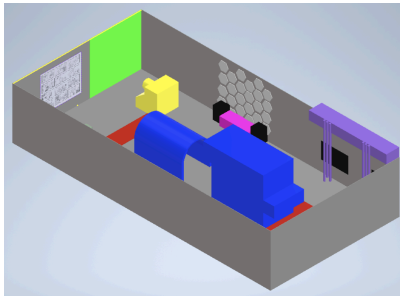




This is my design for a non-profit interactive museum dedicated to teaching visitors about the STEM that goes into artistic career fields. This museum is adaptable to the rapidly changing STEM practices. Additionally, nothing in the museum is dependent on race, ethnicity, gender, sexual orientation, or age, allowing each person an equally educational & interactive experience. This museum will also be a completely free outlet for people to experience creativity in a welcoming environment. So many kids live without artistic freedom due to financial concerns; this museum gives kids & adults a place to learn, explore, innovate, and have fun! By attending the Clive Davis Institute at NYU, I will collaboratively work with engineers, game/media designers, & recorded music

majors. Through the program, I will learn the creative, business, & technical aspects of the industry, which will be immensely helpful as I pursue this entrepreneurial idea. This project's main goal is to inspire a passion for STEM in filmmaking, sound design, animation, photography, & the arts as a whole.

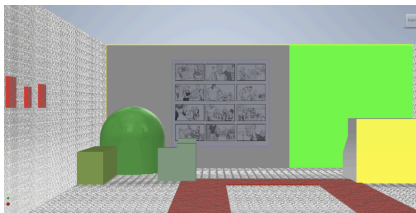
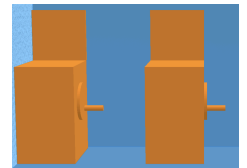
Lights Camera Action! teaches visitors about the processes & technologies used to create media while showing how it has changed over time. This is shown through each of the interactive activities, designed to be engaging while still offering lots to learn about the processes behind film production. As society approaches an increasingly technology- dependent age, I felt it was crucial to design a museum that teaches the inner workings of entertainment technology.



CAMEO CAMERA - At the center of the museum is a 16.5' by 11.5' by 7' interactive camera and detached zoom lens (7' diameter, 11' length). Visitors can go inside the camera and climb a ladder that leads to a loft enclosed in plexi-glass. Inside the lens, there are several activities. A window centered on top of the structure allows light to enter the lens, with blinds controlled by a slider on the wall. This represents the camera's exposure. There are curtains that goes from one side of the lens to the other, controlled by a pulley system; this represents the shutter opening & closing. There is a wheel controlling the spinning motion of the end of the lens, representing the camera's focus.

ROCKY'S REEL RACE - This has two mounted film reels & cranks. Visitors can crank an enclosed wheel in the machine that plays a 24-frame animation strip. Two visitors can race to see who completes their animation first.

GATSBY'S GREEN SCREEN - Visitors can take videos to send to themselves or friends. First, visitors can dress up in costumes & choose a background for the green screen using a touch screen programmed into an ATEM multicam switcher. They can then press a comically large red button on a camera facing the screen to start a 3, 2, 1 countdown to record and press the button again to stop recording. Finally, visitors can enter an email address on the touch screen for the video to send to.

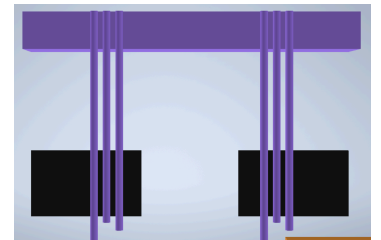


MIKE THE EYEBALL - An interactable 6' by 6' eyeball with a working pupil and iris demonstrates how an eye perceives light and turns it into images. Inside of the eye, visitors can see how the light is refracted by the pupil and focused on the retina. Visitors can adjust the lighting levels with a slider and the size of the pupil with a dial to try and make an image clear on a screen.

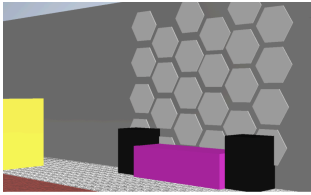
ANIMATION STATION - Animators use integral calculus and harmonic coordinates to manipulate surfaces and character movement. The rendering equation,

$$L_r(x, \omega_r) = \int_{H^2} f_r(x, \omega_i \rightarrow \omega_r) L_i(x, \omega_i) \cos \theta'_i d\omega_i, \text{ is commonly used in computer}$$

graphics to manipulate light. Characters are often compared to marionettes with 700 strings, each of which must be controlled by the animator. There is a screen with a 3D puppet hooked up to a physical pulley system attached to digital software in the ceiling. When one of the ropes is pulled, the corresponding body part moves as if it is a marionette.



LA LA LIGHTING - Visitors can adjust the color of some of the lighting throughout the museum by moving faders on a simplified lighting board. Specifically modified to accommodate visitors sensitive to lighting changes, faders slowly adjust the colors on the ceiling lighting panels & overhead stage lights.



CINEMATIC SOUNDS - The soundboard has a beat pad & audio faders with selection buttons, each of which controls different sounds and effects. The beat pad controls different foley effects, and audio faders control the music playing through the speakers around the soundboard. Color-changing lights next to the speakers react to the music. A MIDI keyboard is connected to the soundboard, allowing visitors to compose their own masterpiece.



PRESS REWIND - In this activity, there are facts about cameras and a display of how cameras have evolved, leaving space for future years. Visitors can touch the models of the different cameras mounted into the wall. Beside each camera is media showing what videos or photos would look like if taken with that camera, showing the innovation of photograph

quality.

SNOOPY'S STORYBOARDS - Decorating the walls of the museum are different storyboards showing the artistic process that happens before a movie is made. There are storyboarding techniques decorating the walls, including Power of Context, a technique directors use to influence the audience's perception of a certain character or scene. It also has a 5' 5' SMART board on the wall for visitors to draw their own storyboards.



The CDC states, "kids ages 8-18 now spend, on average... 4.5 [hours] watching TV" every day. As society becomes increasingly entertainment & technology-focused, everyone should learn how entertainment and technology is created. The film industry also provides thousands of jobs; directors, producers, cinematographers, production designers, lighting designers, audio engineers, foley artists, camera operators, editors, and more.

Each activity contains features ensuring visitors feel safe while exploring Lights Camera Action! Each material listed below is the most durable and safe option. The costs of the building and location of the museum will be factored into the cost upon realization of this idea.

| Part | Price | Part | Price | Part | Price | Part | Price |
|---------------------------|-------------|------------------------------|------------|---------------------------------|-------------|-------------------------------|---------------------|
| Red Carpet | \$500.00 | GATSBY'S GREEN SCREEN | | MIKE THE EYEBALL (cont.) | | LA LA LIGHTING | |
| Acoustic Sound Absorbers | \$500.00 | Paint | \$700.00 | Monitor | \$300.00 | Lighting Board | \$2,500.00 |
| Flourescent Lighting | \$2,500.00 | Camera | \$1,400.00 | Plexiglass (17 sqft) | \$300.00 | RGB Par Lights | \$1,000.00 |
| Film Director Chairs (4) | \$700.00 | ATEM | \$4,000.00 | Podiums (5) | \$250.00 | Power Linking Cables (24) | \$672.00 |
| Power Linking Cables (16) | \$448.00 | Touch Screen | \$1,000.00 | Control Box | \$100.00 | Metal Pipe (16) | \$2,032.00 |
| CAMEO CAMERA | | Connecting Cords and Cables | \$200.00 | Dial and Slider | \$40.00 | Pipe Trackhanger (32) | \$864.00 |
| HDPE Plastic | \$37,230.00 | Computer | \$1,300.00 | Wall Information | \$500.00 | Double Clevis Connectors (32) | \$192.00 |
| Galvanized Steel Pipe | \$250.00 | Polaroid Camera Box | \$3,500.00 | Lens Stand | \$30.00 | Stage Lights | \$5,000.00 |
| Plexi Glass | \$2,470.00 | MIKE THE EYEBALL | | Other Shaped Lenses | \$100.00 | CINEMATIC SOUNDS | |
| Curtain | \$200.00 | Prism | \$50.00 | ANIMATION STATION | | Sound Board | \$2,700.00 |
| Pulley System for Curtain | \$500.00 | Flashlight (6) | \$90.00 | Short Throw Projector (2) | \$10,000.00 | Color-Changing Lights | \$200.00 |
| Dials and Buttons | \$5,000.00 | Biconvex and Concave Lenses | \$50.00 | Ropes (2) | \$500.00 | MIDI Keyboard | \$2,000.00 |
| ROCKY'S REEL RACE | | Flashlight Piece | \$5.00 | Pulley Box (2) | \$500.00 | Cords/Cables | \$300.00 |
| Projector (2) | \$2,800.00 | Shell Material | \$3,000.00 | Wall Mount (2) | \$200.00 | Sound Panels (5) | \$330.00 |
| Crank (2) | \$200.00 | 20" Biconvex Lens | \$100.00 | Connectors (2) | \$1,000.00 | PRESS REWIND | |
| Reels (2) | \$500.00 | Par Light | \$100.00 | Monitor System (2) | \$1,500.00 | Picture Frames | \$400.00 |
| Box (2) | \$200.00 | Plastic Shutter | \$50.00 | SNOOPY'S STORYBOARD | \$13,000.00 | High-Density Polyethylene | \$500.00 |
| Wall Mount (2) | \$200.00 | Motors/Electrical | \$200.00 | WALL FACTS | \$10,000.00 | TOTAL COST | \$126,953.00 |