ARI BLUMBERG

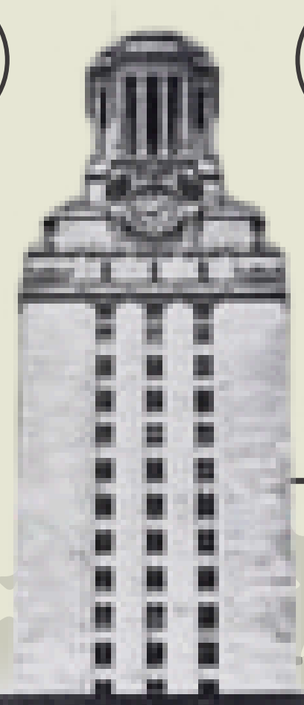
FALL 2025

RETINAL CIRCUIT

IMMERSIVE A/V INSTALLATION AT THE UNIVERSITY OF TEXAS

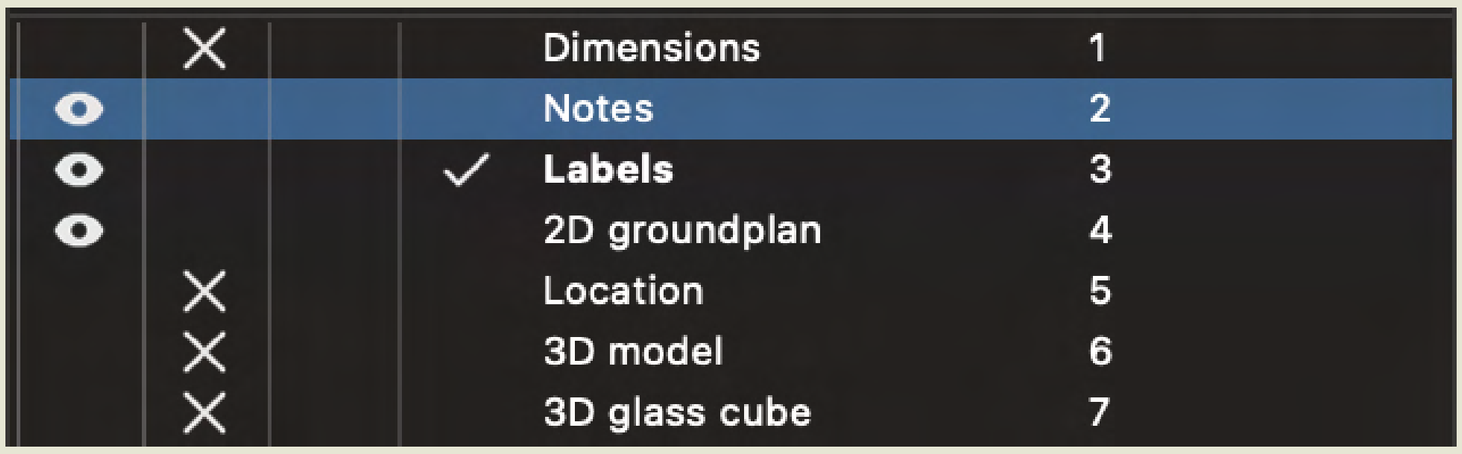
3D PREVIS FOR

LIVE EVENTS

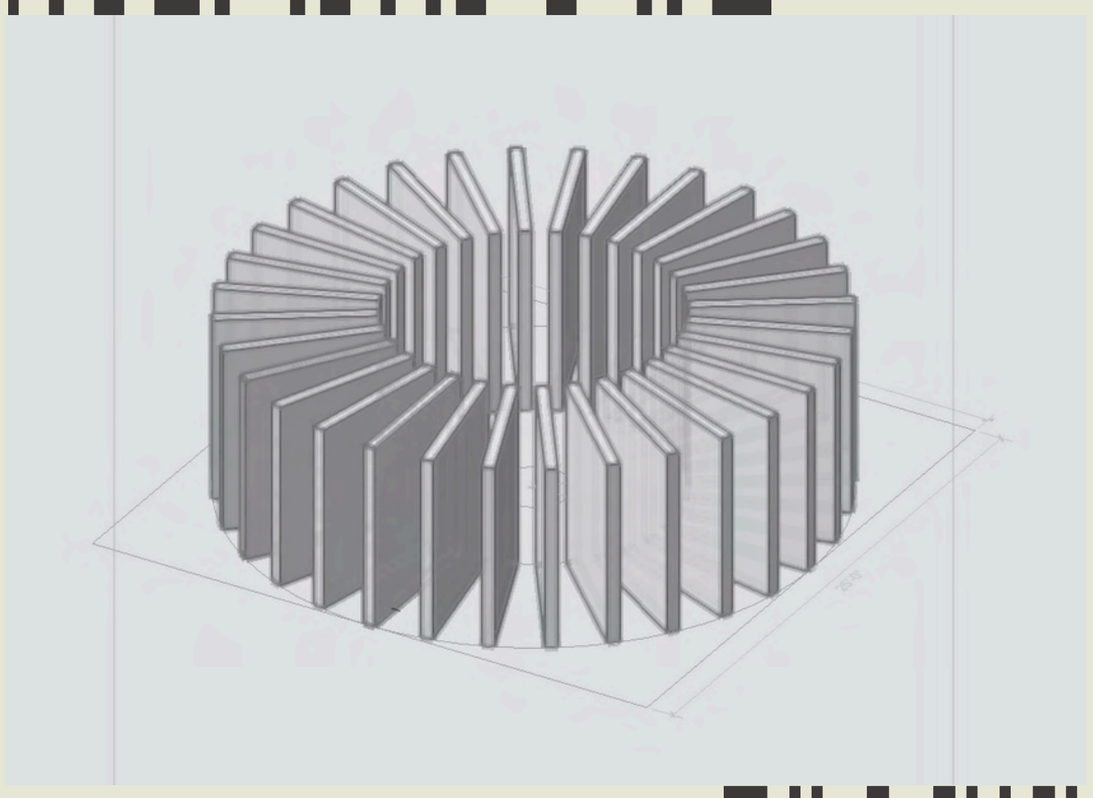


UT TOWER MAIN MALL

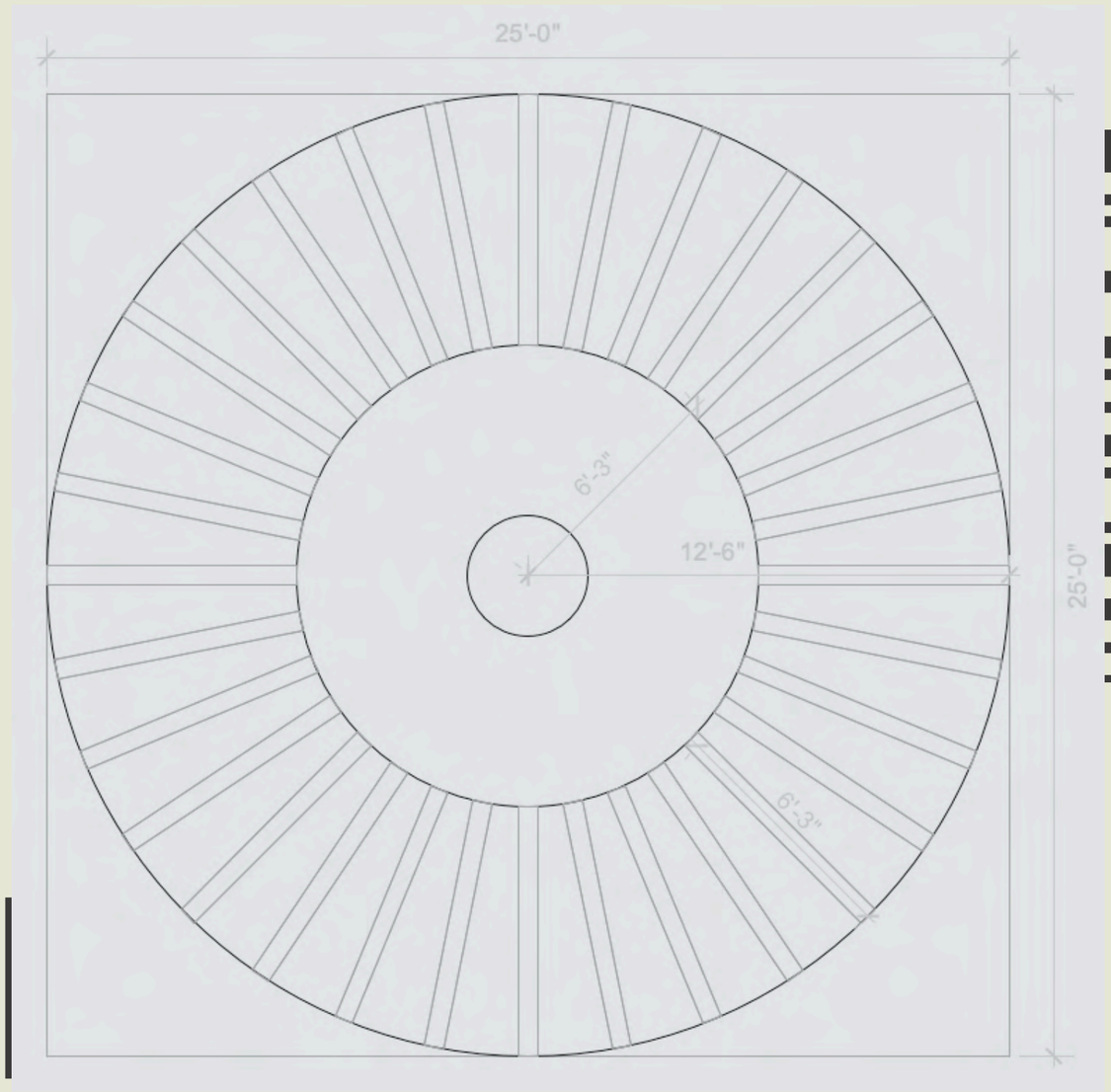
WEEK #2



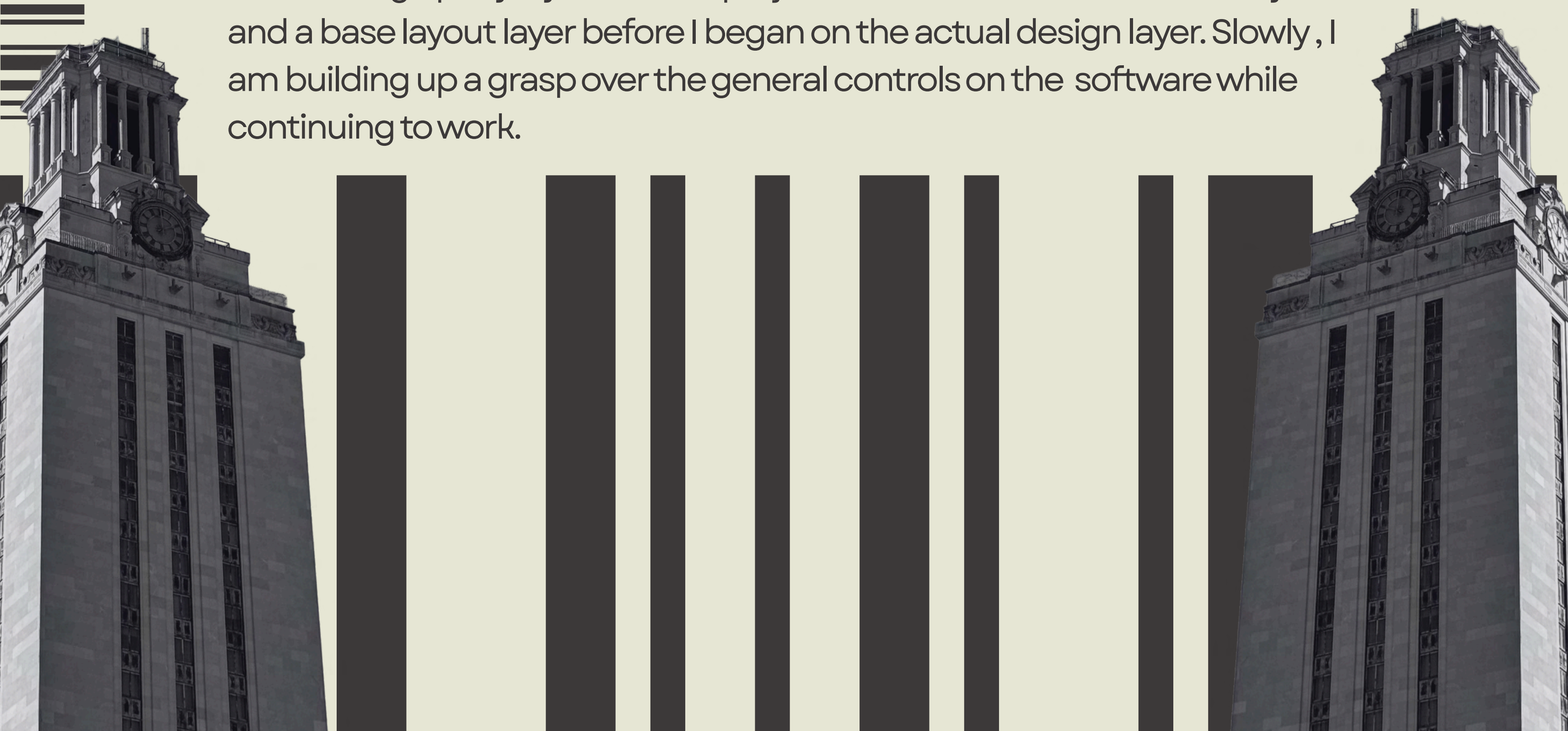
Established some layers to help organize my work by the function of the layer.



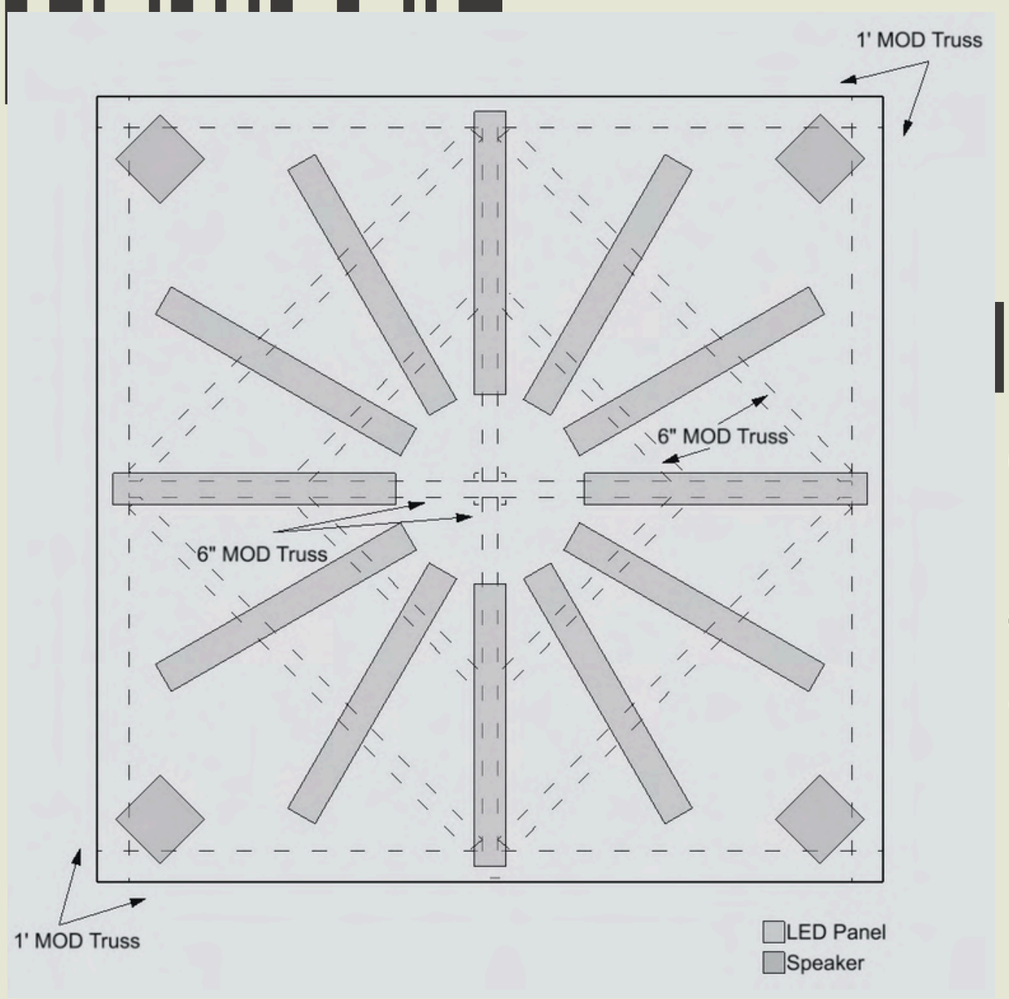
Set up a base of the geometry for my concept.



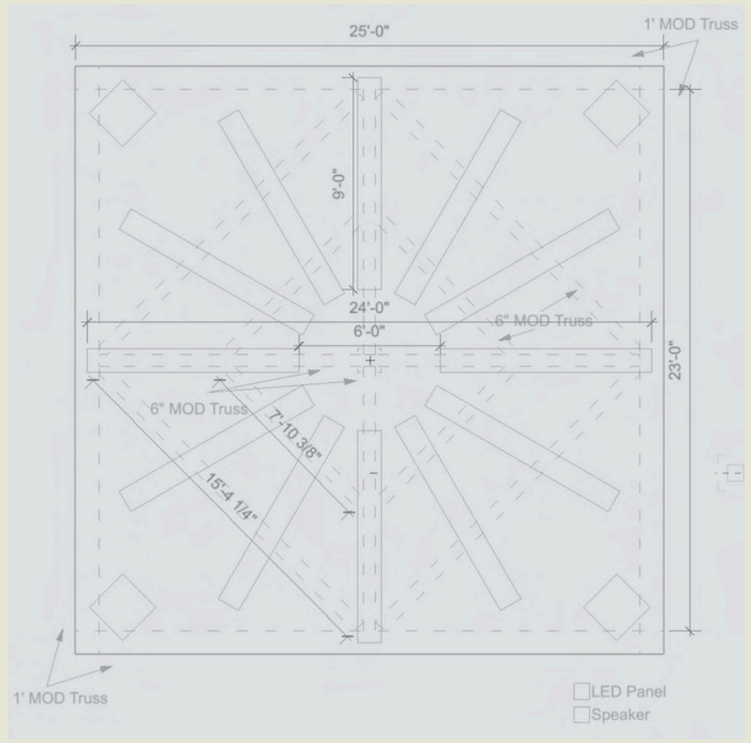
This week I began to learn about the Vectorworks interface and controls. I set up all my settings the way I want them , at least for now. Then, I started with setting up my layers for this project. I created a measurments layer and a base layout layer before I began on the actual design layer. Slowly , I am building up a grasp over the general controls on the software while continuing to work.



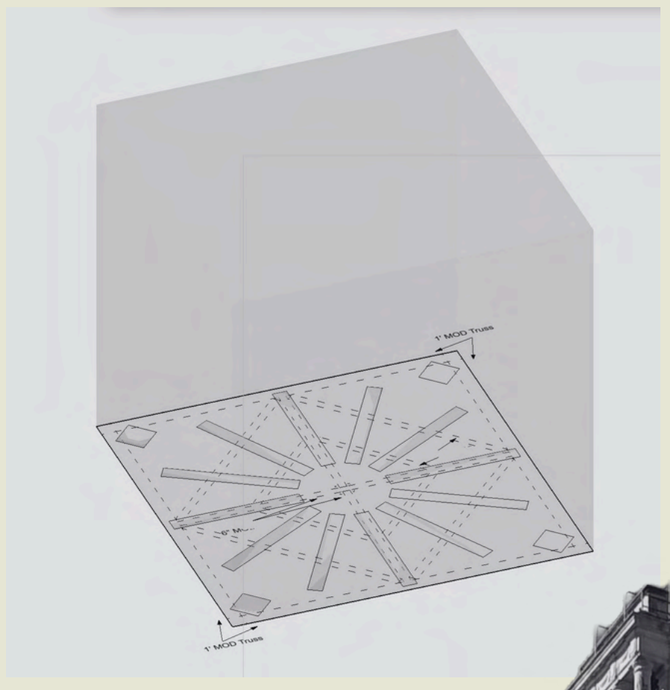
WEEK #3



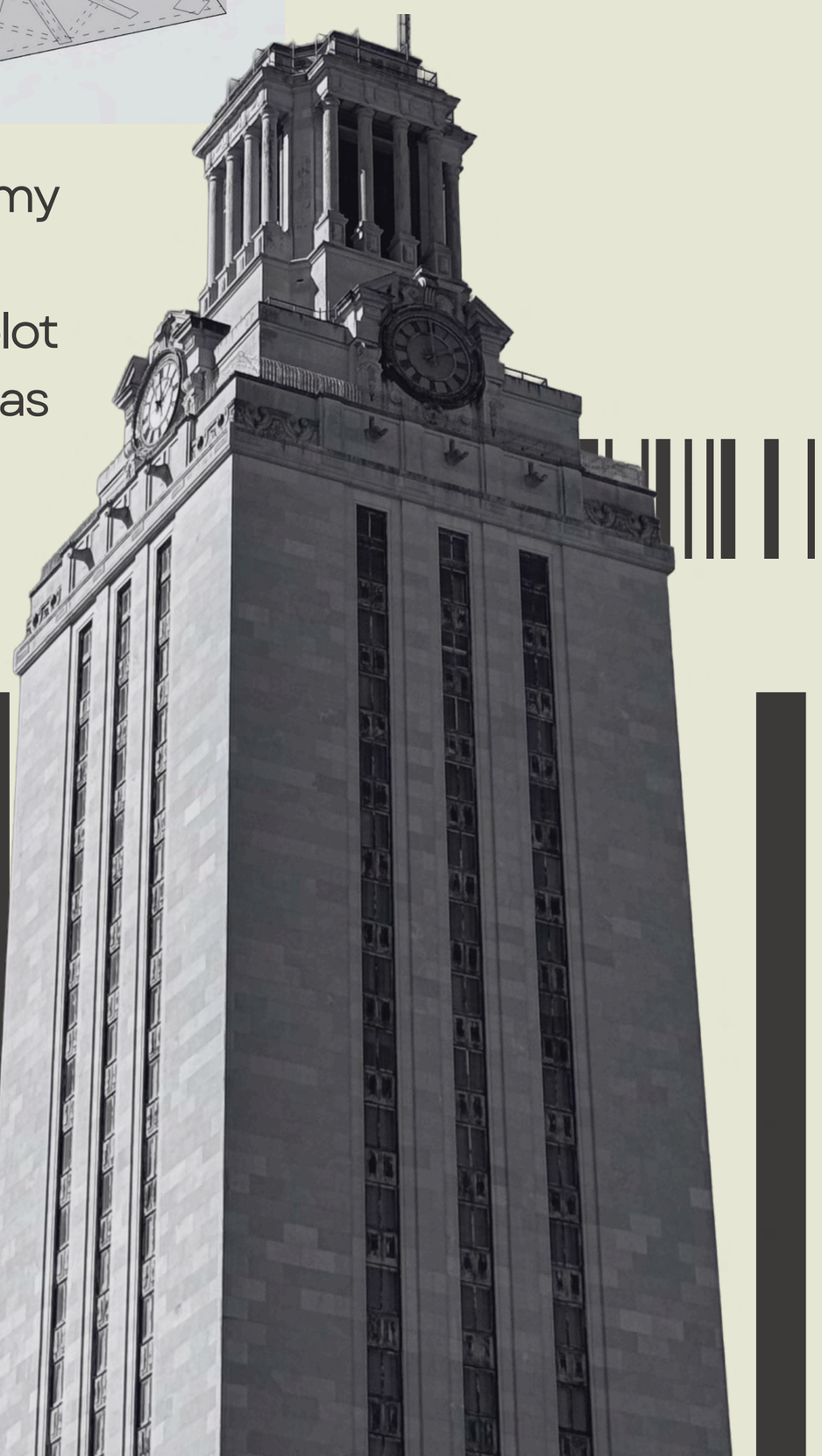
Groundplan progress including dimensions, notes, and labels.



Ghost cube representing the installation space.

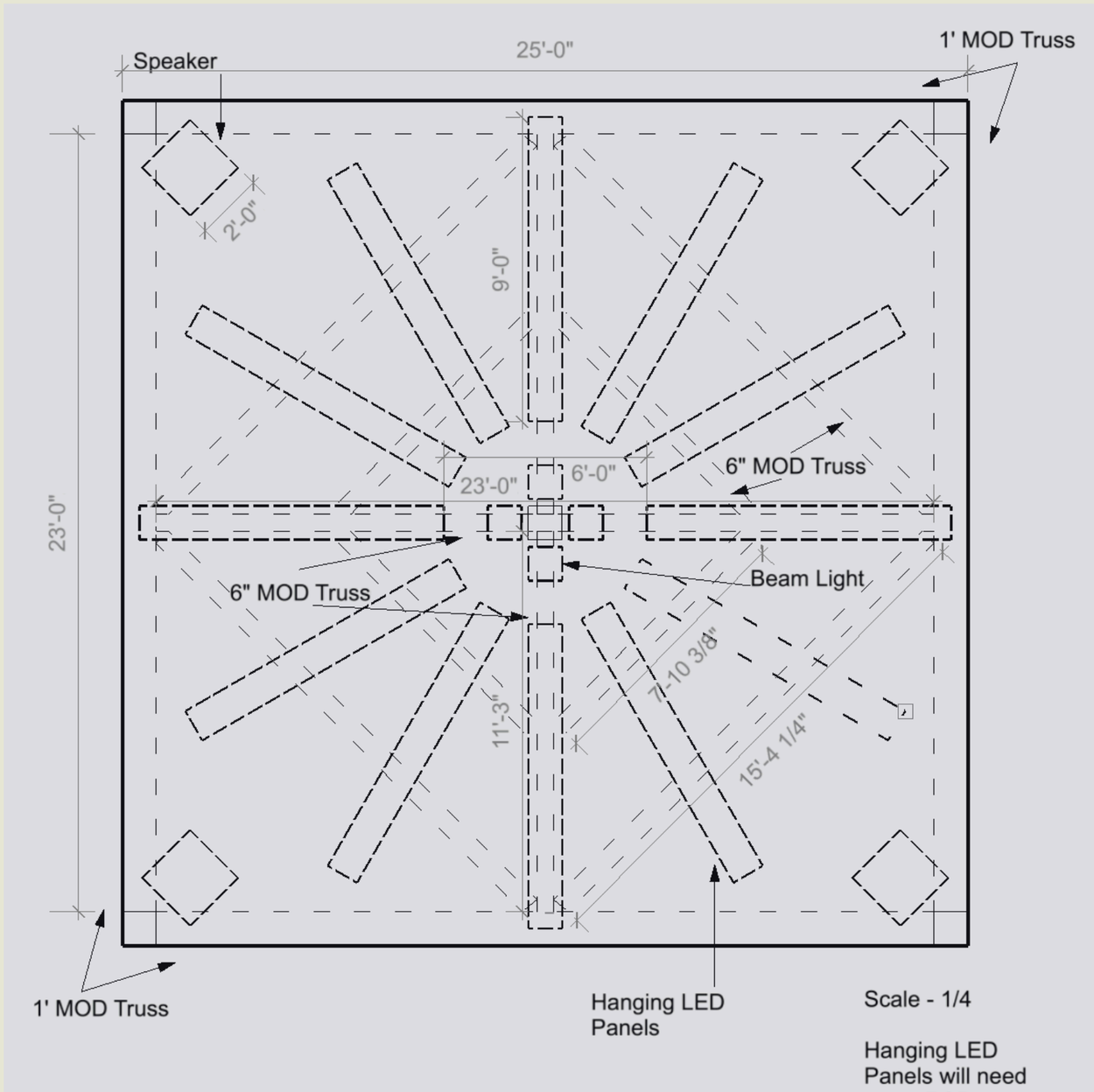


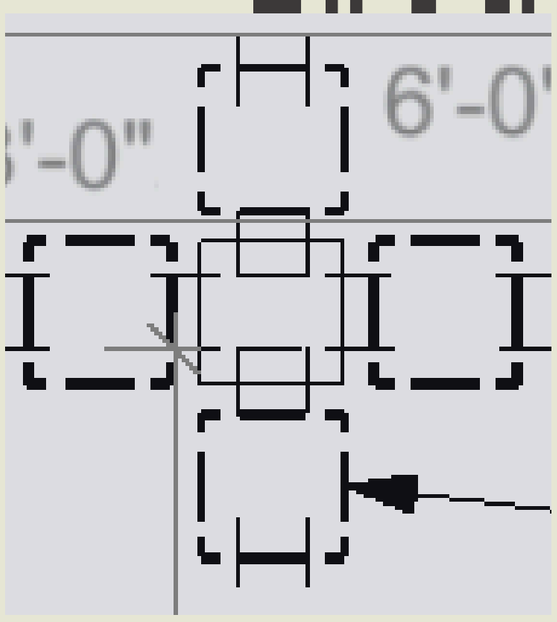
I spent my time this week working on the groundplan for my installation. I started with creating a “ghost cube” to represent the boundaries of the space. Then, I began to plot out where truss will go In order to support the LED panels as well as where the panels themselves will be living. I am chosing specific colors/line types to represent different objects or functions.



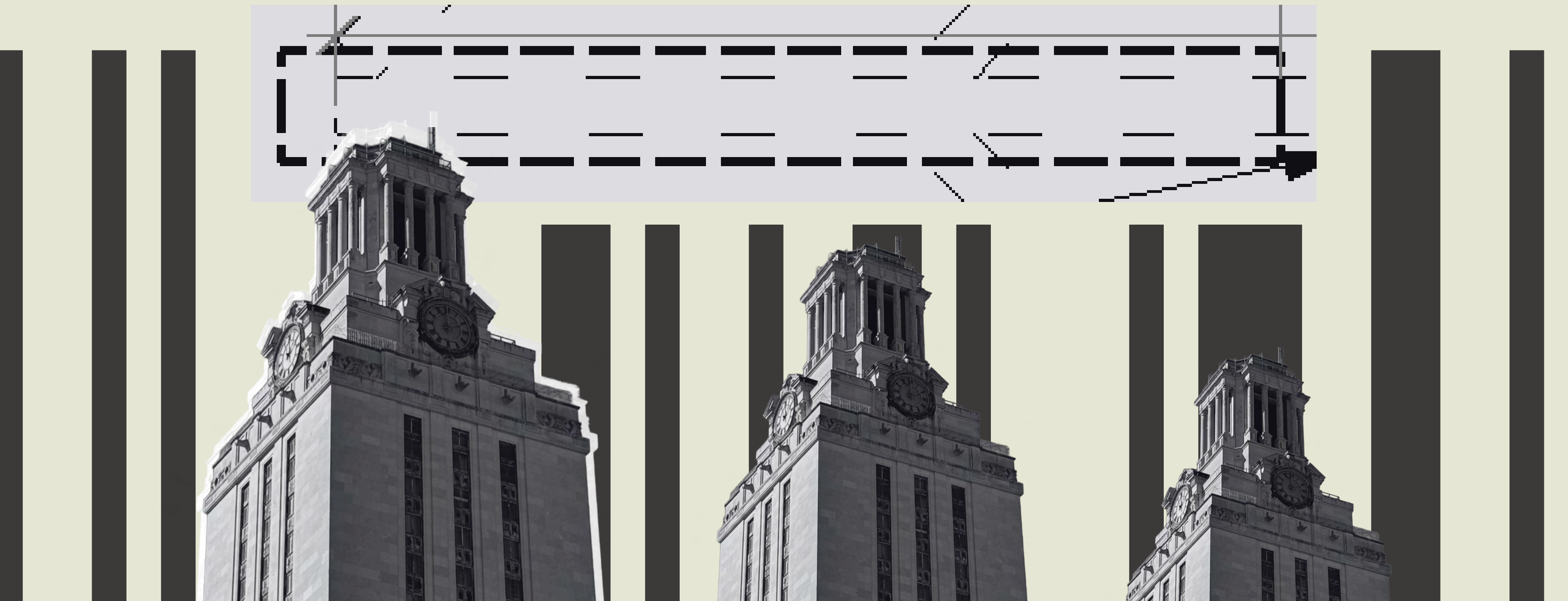
WEEK #4

This week I focused on hammering out the details while working on my ground plan. I finalized the measurements for each aspect of the design, and then laid it all out in vectorworks. I adjusted some line types and weights to clarify what is overhead as well as differentiating similar objects with labels.

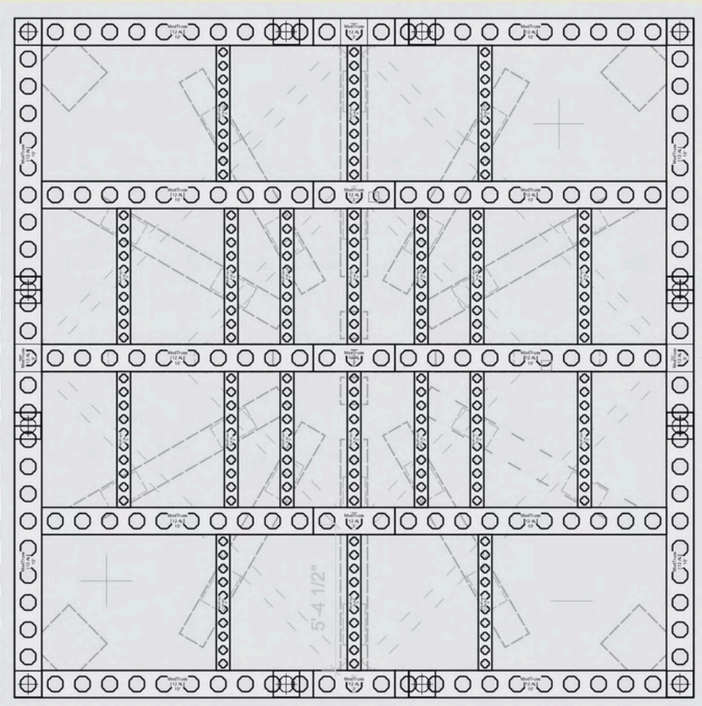




I want to highlight these two details. I have been conceptualizing a few different ways to get the LED panelling to function. I also decied to add beam lights around the center to both draw in viewers from afar and to guide people to stand within the structure.

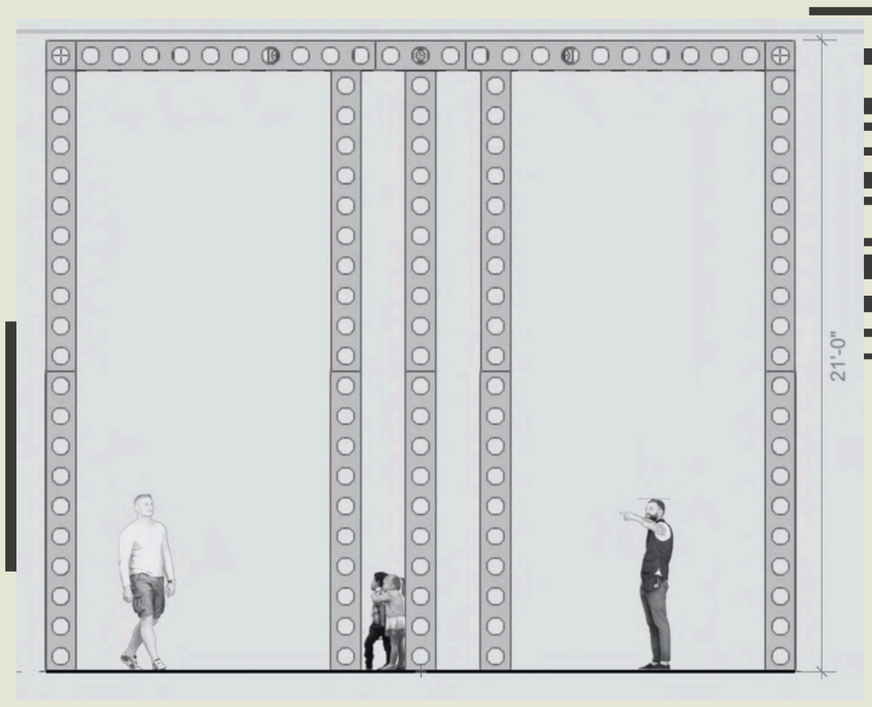


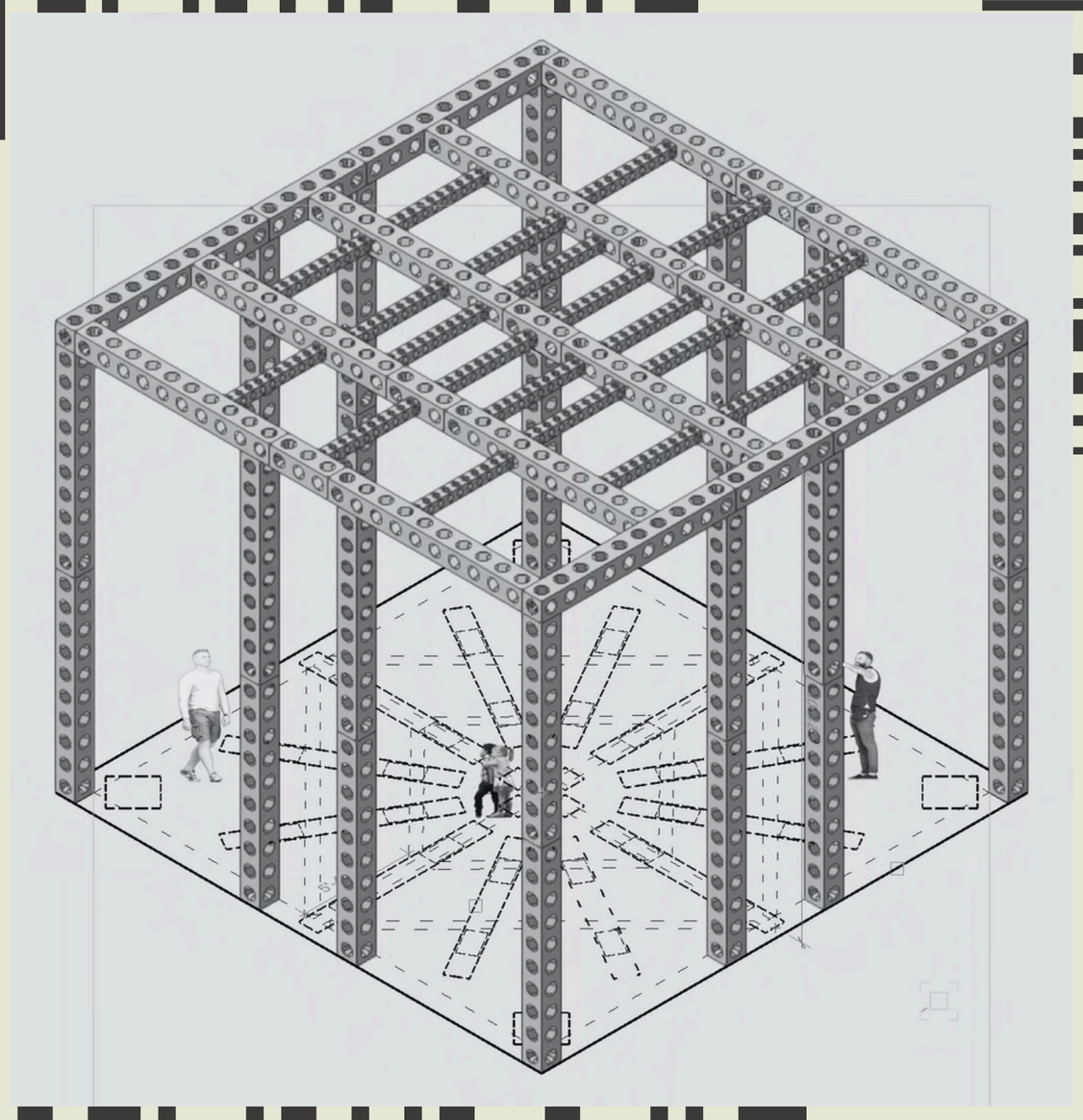
WEEK #5



To the left is the new new layout of overhead truss, taking Into account the connection points on MODTRUSS and the connection points for the hanging LEDs and hoists.

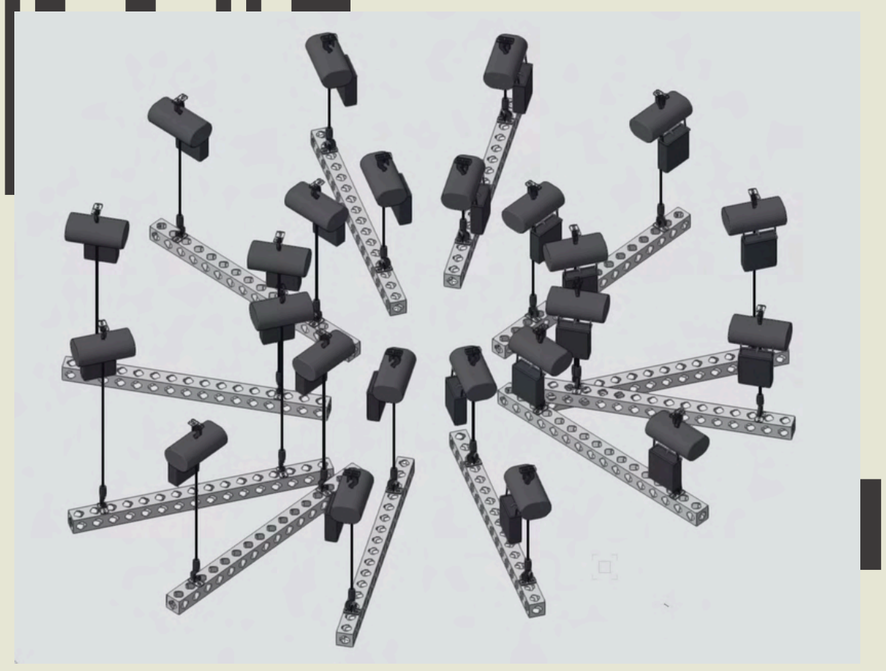
These all show the layout for the entire truss structure, and I decided to adjust from a full 25' height to 21'. I think that it will be more proportional for the viewers with this layout.



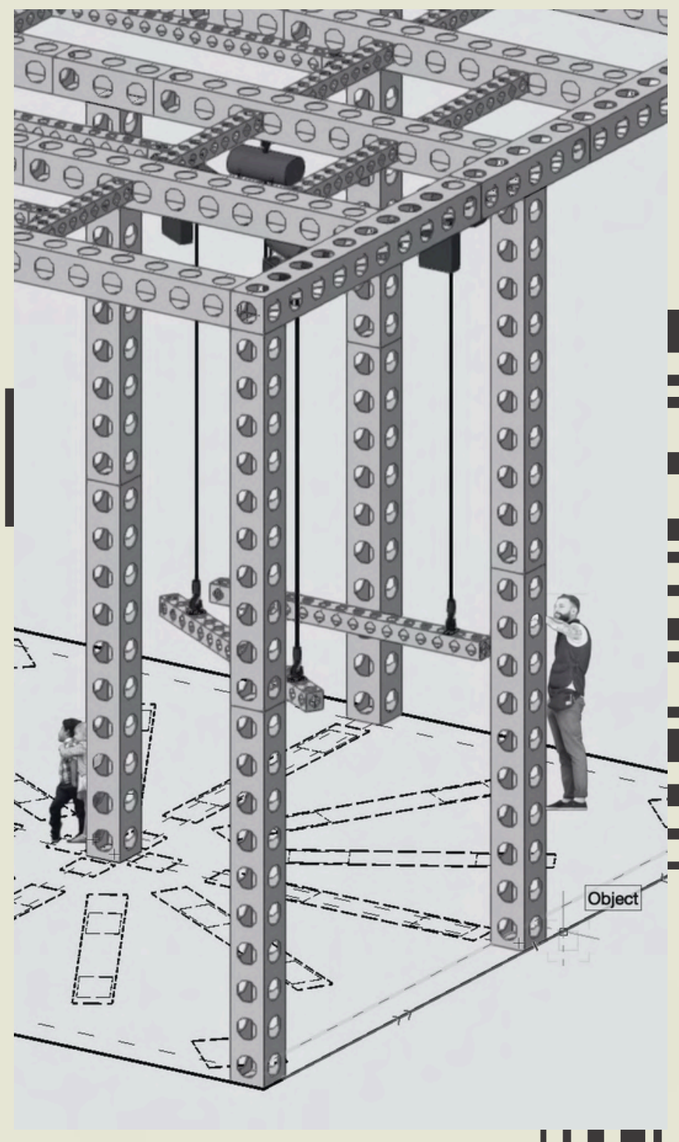


After the groundplan was more thoroughly thuught out, I began to 3D model the truss configuration using the library. I had to adjust the overhead truss layout so that I would actually be able to attatch the truss properly to both the main base and the hanging LED panels. It required some maneuvering but I think I got it down to a functional layout. I also started to research what kind of hoist would be necessary for the amount of weight that a 5'x5' grid of LEDs.

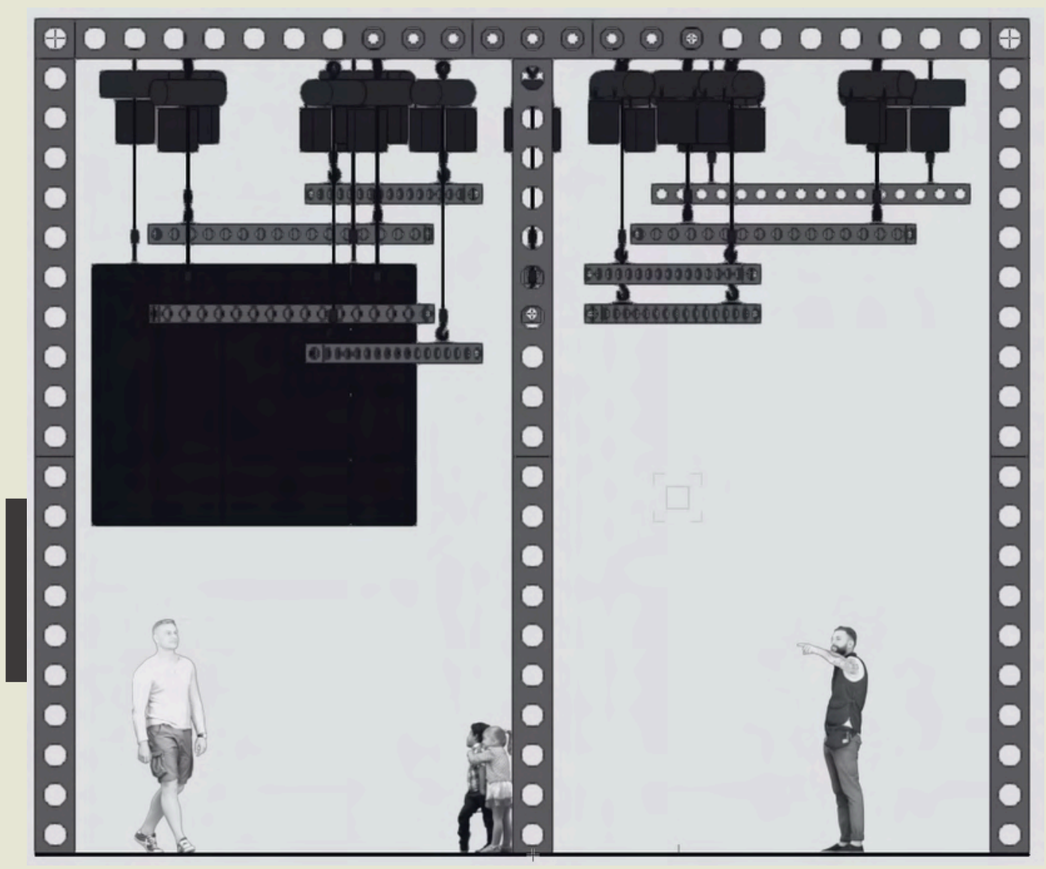
WEEK #6



Full hoist system setup Including rigging points on the overhead truss and the truss holding the LED panels. The lowest hanging truss will be 12' above the ground to allow for hanging LEDs to clear the average person's head.

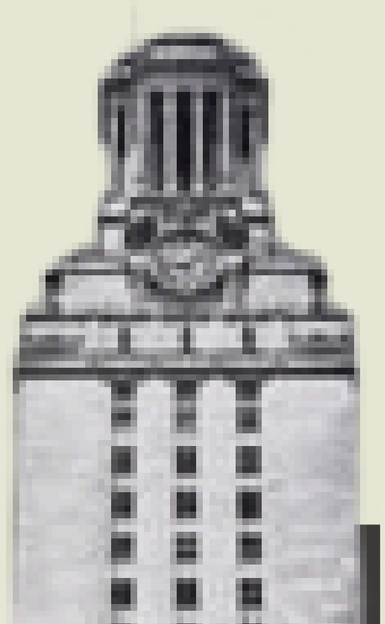


Hanging LED below shows the size in comparison to an adult and child viewer.



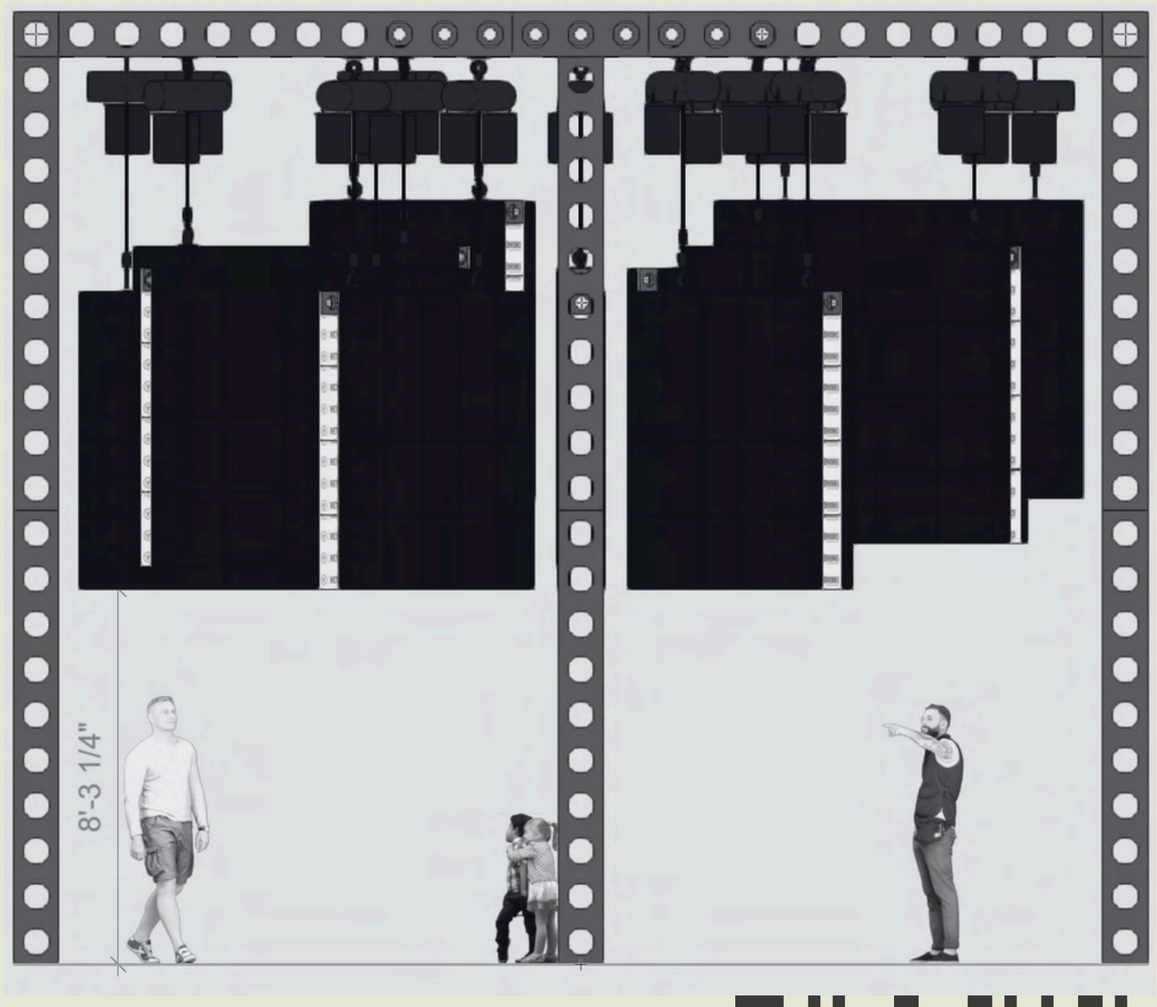
I also adjusted some of the general truss structure to adress the rigging points and to make the entire space more open.

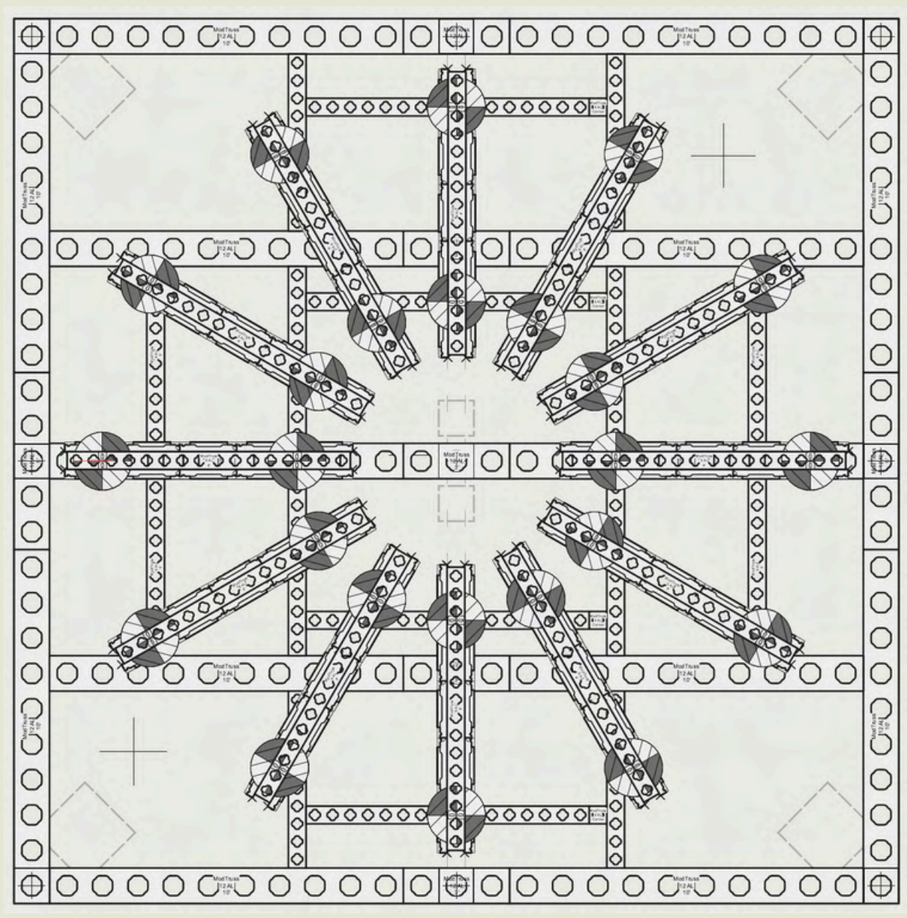
I focused on the layout and setup of the hoist system and truss to support the LED panels. This was a process requiring lots of patience because the hoists in Vectorworks tend to be a little glitchy. It took some time, but I got it to a point that looks exatly like my vision. The staggered heights for the actual performance would be moving to complement the content on the screens and surrounding audio.



WEEK #7

After seeing the height of the LED panels at their lowest point compared to the human figure, I decided to raise them up to prevent any viewer from messing with the equipment. Now, the space between the lowest panel and the ground is over 8 feet. It has been a process of trial and error to see what proportions work best for the space, but I am slowly narrowing that down.

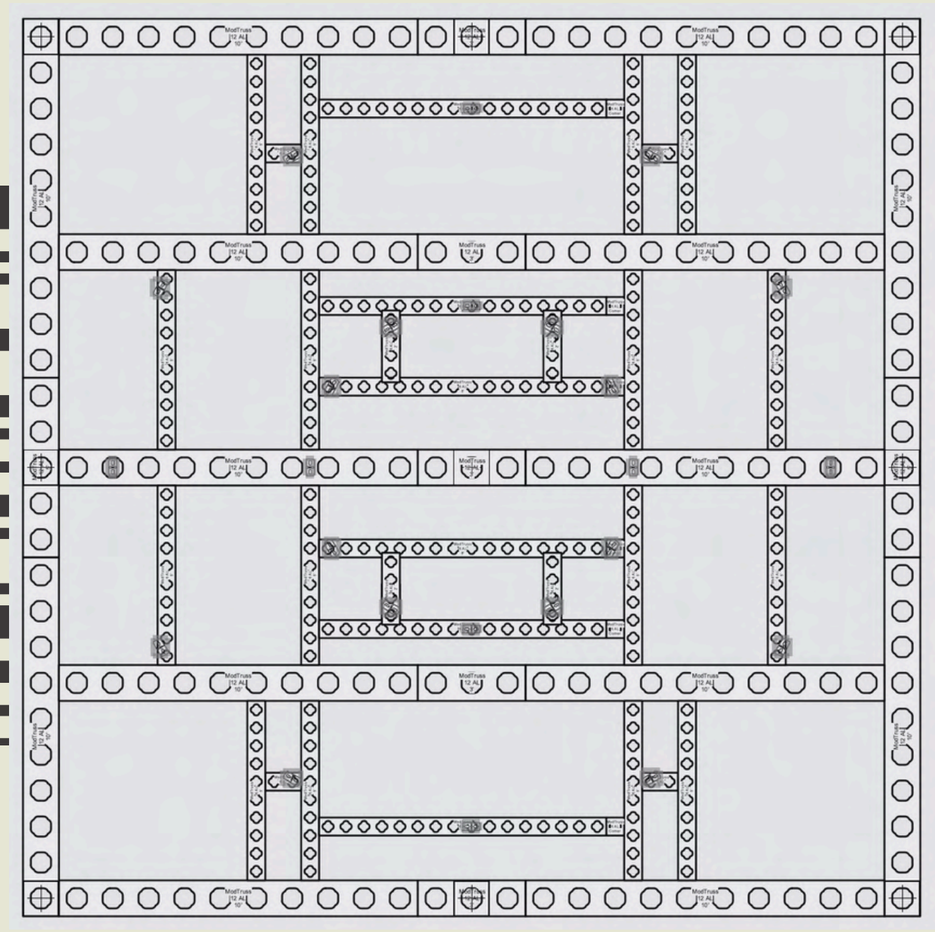




The ground plan above includes the hoist and LED systems, showing exactly where the hooks for attaching the hoists would live.

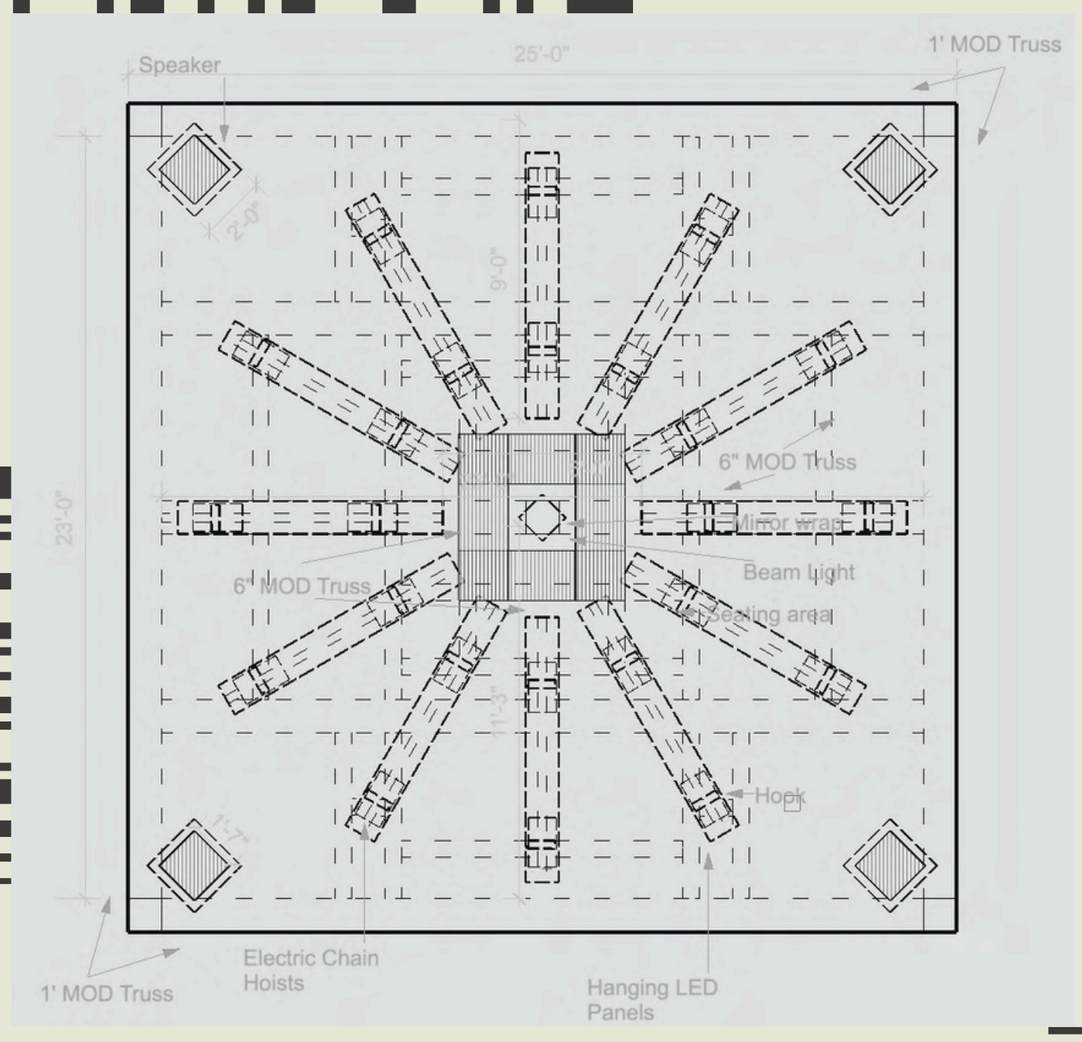
The image on the left shows the exact setup of 2 hoists attached to a beam for mounting the LEDs.

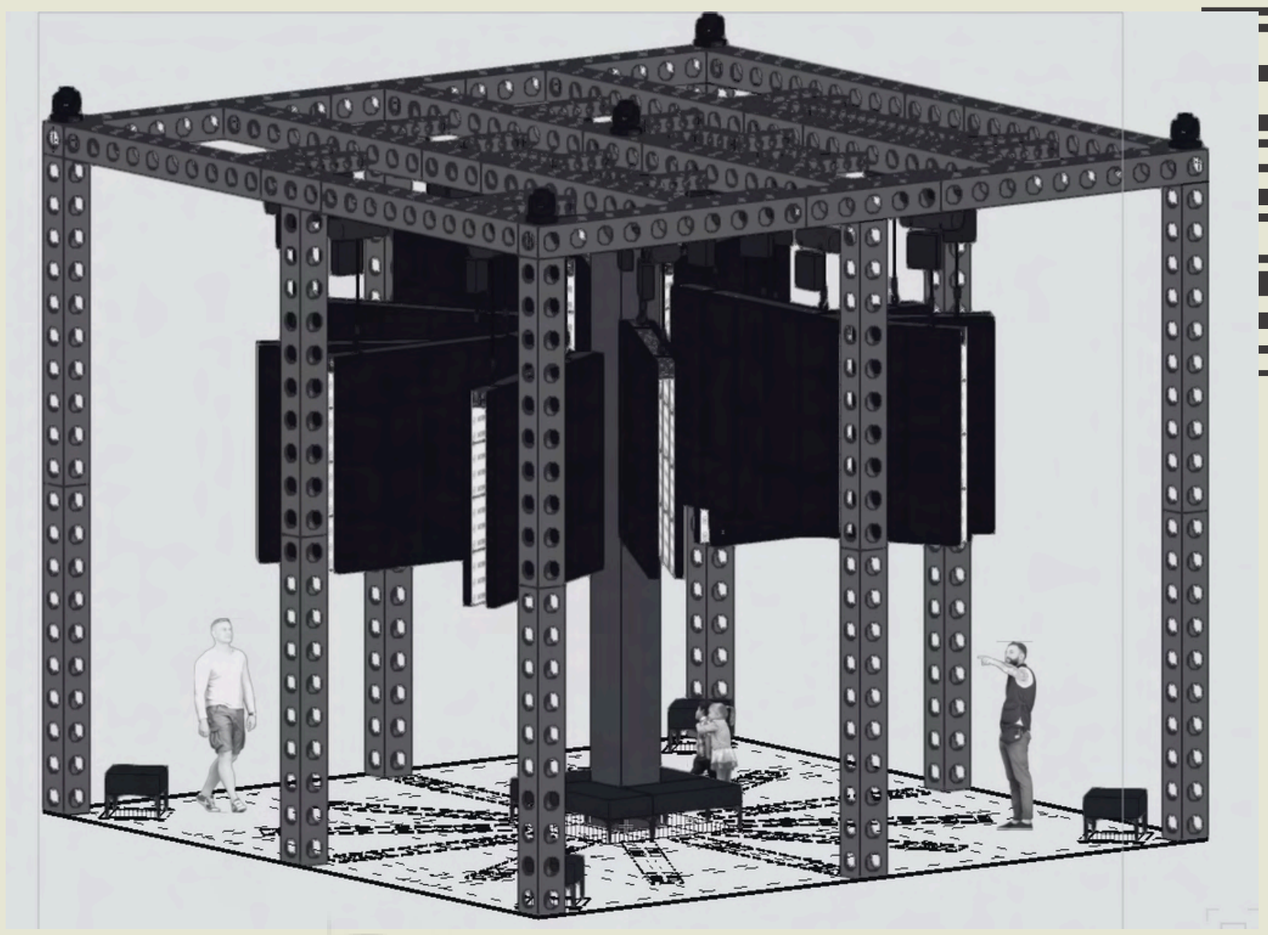
WEEK #8



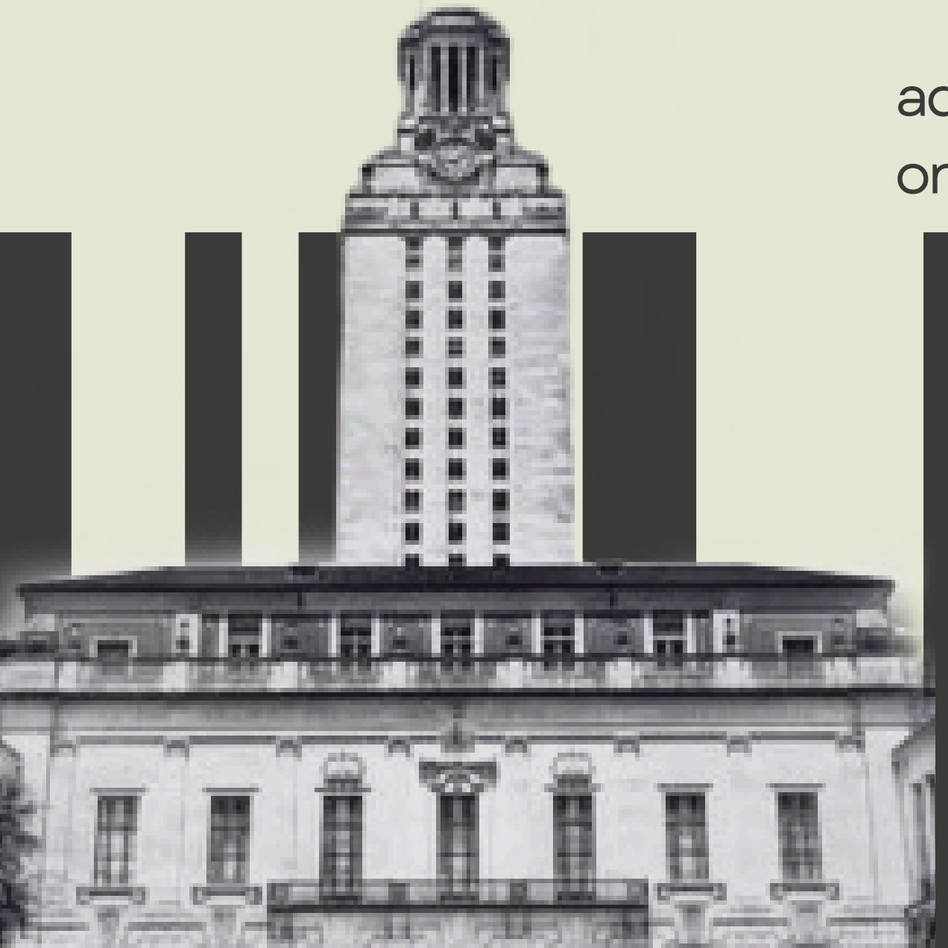
This as a new adjustment to the overhead truss layout. I shifted all of the 6" truss down to be flush with the bottom of the 12" truss as well as placing some new 6" beams wherever the hoist hooks need to connect.

I adjusted the groundplan to perfectly reflect all the changes made In the past few weeks.

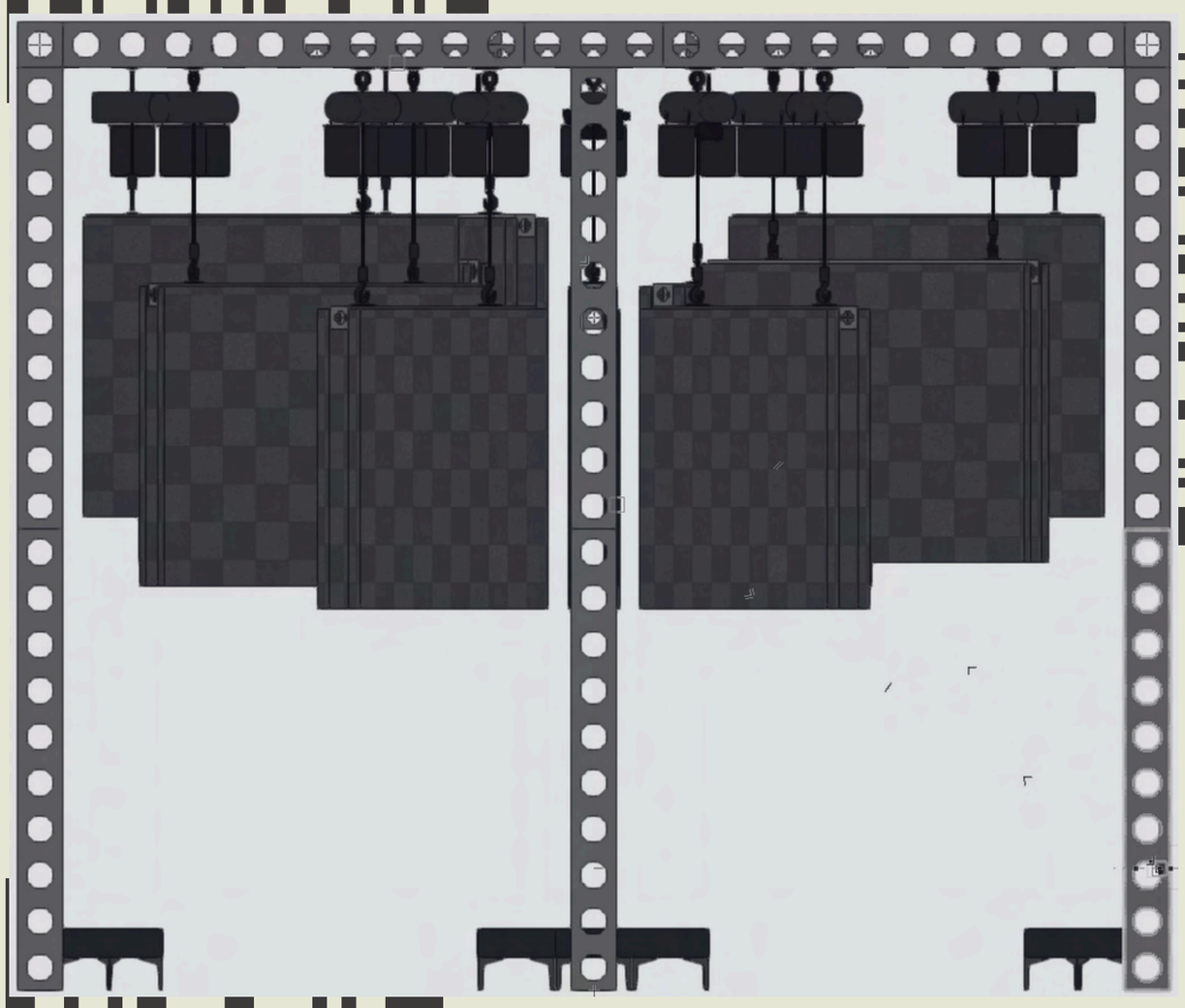




This week was spent focusing on details. The hoist and hook connections took a lot of trial and error to get lined up the way I want them, but finally I got it there. I also added some spaces to sit as well as moving head lights on the corners and center of the upper truss.

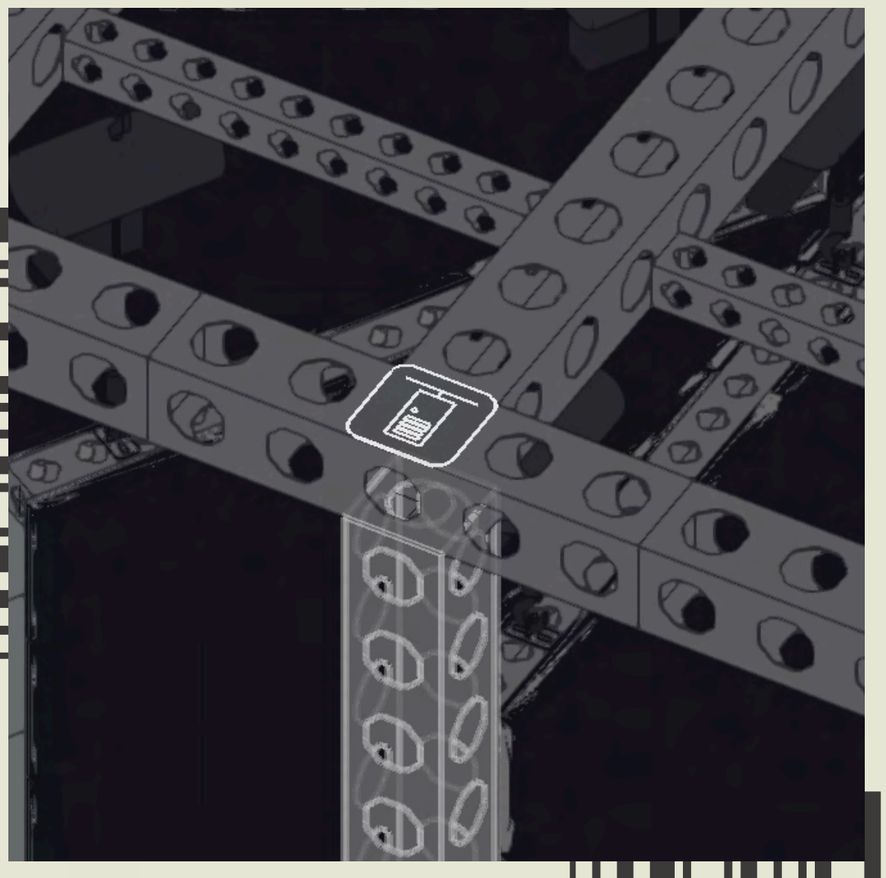


WEEK #9

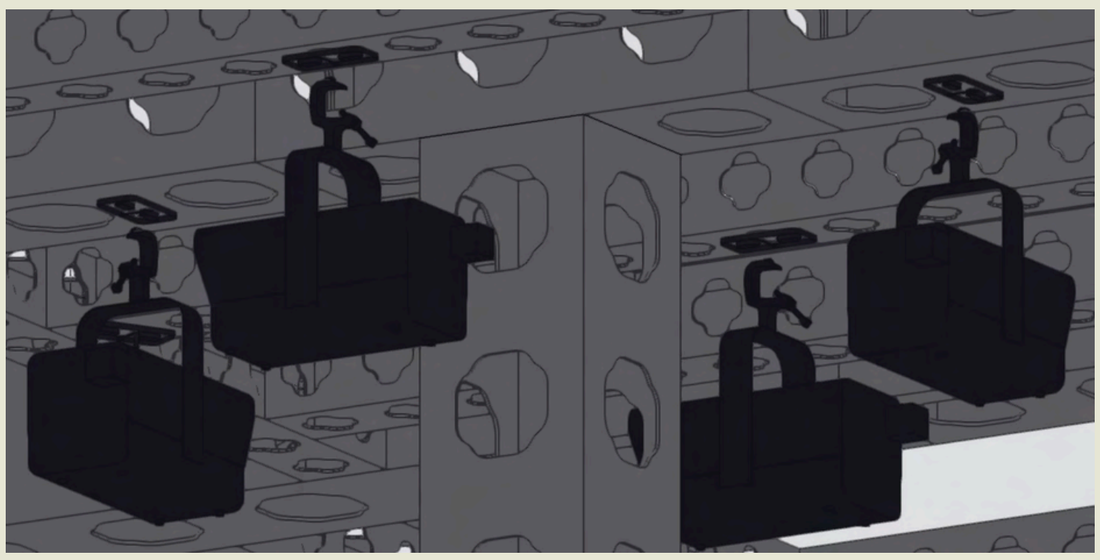


The checkered panels are all in the same class to allow for texturing to easily be swapped to show different content ideas.

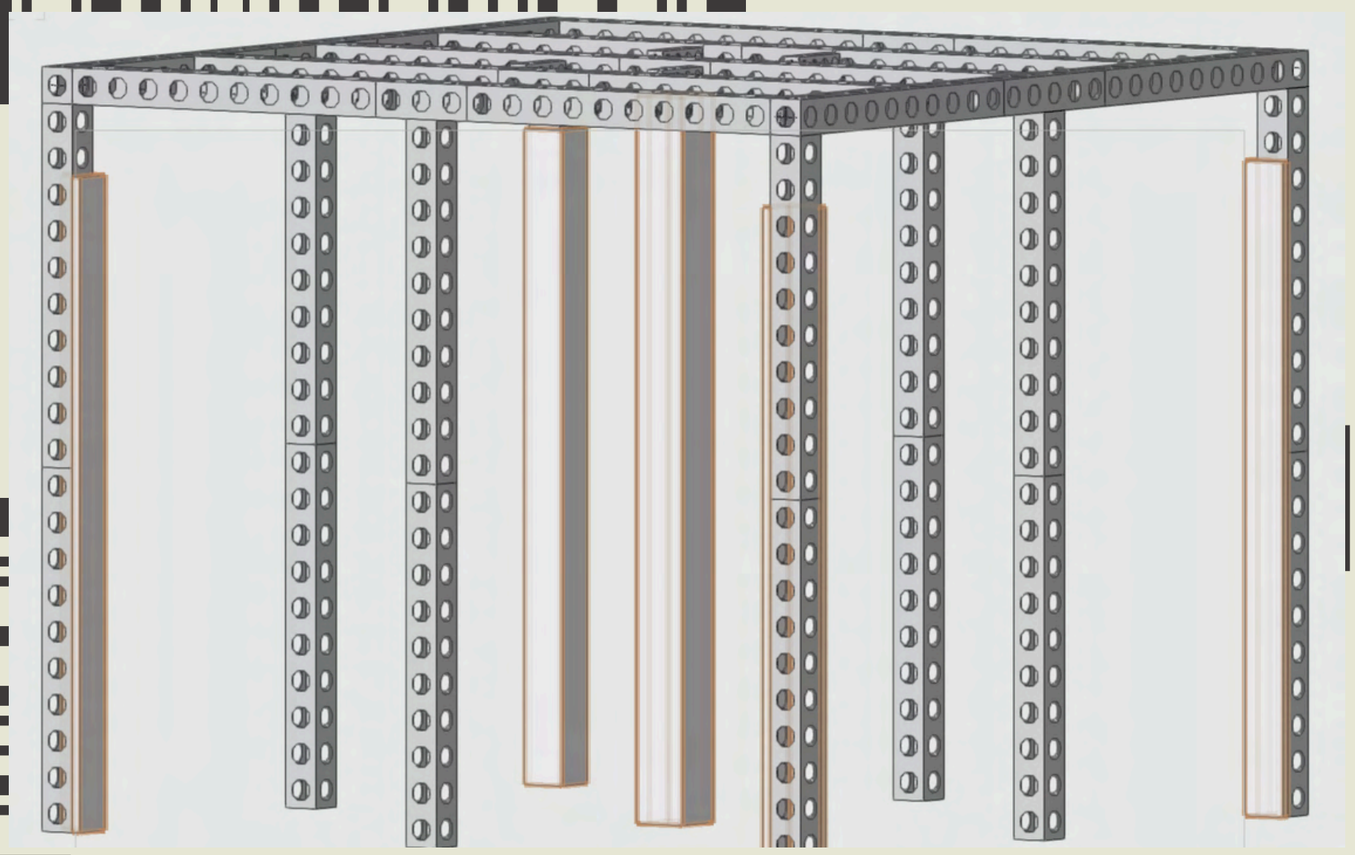
The central location of the haze machines can be seen on the bottom left image. The bottom right shows the location of the server overhead.



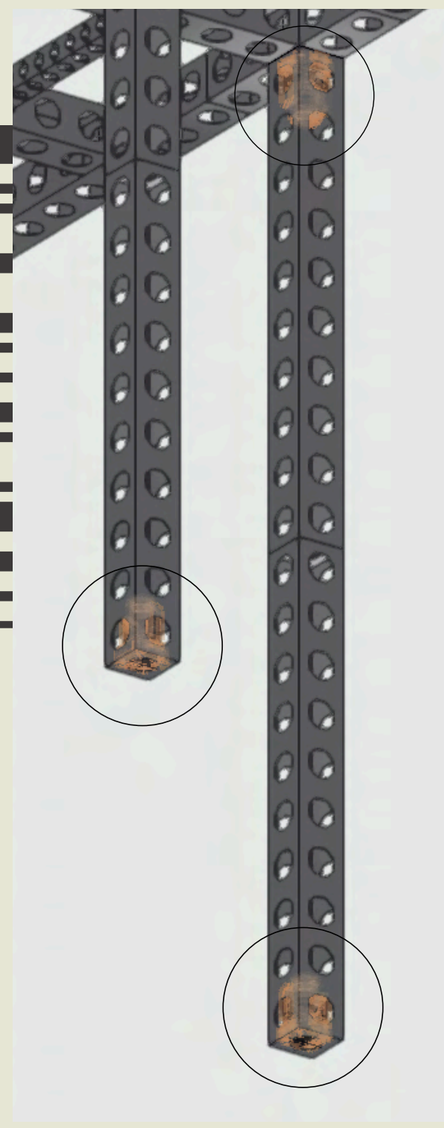
New panels have been added to represent the graphic content on the LED panels, utilizing rectangular shapes that I can texture. I added in a space to hide the server above the truss, and added haze machines that will create a waterfall of fog surrounding the centered pillar. I decided to wrap that pillar with a mirror to refect the entire installation from the center, allowing for interesting reflections from any angle.



WEEK #10

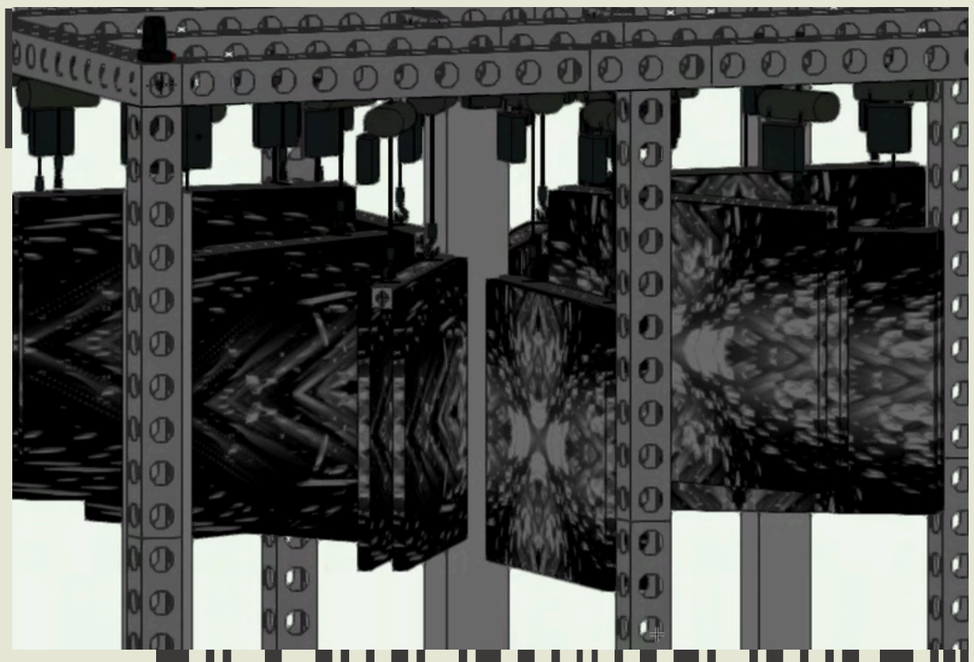


Additional mirrors added to the corner mod truss facing inwards to allow for more reflection views from all angles of the experience.

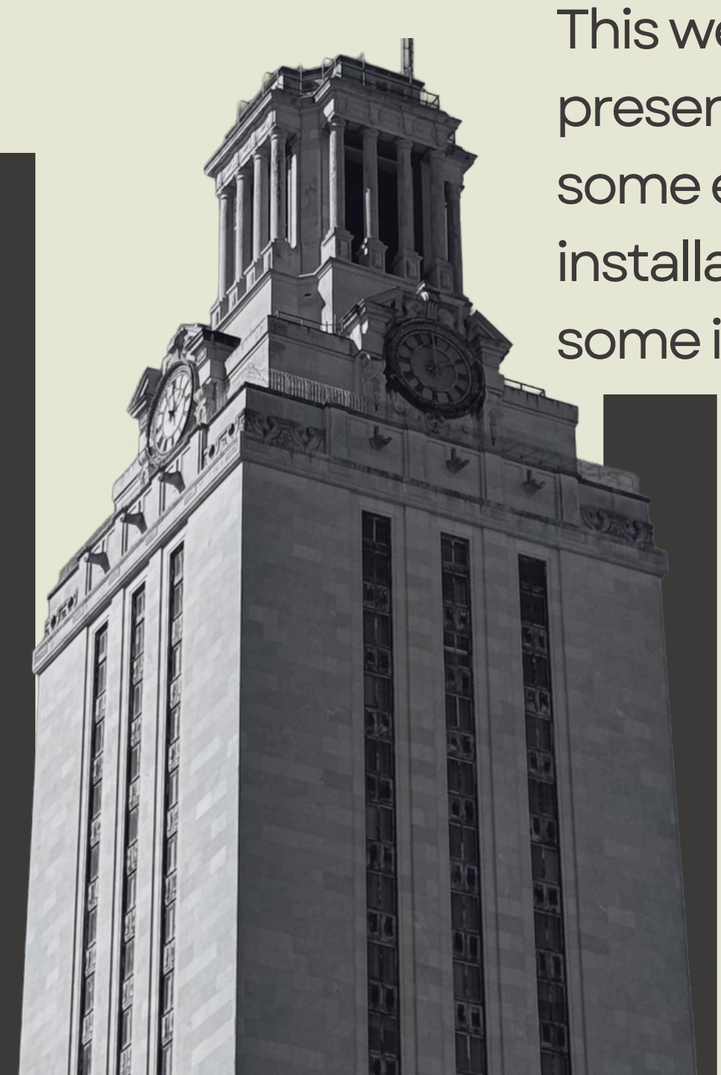


Par lights within the exterior truss that will provide ambient lighting from within the truss itself. This will both highlight the structural aesthetic of the truss and will be tied to the visuals and audio.

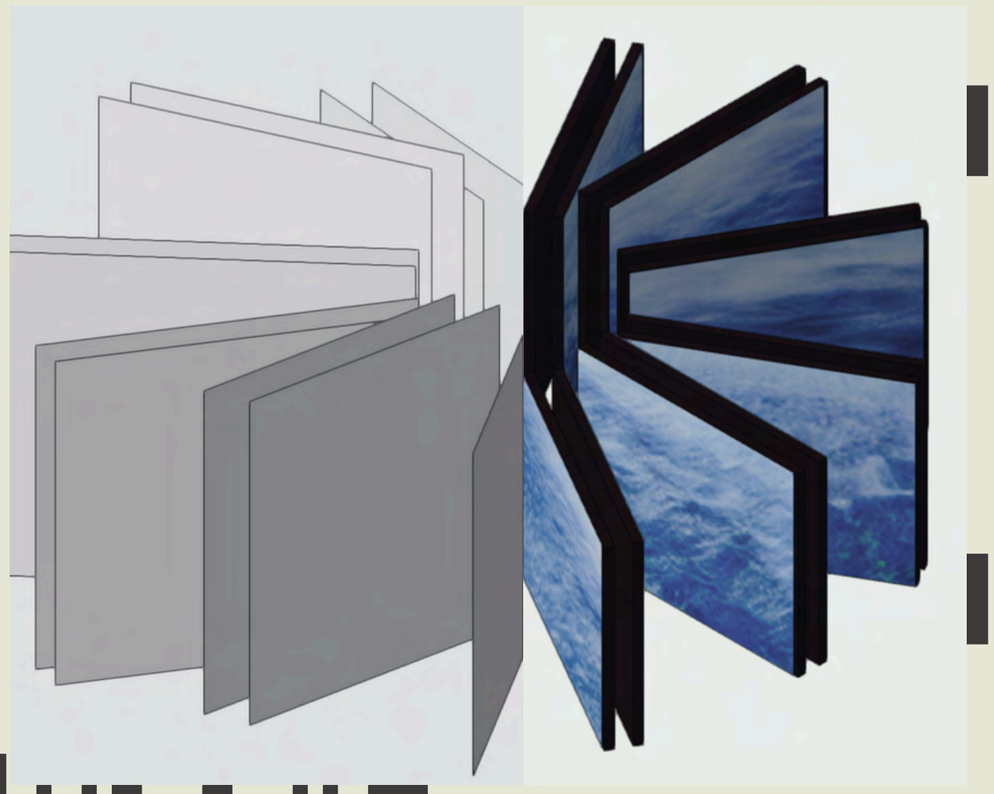
Tested a texture with a still from an audio reactive visual to see how it looks looks. I realize now that I will need to adjust the content panels to only display on the LED side.



This week, I took the comments I received after presenting to the class into account and added in some elements that build on the immersion of the installation. The feedback was helpful and brought up some ideas I hadn't considered yet.

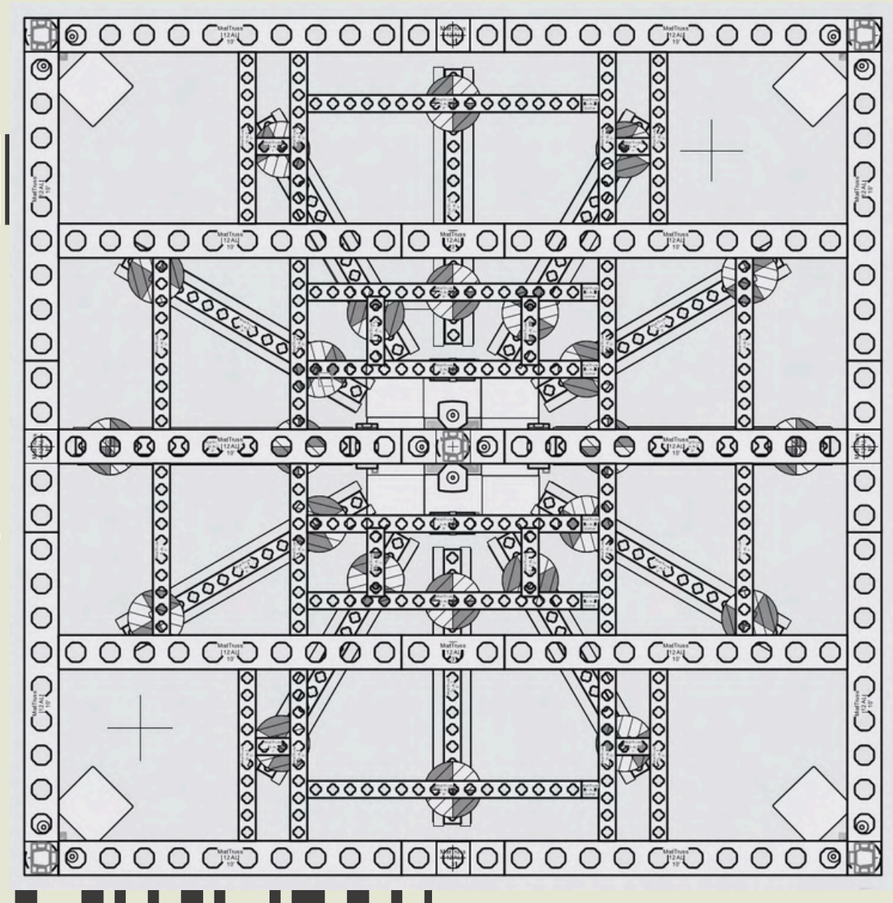


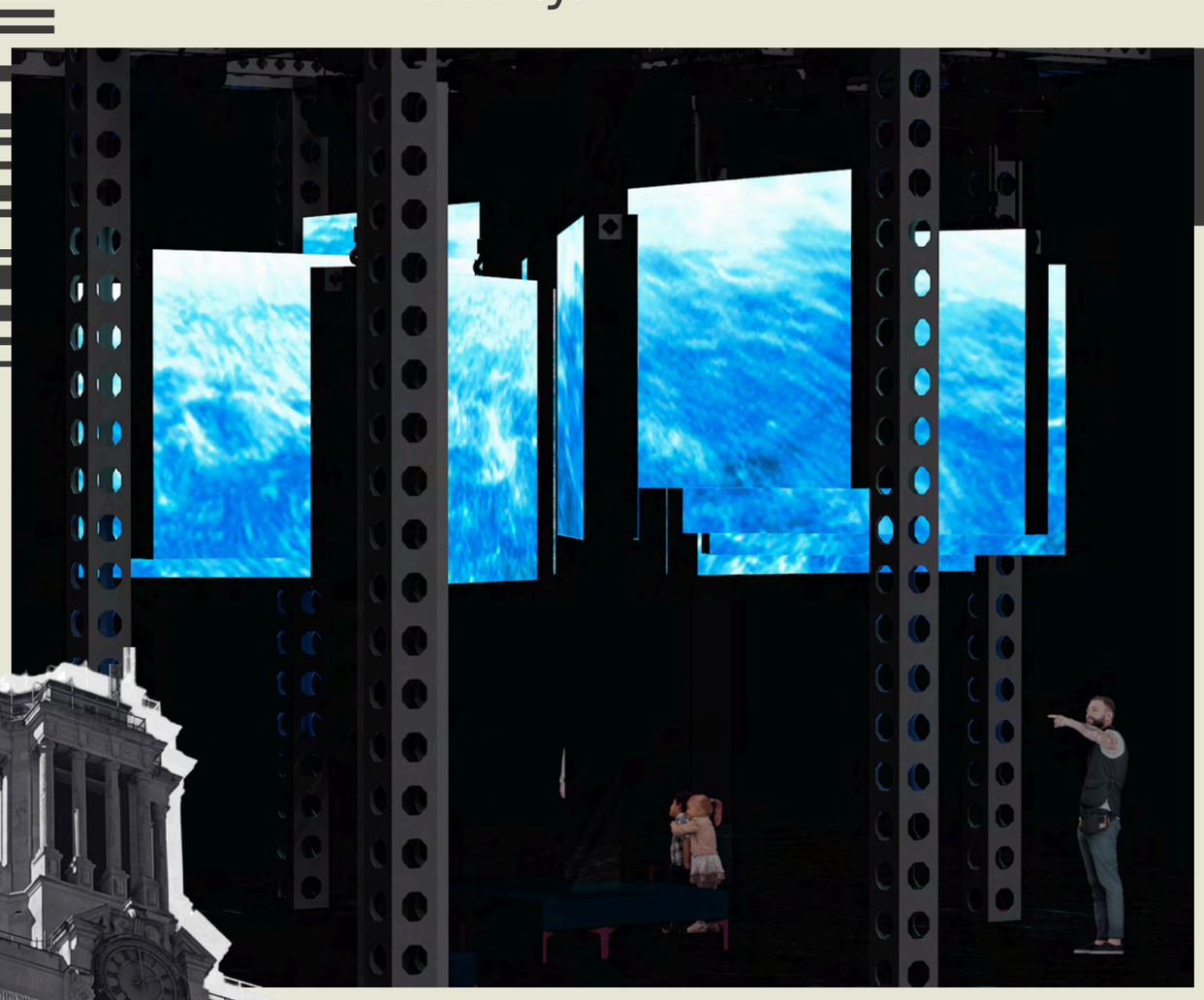
WEEK #11



Redone panels to allow for individual textures. Figured out a workflow that takes a 192"x8" image file and splits into 24 individual images to use for each panel.

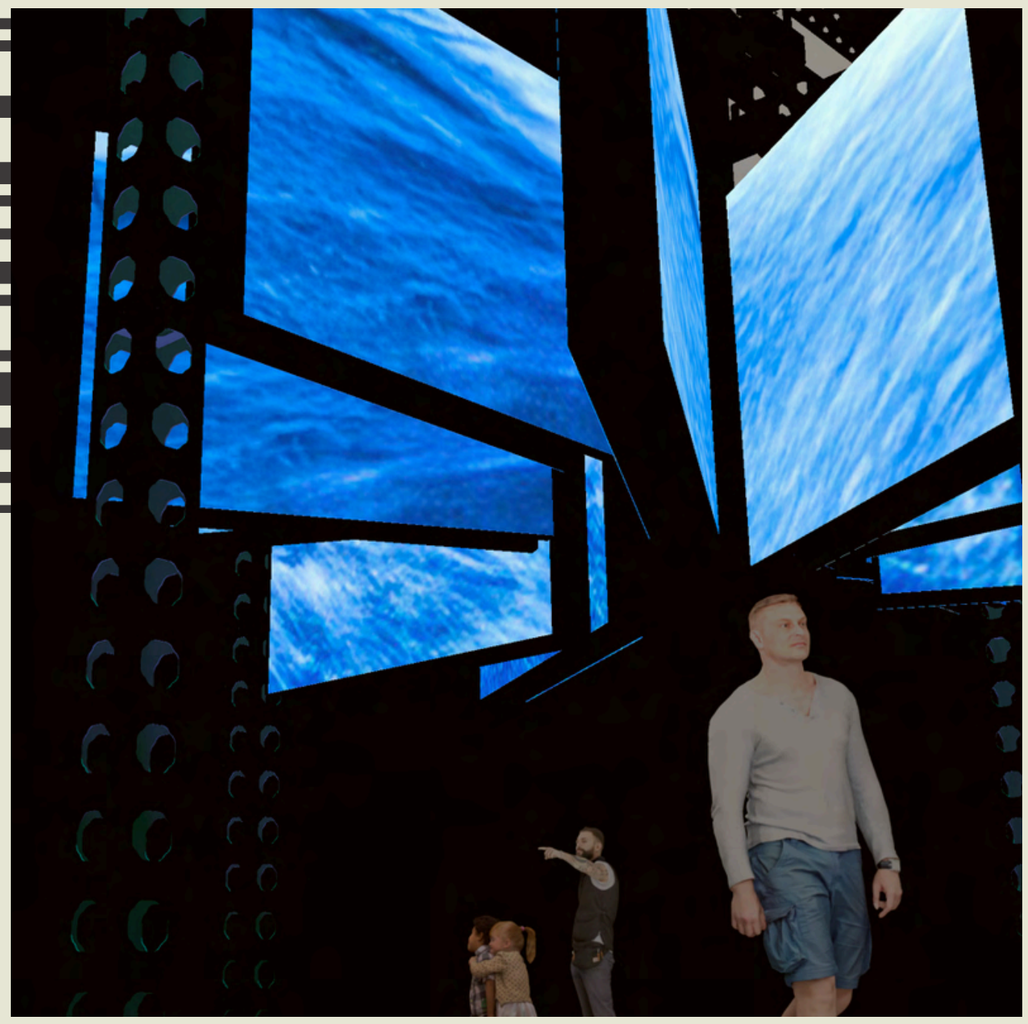
Finalized floorplan including everything added in previous weeks that had not yet been updated. I plan on creating separate floorplans to highlight individual things more clearly.





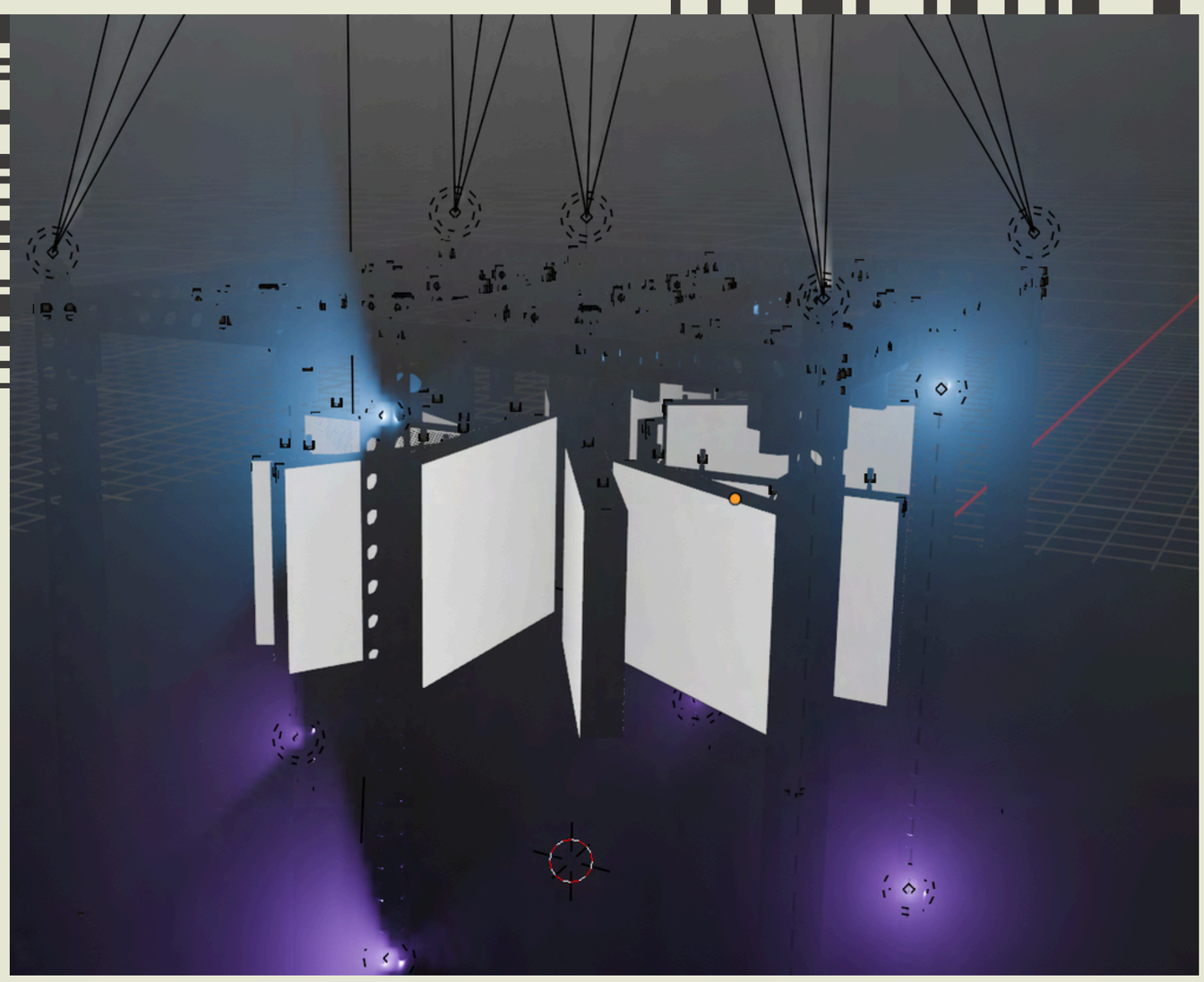
Worked on the texturing and lighting process, trying to simulate the actual conditions that this installation would be seen in. I played around with some different HDRI options and ended up using a spotlight dome that lights up some of the scene while allowing the lighting elements to show through.

WEEK #12

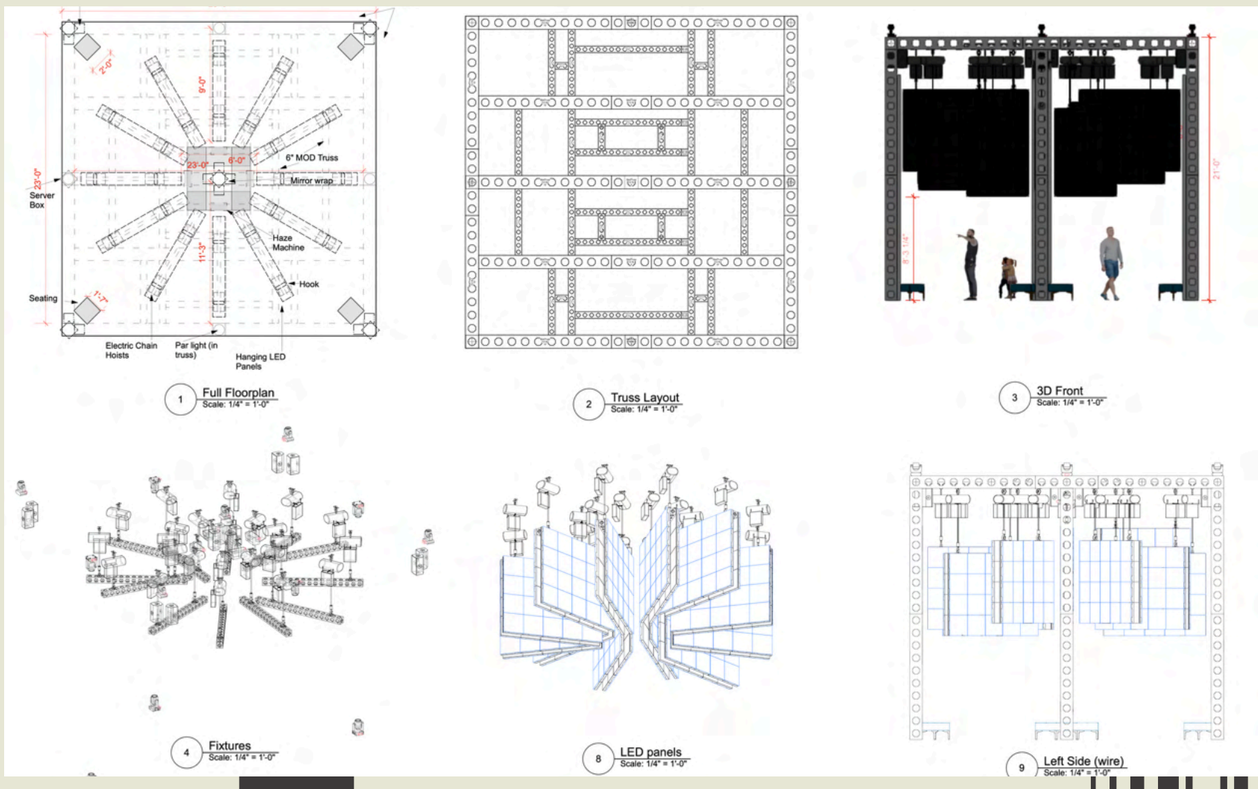


Began choosing viewports for final renderings, preparing a variety of angles that showcase all elements of the istallation.

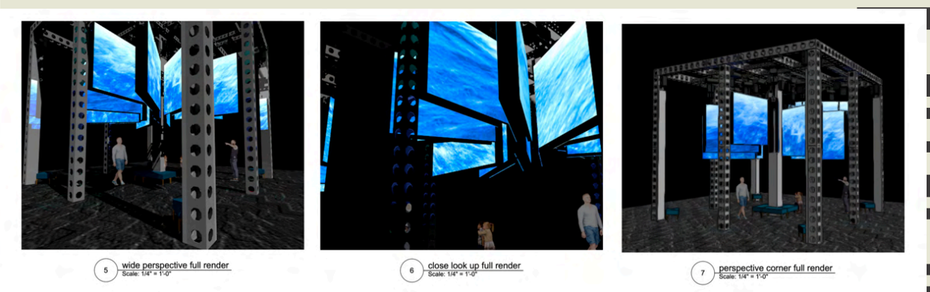
I I brought the 3D model into blender to do some more realistic effects and animation. This allows for haze, motion on beam lights, and animated content on the LED screens to properly display the vision.

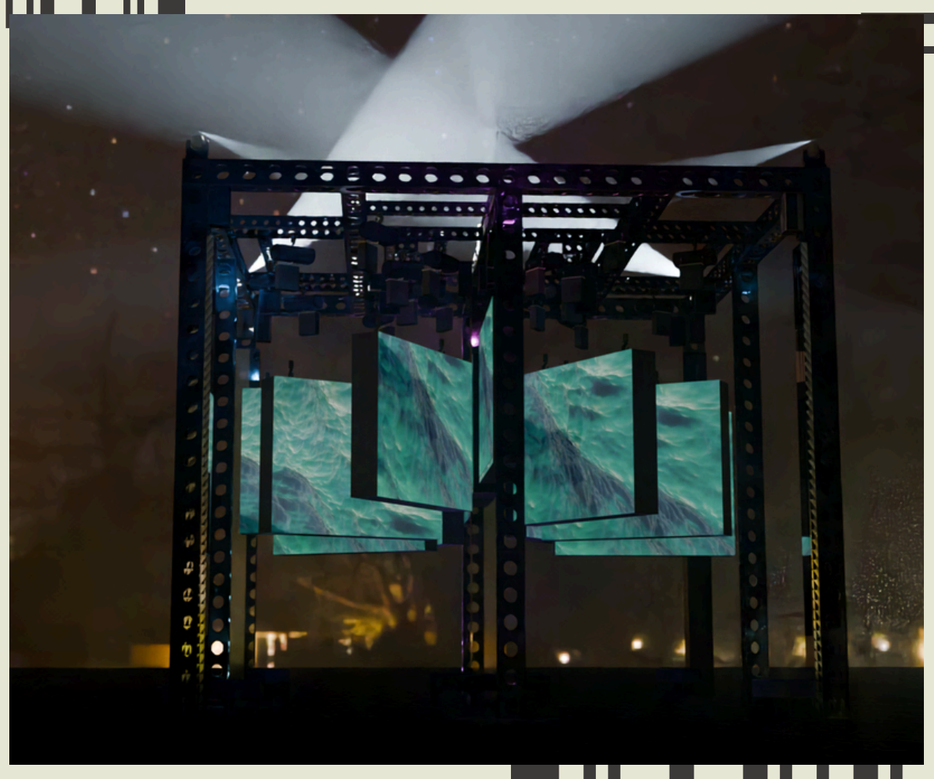


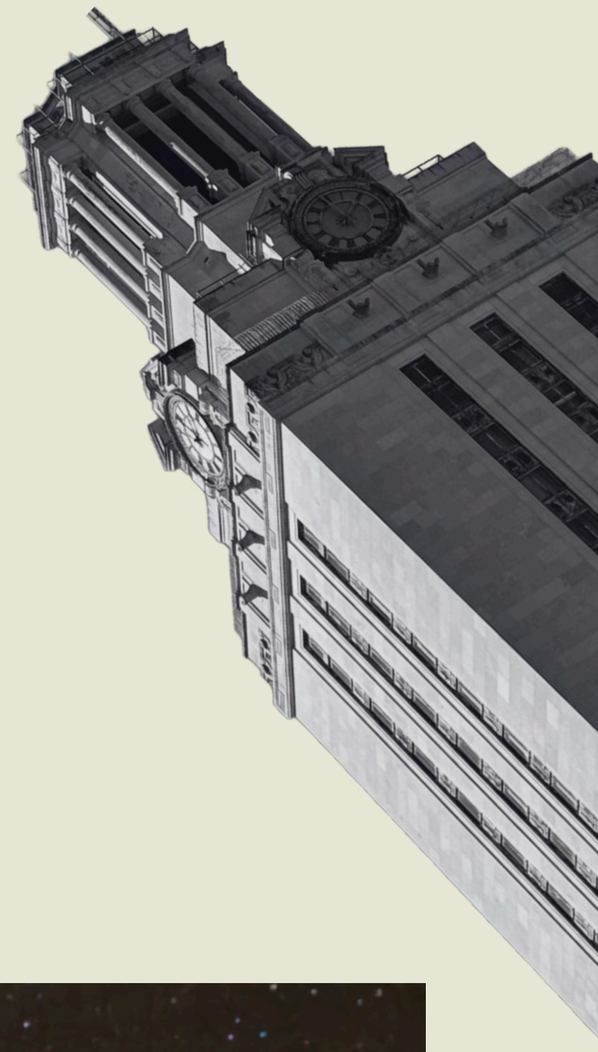
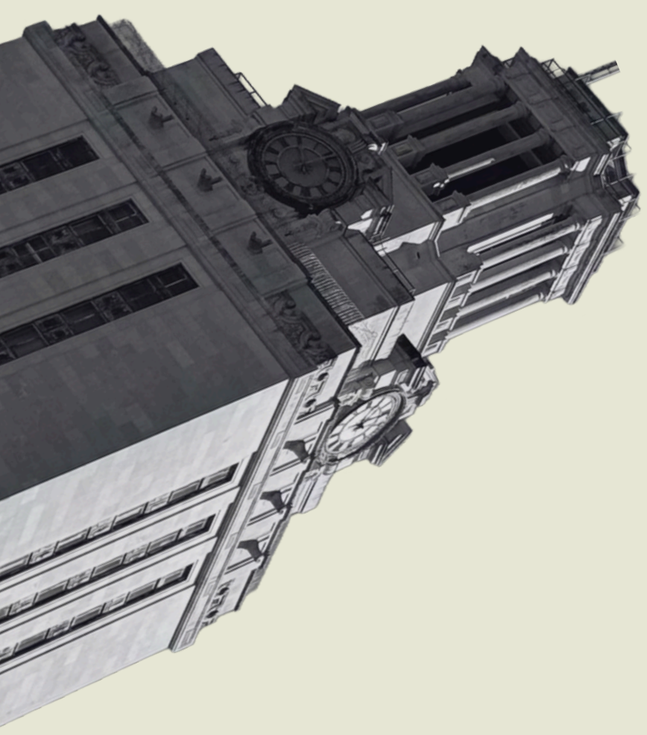
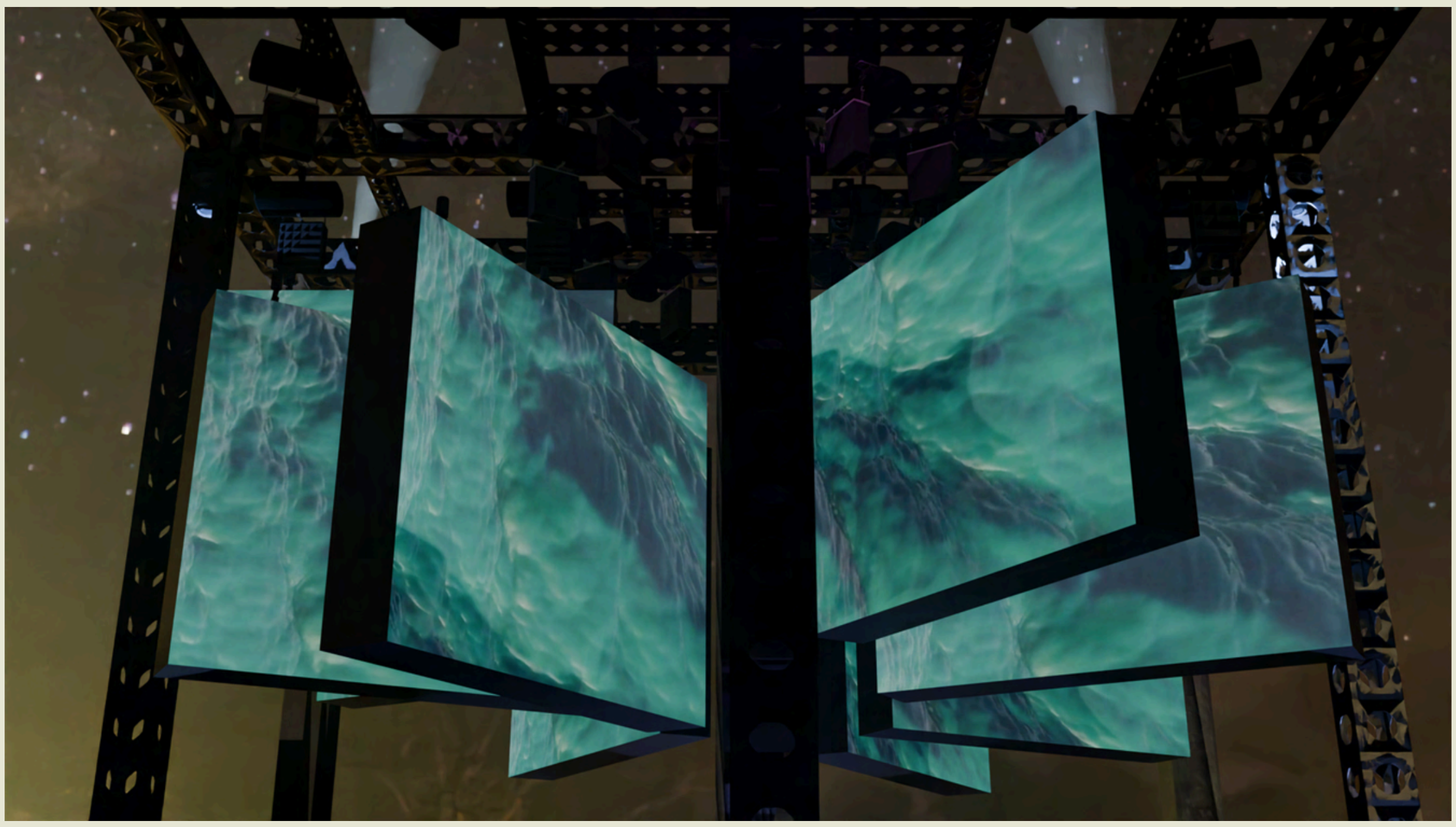
WEEK #13



Made a final sheet showing the full installation ground plans, truss diagram, fixture diagram, and high quality renders within Vectorworks. showcasing all the details I considered important.





I finalized the rendering settings and layout within Blender, and then rendered out a full sequence. I utilized volumetrics, bloom, and animated camera motion as well as the motion of the hanging panels themselves to mimic a real installation of the structure. This gave me a high quality mockup of the space in a real setting that represents an outdoor space similar to the UT Tower Main Mall.

BEAUTY SHOTS