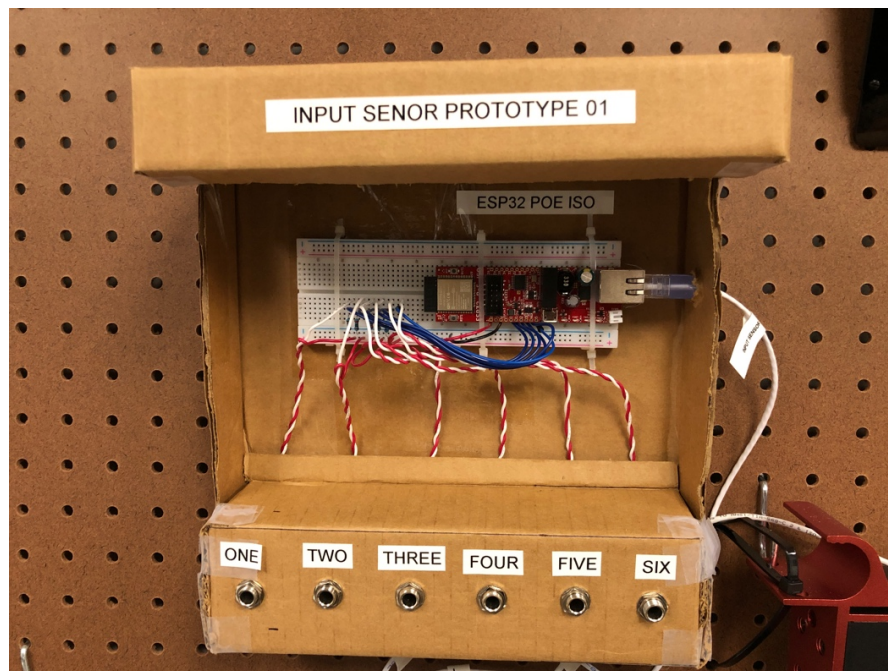
(Input Sensor Prototype by Josh Campbell, 2020)

(Stool with integrated Butt-Sensor by Josh Campbell, 2020)

Background, Inspiration and Research:

My initial idea started with Stand Fronts used by Big Band Jazz Ensembles such as the Glenn Miller Orchestra. There a 3 fairly standard heights that get progressively larger, from the shortest stands used in the front row, and the tallest used by the trumpet section in the back row. The first two rows are intended for seated musicians, while the backrow's stands are for musicians that are standing. The front of these stands would usually have the name of the band or some other design that provided visual branding for the ensemble. These stands were often collapsible and light weight, allowing them to be easily transported.

During the BeBop era, small group ensembles emerged with sometimes only one or two horns. This brought horn soloists out from behind their stand fronts and to the front of the stage. In my opinion, this was a good move for them, as they effectively became the "frontperson" (formerly known as a front-man during the time period discussed (1950s) in contrast to the politically correct ultra-sensitive nature of the present day where gender is either removed or represented with a plethora of ambiguous pronouns to which an individual finds preference).

During the 1960s, it became common for contemporary ensembles to have anywhere from 3 to 6 horns. However, these horn sections rarely took the front of the stage. This effectively returned horn players to their accompaniment roles to the rear or side of the stage, but without a stand front to hide behind. Horn sections from groups like the Ohio Players, James Brown, and George Clintons groups (P-Funk, Parliament, and Funkadelic) memorized their parts, along with special choreography that took stage performance up a notch.

By the 1980s, it became less economically feasible for touring groups to take a horn section on the road. Many groups started to hire musicians that lived in cities they were performing in, only for those specific shows. This required the substitute musicians to be able to perform their parts with very little or no prior rehearsal. The ability to sight read became an absolute necessity for horn players to get these types of gigs. While substitute musicians could cover the parts that needed to be played, they were never as good visually as the horn sections that toured together.

While today's Big Bands still use stand fronts, modern ensembles are still plagued by awkward horn sections with poor stage presence or that hide behind black rehearsal stands and add to the clutter and visual incongruency of the show.

While I recognize the benefits of using stand fronts and want to see their return to the stage, I'm also aware of the drawbacks that come from this older design. Some of the drawbacks are the large static barrier they create. Other drawbacks include the need for stand lights, and space limitations for microphones and monitoring solutions. iPads and digital music stands have solved the need for stand lights and have allowed musicians to bringing a virtually unlimited amount of sheet music to the stage. These are good solutions for dark stages, and for musicians that bring something to the table in regard to visual performance. However, they fail to integrate modern needs such as play back monitoring and microphone placement and lack the benefits visual branding that come from stand fronts.

Visual Branding is one of my favorite attributes of stand fronts. Before performers even take the stage, it's already been set in a way that any other stand is capable of. While I understand why stand fronts left the stage and why they didn't come back, I feel their return is long overdue. I think their ideal time to return was in the 1980s with groups that hired substitute horn players that were forced to sight-read the gig. Since that time, the stage has seen many modern improvements such as LED lighting, video displays, midi controllers, and interactive technology. What if stand fronts made a comeback in the 80s and continued to evolve alongside other staging components? This question prompted the design and development of a Modern Stand Front for Music Performance.

Vision Board:

Using the internet, I searched for information and images about music stands, stand fronts, digital music stands, and other types of staging furniture that was similar in design or function. Some of these included DJ Booths, Catering Carts & Mini Bars, Lecterns, stand up desks, and furniture for conventions, classrooms, A/V companies, and houses of worship.
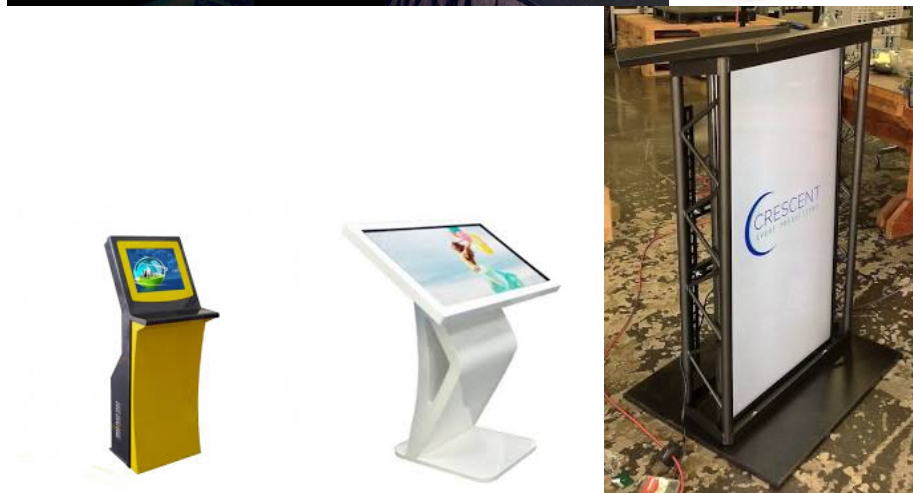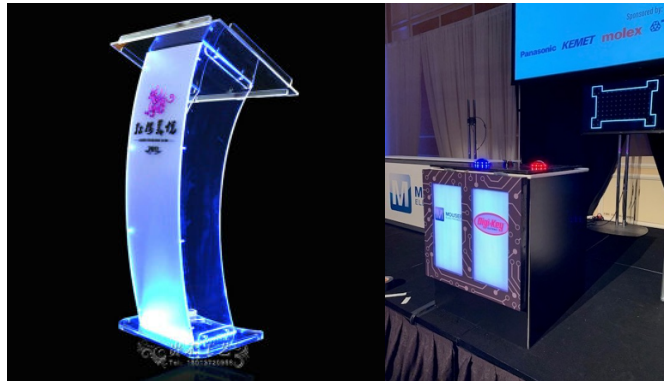
Design:

My design foundation comes from the physical dimensions and overall shape of the classic stand front design. My artistic goal was to combine a retro classic look with modern technology. It was also important to me to keep what I like about the visual branding of the stand front but implement features from digital music stands. Combining the best of these two stands falls short in a substantial improvement for stagecraft. My unique idea is to use the front of the stand as a canvas that integrates with lighting and video. While other stands create a barrier and an eye soar, mine will provide additional space for visual designers to place stimulating and engaging content.

The realization of my artistic vision is made possible by integrating 3 main components into the design along with several upgradable options. The main components are a raspberry pi that drives an LCD display mounted on the front of the stand, a secondary LCD display mounted
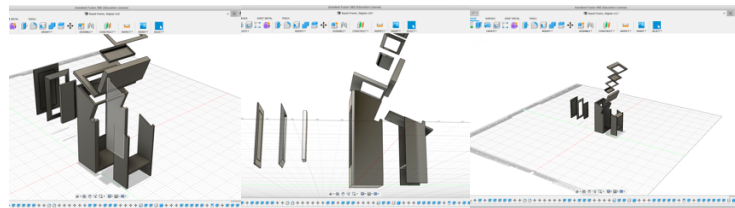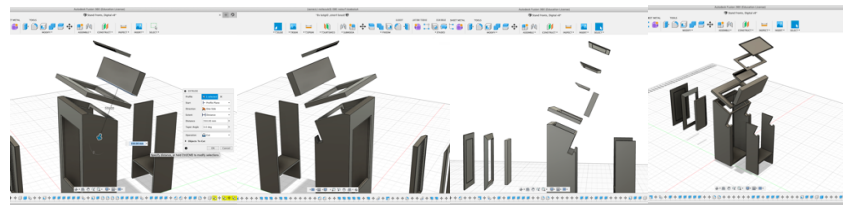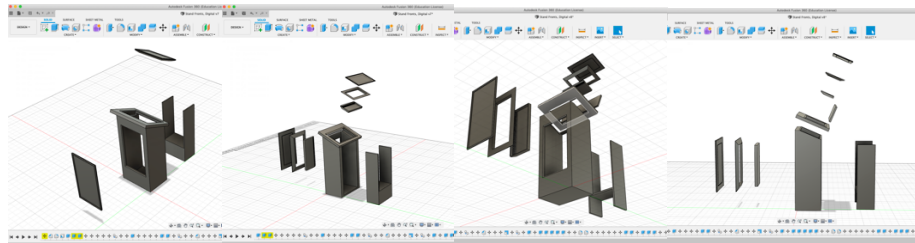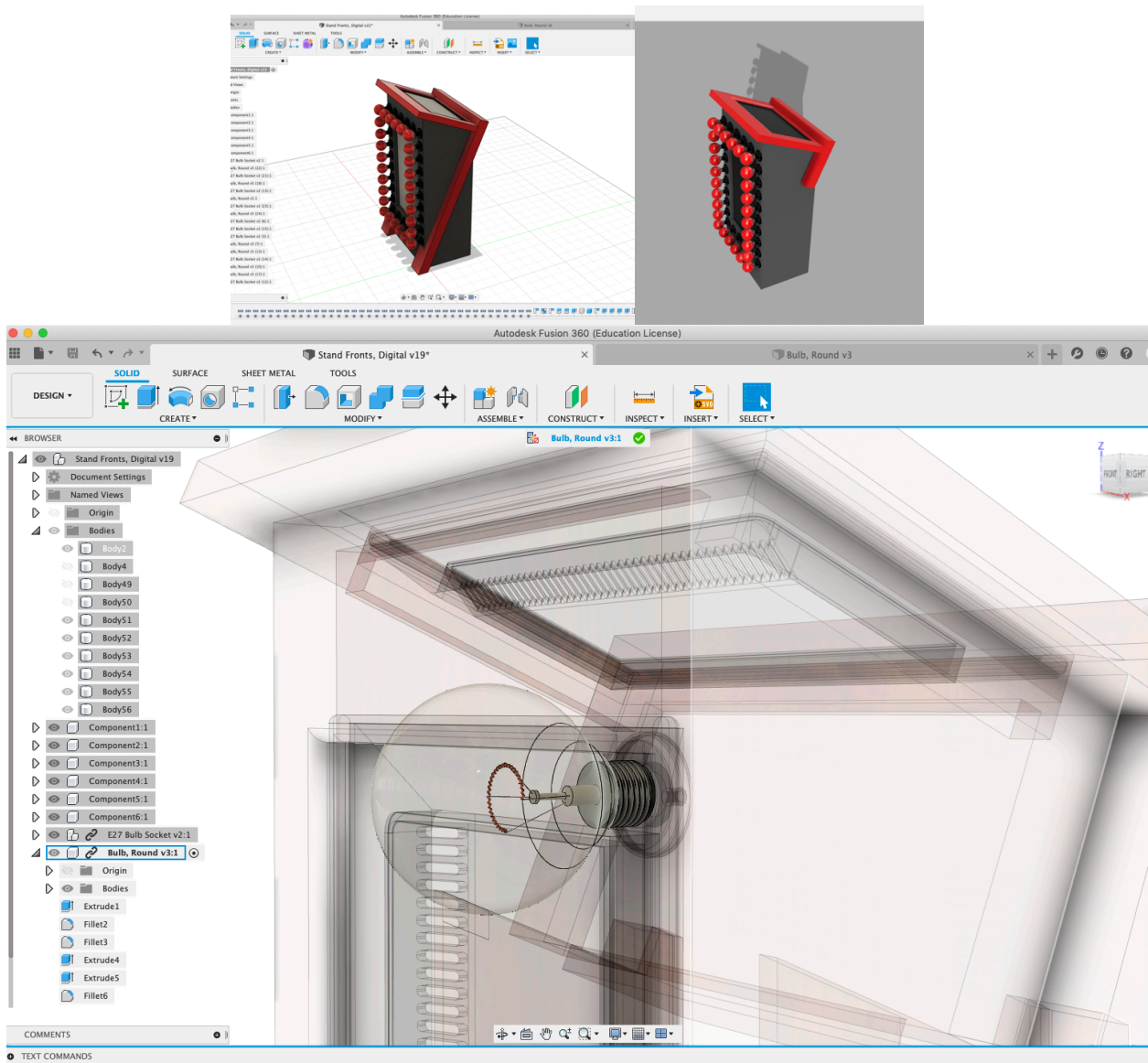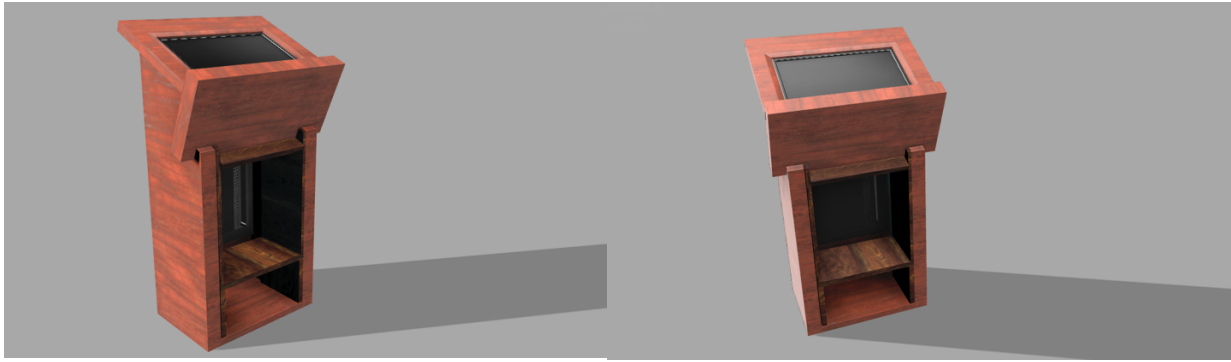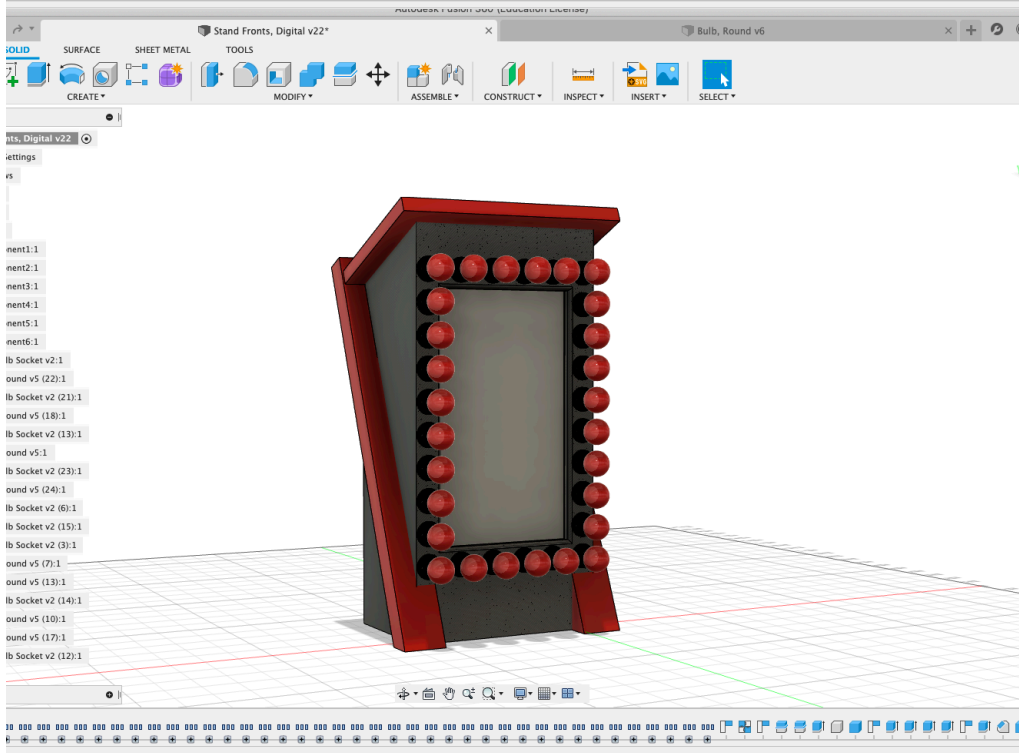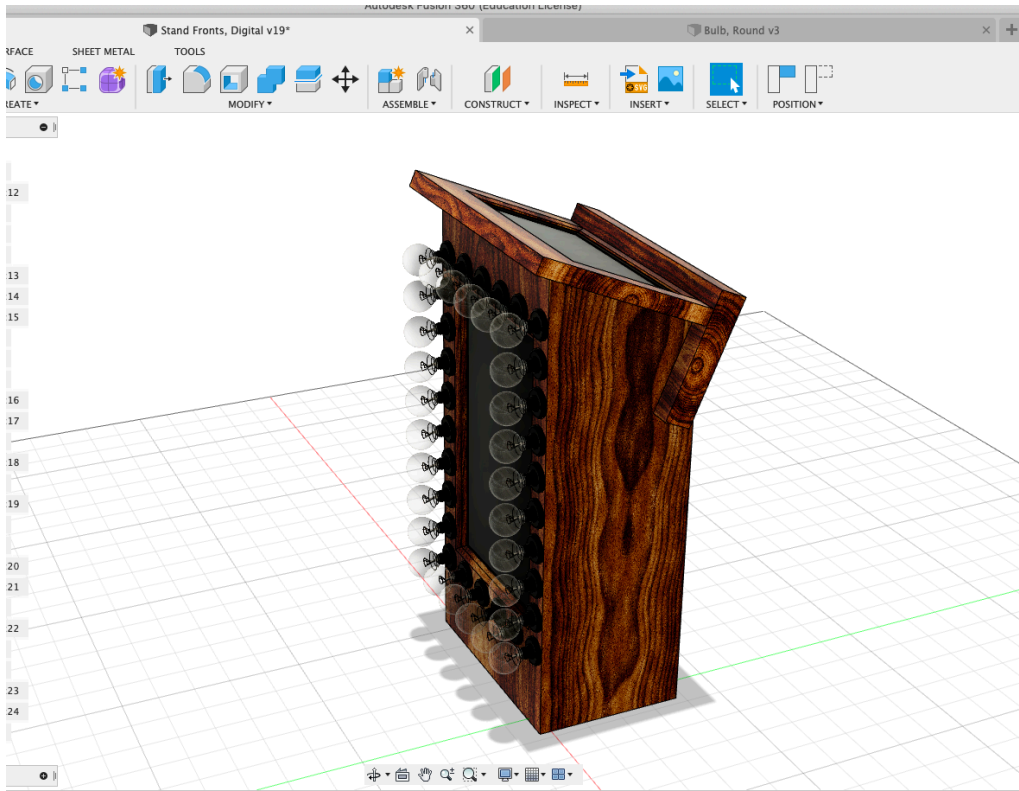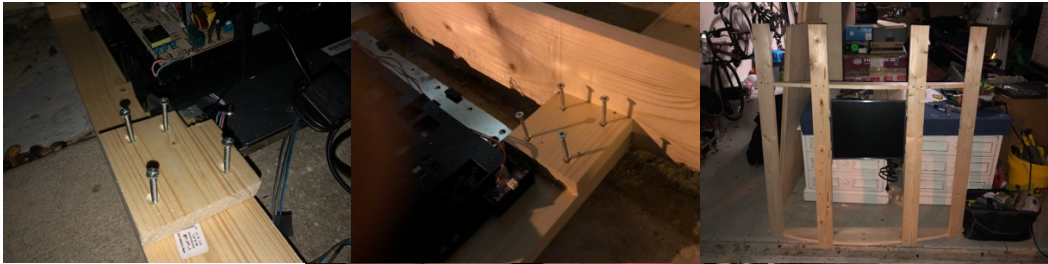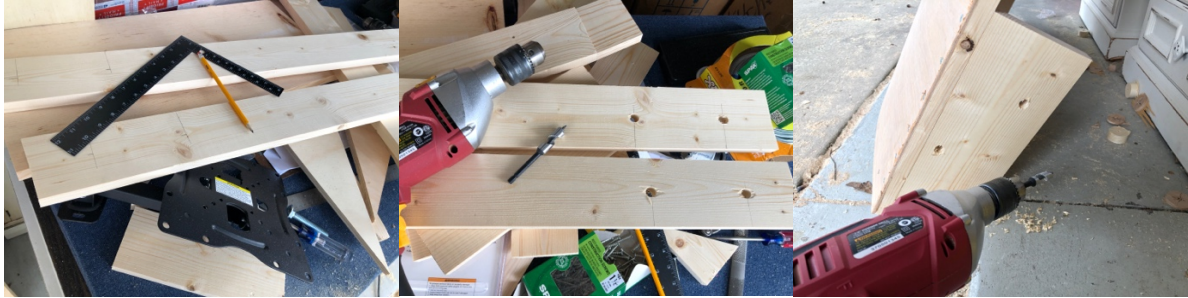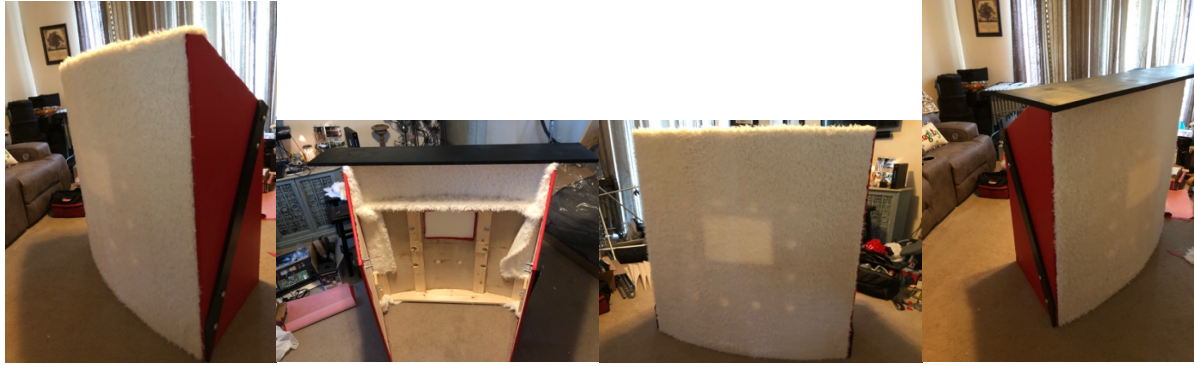
Production:

My senior project called for the use of many tools that I already owned in addition to a few that were purchased specifically to complete the production process. The compound miter saw, jig saw, and power drill were the most heavily utilized wood working tools throughout the build.
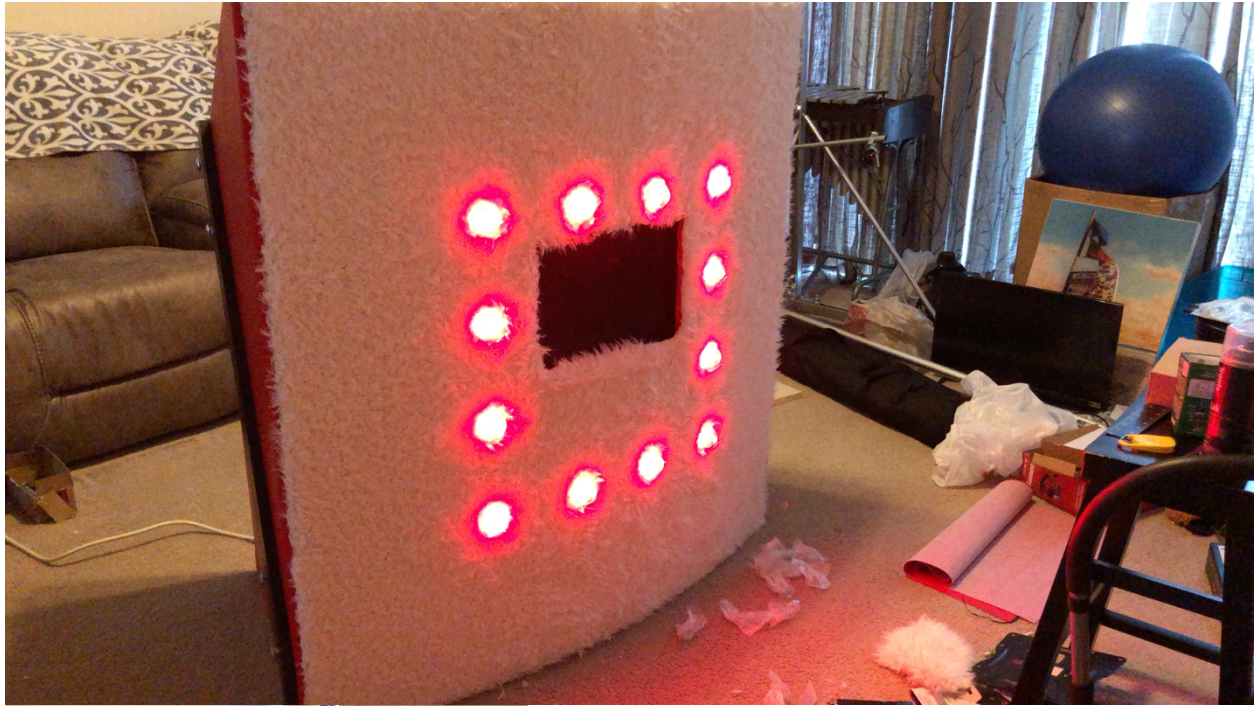
Post Production: