

JUMP, CARP, JUMP!

DMSP 2024 Performance
Submission 2

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JUMP, CARP, JUMP!

Live Performance · 2024 · 14mins



Adventure/ Drama/ Fantasy

Join us on an epic journey as we follow the tale of a carp striving to reach the Dragon Gate, believing it to be the key to success. Yet, faced with immense pressure, what challenges will the carp encounter? How will it all unfold? Find out in our upcoming performance!

Creators Donger Liu · Fangyi Qu · Hongpei Cao · Qiyan Zhang · Xianni Sui

Concept

WHAT: inspired by Chinese tradition, our tale follows a carp's journey towards the Dragon Gate. In our adaptation, fish race to leap over the Dragon Gate, driven by peer pressure. Yet, upon jumping the gate, the carp discovers he hasn't transformed into a dragon, but instead lands in aquarium. This immersive 15-minute live performance unfolds on 5th April 4pm at Alison House Atrium.

WHY: we seek to critique the rat race prevalent in today's complex society, aiming to challenge the culture of inwardness. In crowded settings, peer pressure mounts, often leading individuals into purposeless competition. Our adaptation of the carp's story serves to express the disillusionment of being ensnared in this rat race.

HOW: we firstly try and bring some creative ideas and technologies to the performance and explore their usability. Also, we have a clear division of labour and a co-operation plan to give consistency to everyone's work. Finally, we explore, practice and apply them to live scenarios.

Final Performance Video:

<https://youtu.be/pK5vWC88SvI?si=-bgRwFCHC-VwWthU>

content

project design *p4*

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music *p26*

rehearsal *p30*

conclusion *p33*

Please note: If any hyperlinks are not functioning, try copying and pasting the URL directly into your browser. If the link still doesn't open, consider checking the relevant blog or ondrive file for additional information. This is an unavoidable systemic computer bug, and we apologise.

project design

Foundational Scripts

Part 1 – Corridor

1. Performance (5mins):
Introducing the story's context, explaining why all the carp must fight to pass through the dragon gate. A voice-over brainwashes the audience, insisting that success depends on jumping over the gate.

The part mainly focuses on the interactive installation - the particle screen.

1. Set dressing:

Balloons, interactive screen, string lights to guide the way, wee fish lanterns.

Part 2 – Main Stage

1. Performance:

Pre: (30s) Given a slow-motion playback clip, the carp is flying above in the sky, with a voiceover describing his mood then.

1. (1 min) The protagonist, our carp, emerges and begins his journey, transitioning from a 2D image in projection to a realistic 3D prop, symbolizing his transformation and the depth of his adventure.
2. (1 min 30) As the fish crowd surges in the projection, the carp is jostled by other fish props in the crowd. Hesitant and timid, he backs away, but a distant voice urges him to join the group in jumping over the dragon gate. Eventually, he decides to swim after the crowd, despite the challenges of wind and waves pushing him backwards repeatedly.
3. (3 mins) As other fish scramble to leap the gate, a long shot on the projection gradually pulls the camera in. The carp, watching from a distance, swims slowly towards it, his heartbeat and desire show on the projection. Witnessing the failures of his companions with lightning and thunder, the carp decides to give it a try. However, his first attempt also fails.
4. (1 min 20) The carp encounters a tornado but keeps going. Switching to projection, the pressure and competitiveness imposed by the other fish are depicted from his perspective. Overlaying the video with abstract imagery highlights the intensity of the rat race phenomenon. A stream-of-

①

[0:00]

Voiceover: (50s)

Once upon a time, beside a peaceful river, stood the Dragon Gate. Legend spoke of a great challenge awaiting those who dared to venture near - It was believed that those who succeeded in this daring feat would transform into dragons, ascending to heaven. However, the journey was dangerous, with swirling currents and towering waves as formidable obstacles. Thus, begins an epic tale of our humble carp set out to the way of what they called success.

②

[1:08]

Dialogue: (20s)

Carp: "Wo-wo, watch it! No pushing, no shoving!"

Smaller Fish: "Sorry, sorry! Didn't see you there!"

Carp: "Well, it's kind of hard to miss me! I'm the big carp around here!"

Smaller Fish: "Yeah, big carp, big carp! But, you know, we're all just trying to get through this crowd and reach the Dragon Gate!"

Carp: "Tell me about it! "

Smaller Fish: "No time! I'm in a rush!"

Carp: "Hey, hey!"

--Fish lantern hesitating here, swing one's head from side to side. -- (10s)

[1:40]

Carp: & DANCE: (20s)

Shall I go with them? What if I fail? Is that the true measure of success? But everyone

[0:30] (30s)

The carp swims from the back of the screen from east to west, showing up in a shadow play. It then makes its official appearance by travelling around the front of the screen from the west.

[1:04] (5s)

A small fish comes up from the east side, bumping the big carp and starting a dialogue. The small fish leaves to the east after "No time, I'm in a rush".

[1:30] (10s)

After delivering the dialogue, Carp hesitated and lingered on the stage, showing uncertainty about his next move. Then leave the stage and retreat behind the ice screen to the west.

[1:40] (20s)

A dance section to show the carp's inner hesitation.

[2:04] (25s)

Carp on stage, meeting the wind and waves. Stepping down after "I have to be successful."

[2:30] (20s)

Two small fishes on stage after "I have to be successful." Two fishes scrambled out of the water for a swim.

[2:50] (1min40s)

---The Devil's Whisperer---

Particles resembling faces materialize in real-time on the east side of the screen, evoking a haunting image akin to demons manipulating the masses.

Dance to show the carp is being brainwashed. The dancers appear at the back of the screen, in shadow form, and show only the upper half of their bodies in the dance.

Screenplay

<https://drive.google.com/file/d/1Aztvvo6AvA133a94Fn2GVj6D3xkZEYTF/view?usp=sharing>

Lines

<https://drive.google.com/file/d/1lBj0xsM22swj4Py1c68cniAcH89xF6Bo/view?usp=sharing>

Director's Plan

https://drive.google.com/file/d/12ca1ZHTMcuIJyEGf5OgZdxZY2J_GLis/view?usp=sharing

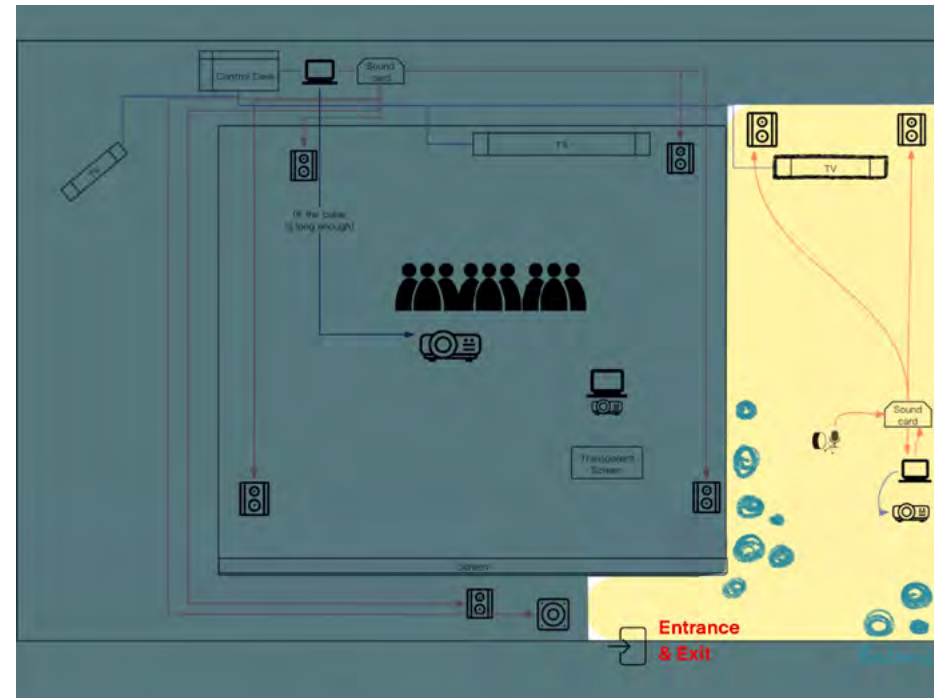
Visual Arrangement

Here's a detailed plan for the visual aspect of the show I'm overseeing. We'll use various forms like projections, puppet shows, and dance, but I aim to keep each scene focused on one form to avoid complexity. For example, Scene 2 will highlight the fish lantern, while Scene 4 will feature dance. I've highlighted the focal point of each scene in red to ensure clarity and coherence.

	Content	Projection	Fish Lantern	Dancing	Sound
Part 1-entry	Introducing the story's context, while the part mainly focuses on the interactive installation in the corridor. Ballons and props, lights to guide the way.	---	---	---	A voiceover brainwashes the audience, insisting that success depends on jumping over the gate.
Part 2-pre	Given a slow-motion playback clip/a still image, showing that the carp is flying above in the sky.	Playing.	---	---	A voiceover describing his mood then.
Part 2-set 1	The protagonist, our carp, emerges from the projection first, and then shows up as the lantern, to begins his journey.	Both the deep sea and fish are depicted.	Comes up after the projection.	---	---
Part 2-set 2	the carp is jostled by other fish in the crowd, hesitant at first but urged to join in leaping over the dragon gate. Despite the challenges, it decides to follow the crowd, pushed back by wind and waves.	waves background.	Playing.	---	---
Part 2-set 3	As other fish leap the gate, The carp, watching from afar, swims slowly toward it, showing its desire. Witnessing others fail amidst lightning and thunder, the carp tries but fails on its first attempt.	the camera zooms in on the projection to show other fish leapings.	Watching from afar, swims slowly toward it, tried and failed.		Heartbeat sound effects, intertwined with lightning and thunder.
Part 2-set 4	The carp encounters a tornado but keeps going, feeling the pressure and competitiveness imposed by the other fish. Starting to get dizzy, emphasising the overwhelming.	In projection, the pressure and competitiveness imposed by a stream-of-consciousness video.	---	Vibrationally intense dance interspersed with projections.	---
Part 2-set 5	The carp fights and leaps over The background on the projection slowly ascends into the sky as he rises, showing his mood in slow motion, then swiftly falls away.	The dragon gate, projected on a small piece of transparent curtain in front.	---	Dancing with joy in the sky.	---
Part 2-set 6	As the carp falls, plunging the venue into darkness. The scene switches to the Dragon Gate Aquarium as lights gradually brighten, revealing the carp in the tank.	The carp's transition from physical props to a shadow paly behind the screen.	---	---	A voiceover greets the audience at the Dragon Gate Aquarium.
Part 3-end	---	Curtain call.	---	A sad dance.	With an opera music.

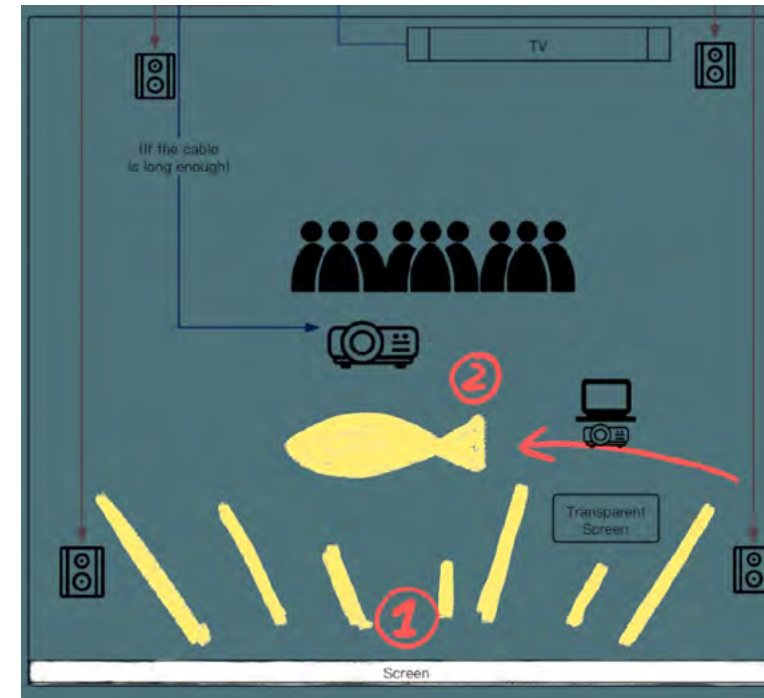
Part 1 - entry

The audience is guided by light into the corridor to understand the background of the story and enjoy the interactive decorations.



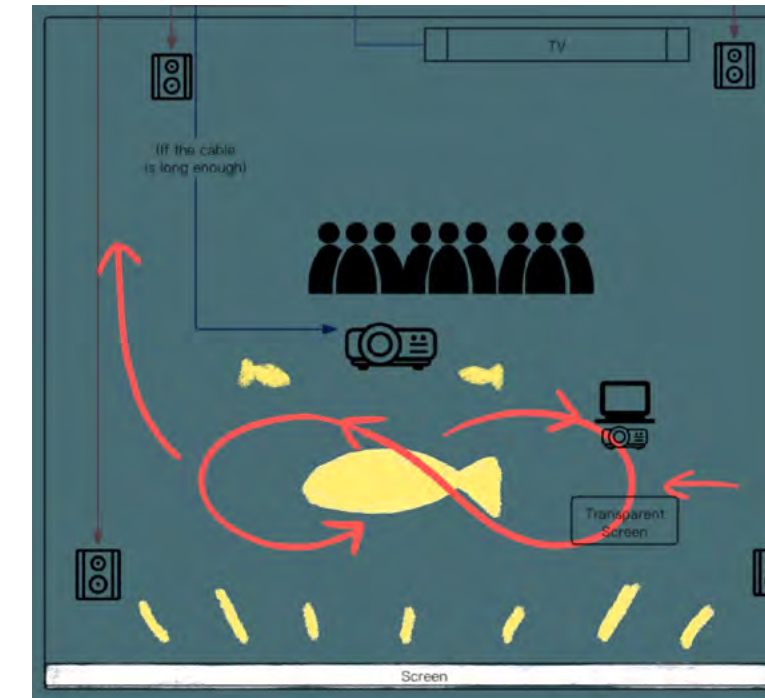
Part 2 - 1

Vision Centre:
Projection --> Fish lantern



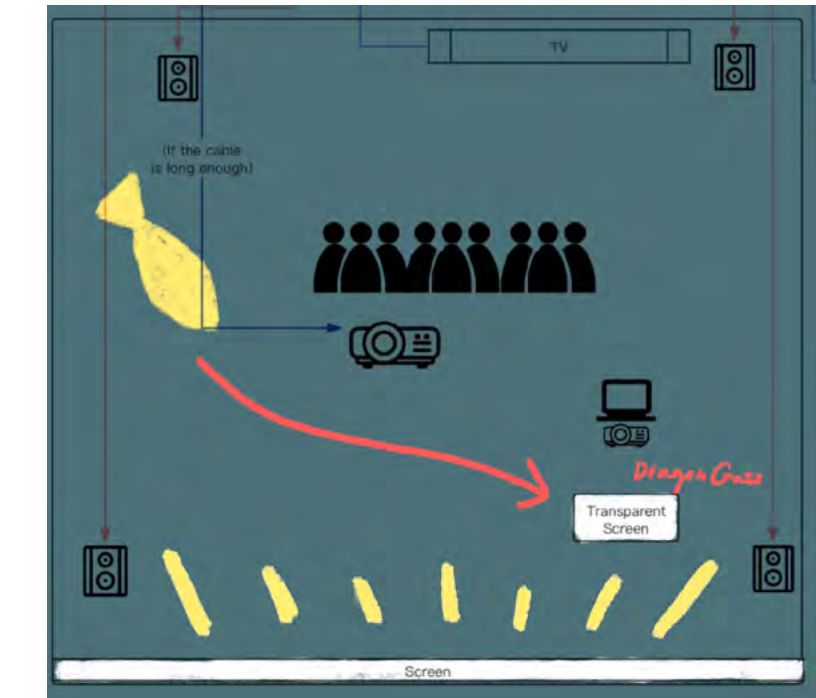
Part 2 - 2

Vision Centre:
Fish lanterns



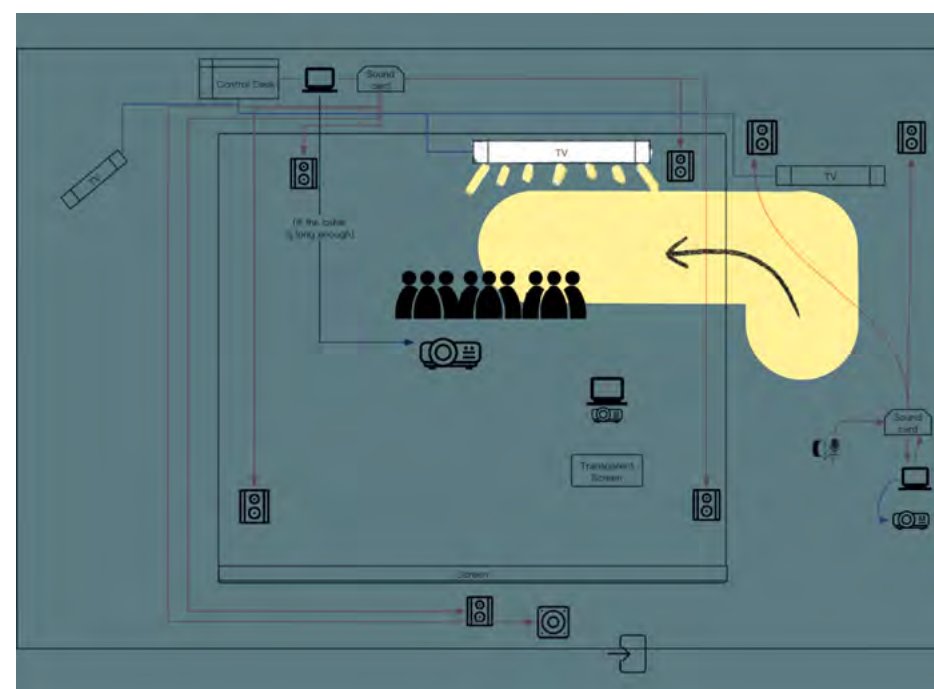
Part 2 - 3

Vision Centre:
Fish lanterns



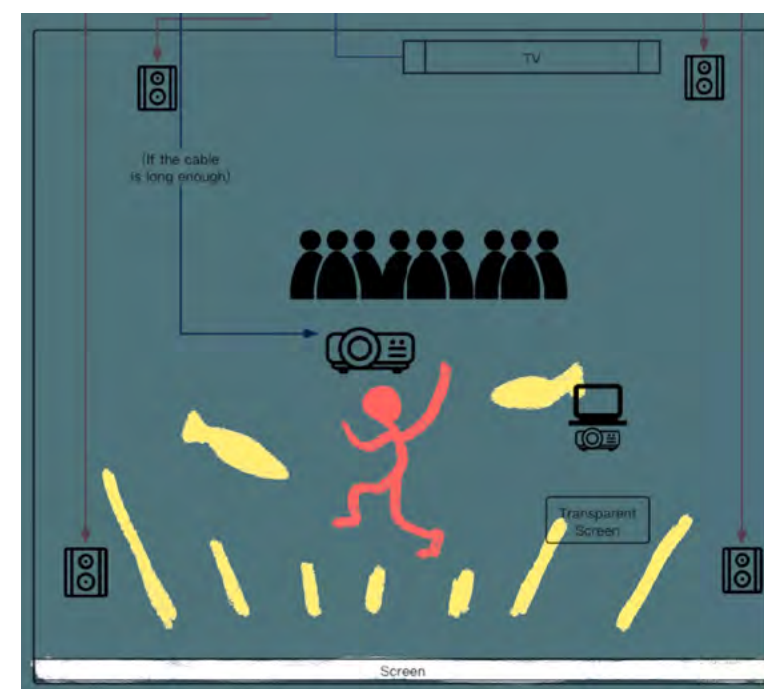
Part 2 - pre

As corridor lights fade, central area television lights beckon the audience to the performance space, where the audio-visual experience captivates them.



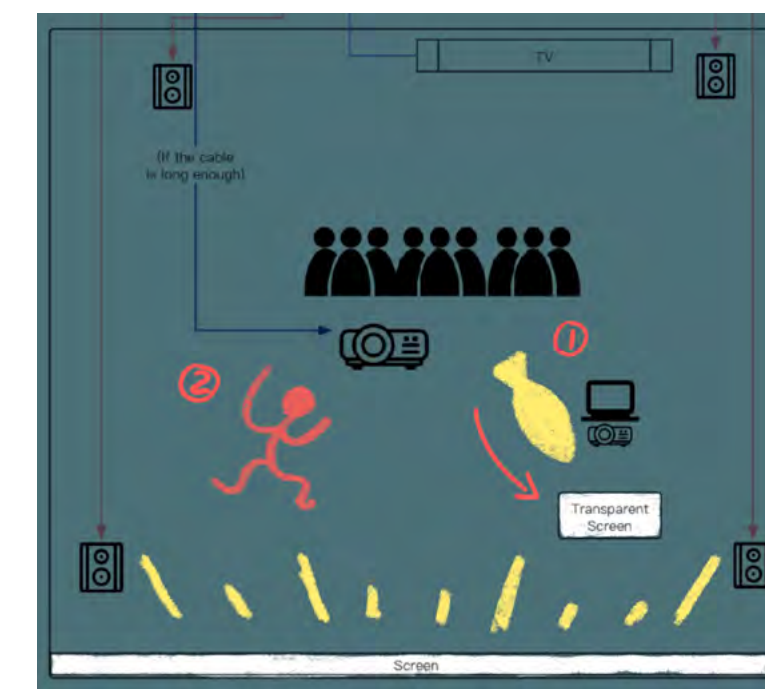
Part 2 - 4

Vision Centre:
Dance > Pojection > Fish



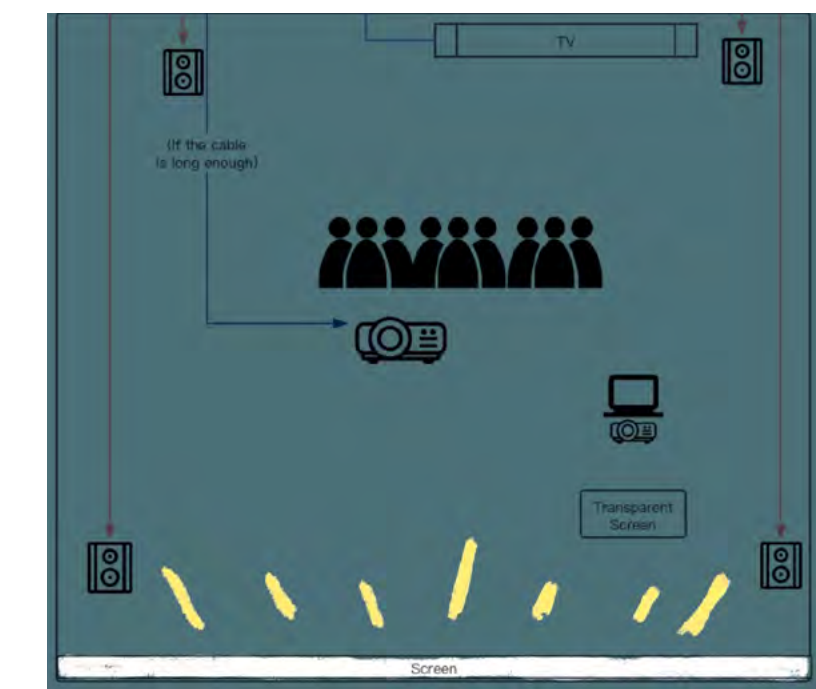
Part 2 - 5

Vision Centre:
Dance > Fish > Projection



Part 2 - 6

Vision Centre:
Projection



Audio and Visual System Setup

Audio Signal Design (Pink)

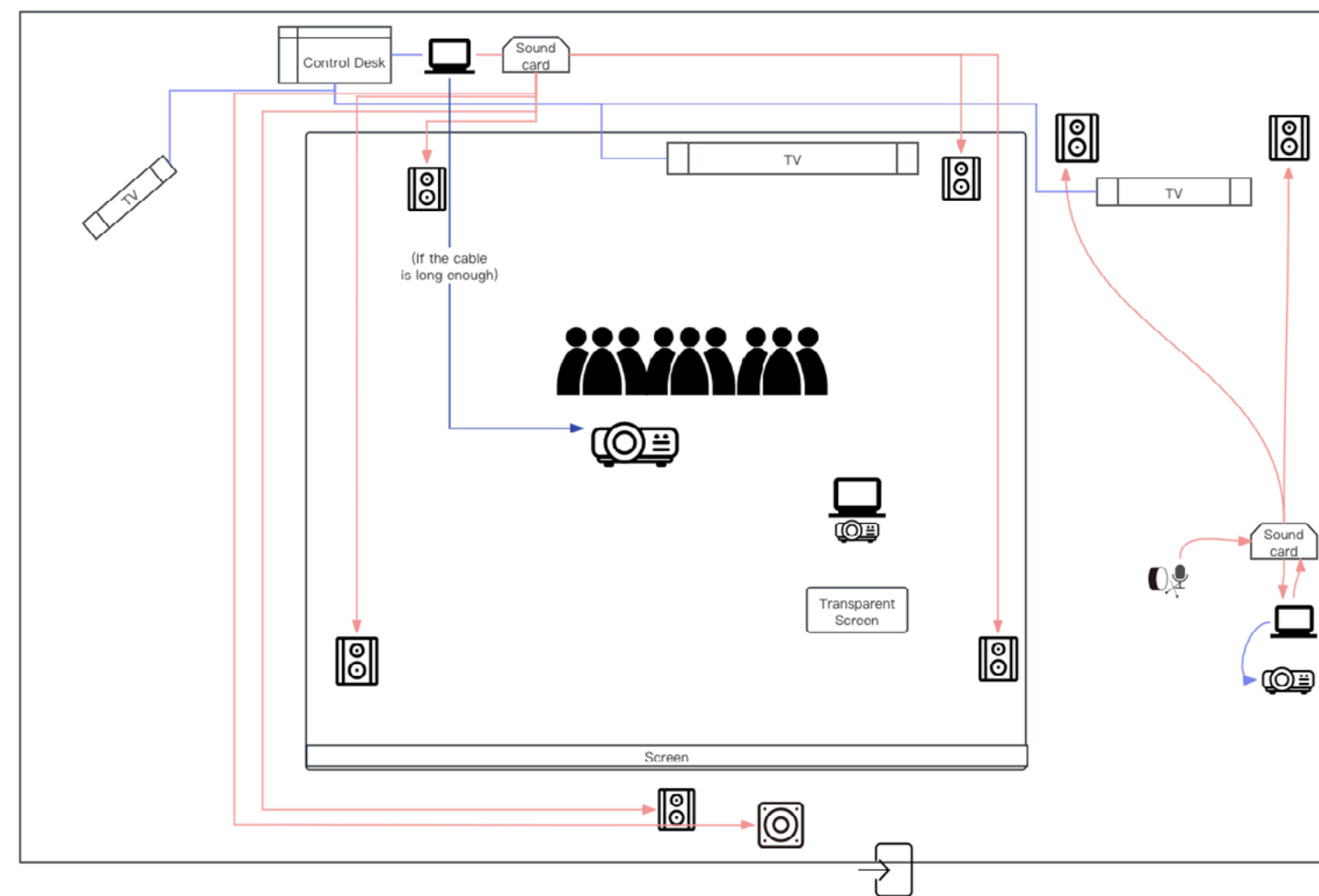
The overall audio system adhered to the initial design, primarily divided into two zones controlled by two computers. The only change was the relocation of the subwoofer from the front to the back of the stage. This adjustment was primarily made because the

actors needed to move beneath the screen at the front, and placing the sound equipment there could potentially cause safety issues.

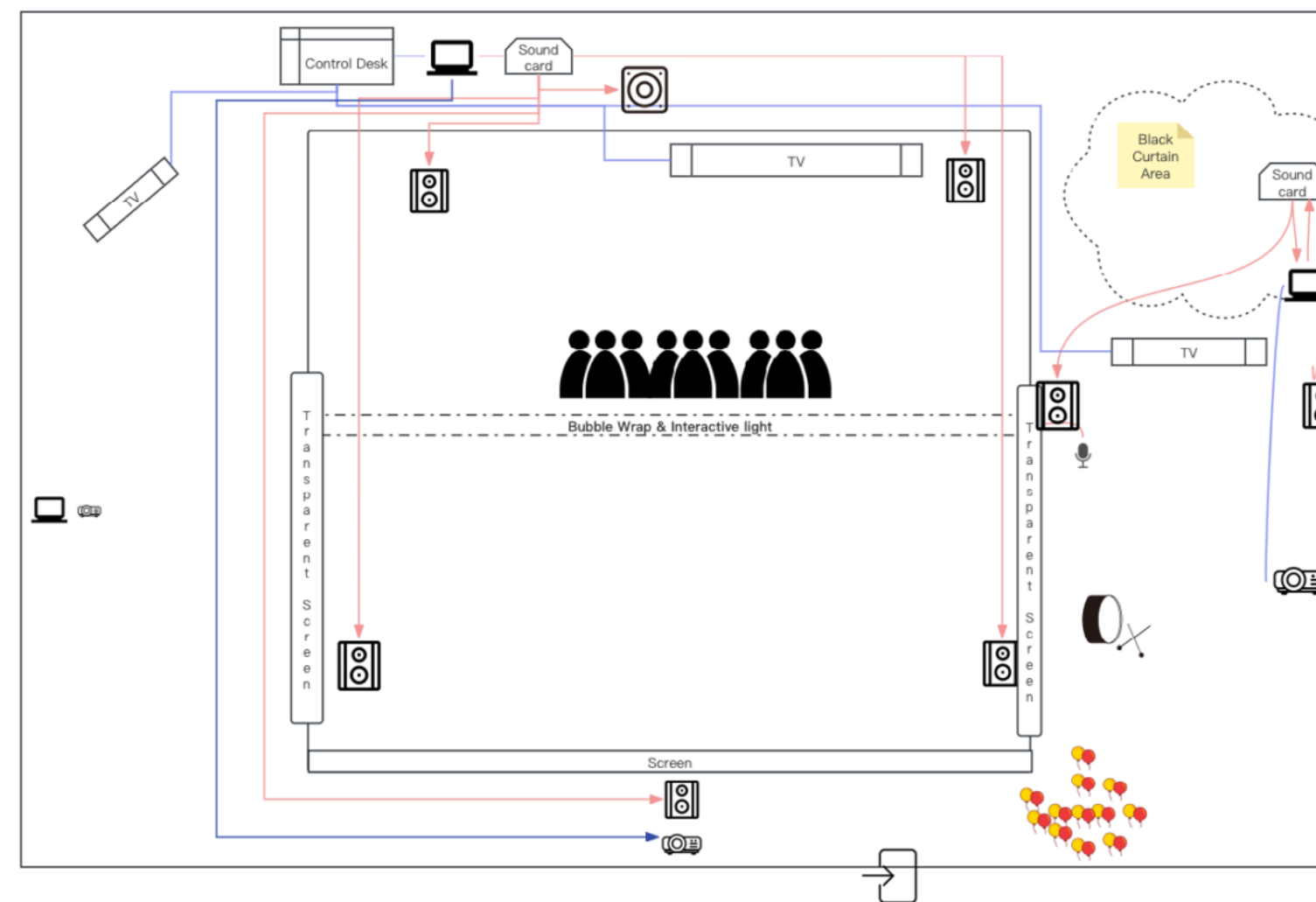
During the pre-show stage setup, our initial idea was to hang the speakers above the screen. However, due to safety regulations and time constraints, this could not be implemented, leading us to opt for a ground-based setup instead.

Visual Signal Design (Purple)

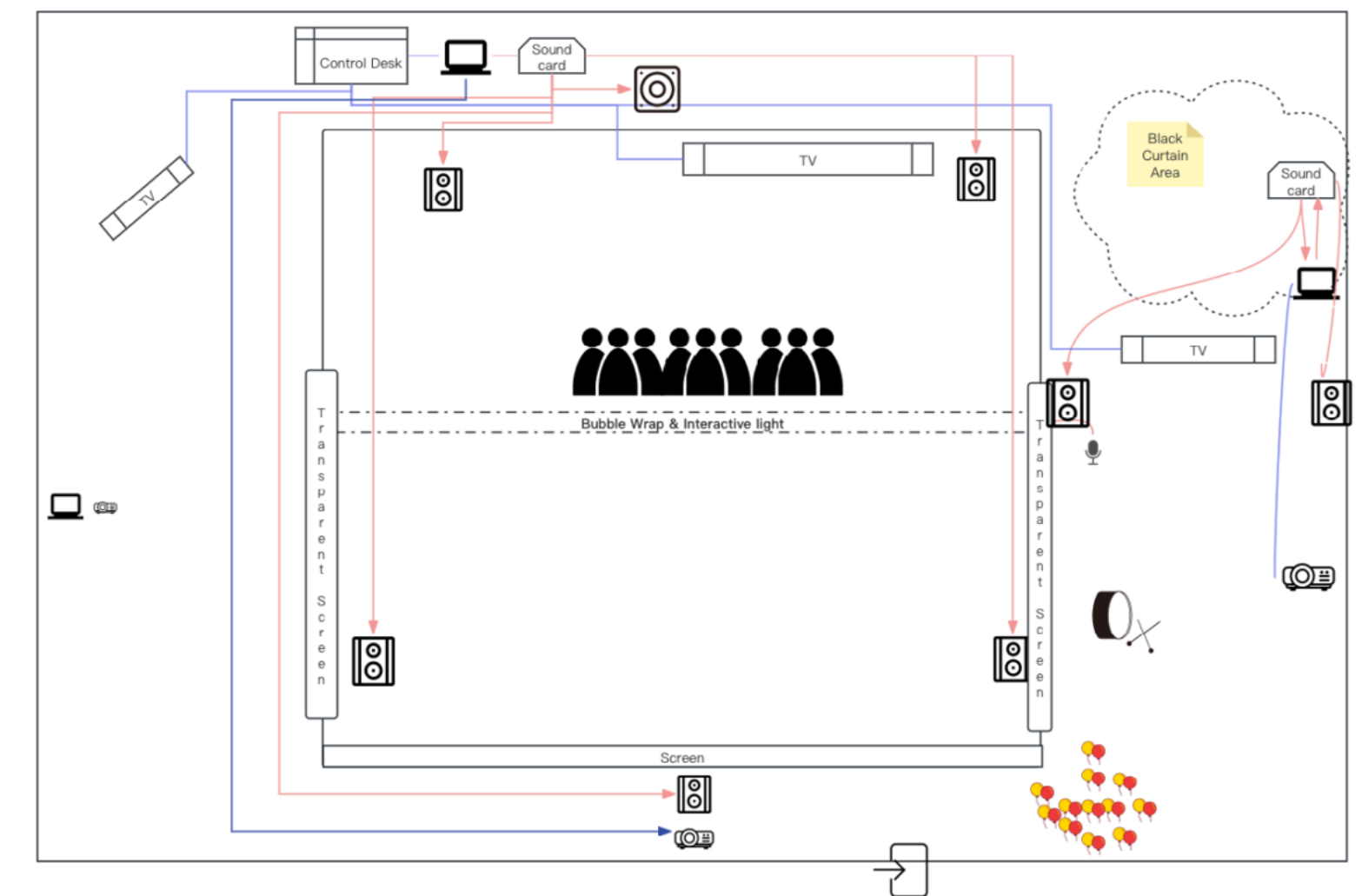
The video system consisted of three projectors and two televisions. The corridor projection used an NEC HD projector, employing a semi-transparent shower curtain as the projection screen, which allowed for viewing from both sides.



Old version



New version



New version

Audio and Visual System Setup

The main screen utilized an Optoma Short Throw Projector to minimize the distance between the projector and the screen. This particular feature enabled us to place the projector behind the screen, projecting the image in reverse, and thus freeing up ample space for performances on the main stage.

The projection on the left side of the stage employed an ASUS S1 Mobile Projector to project onto a transparent screen from the inside, with some of the light passing through the screen to create dynamic visual effects above the stage. The projection content consisted of variable graphics triggered by sound, created using TouchDesigner.

Setup Challenges and Solutions

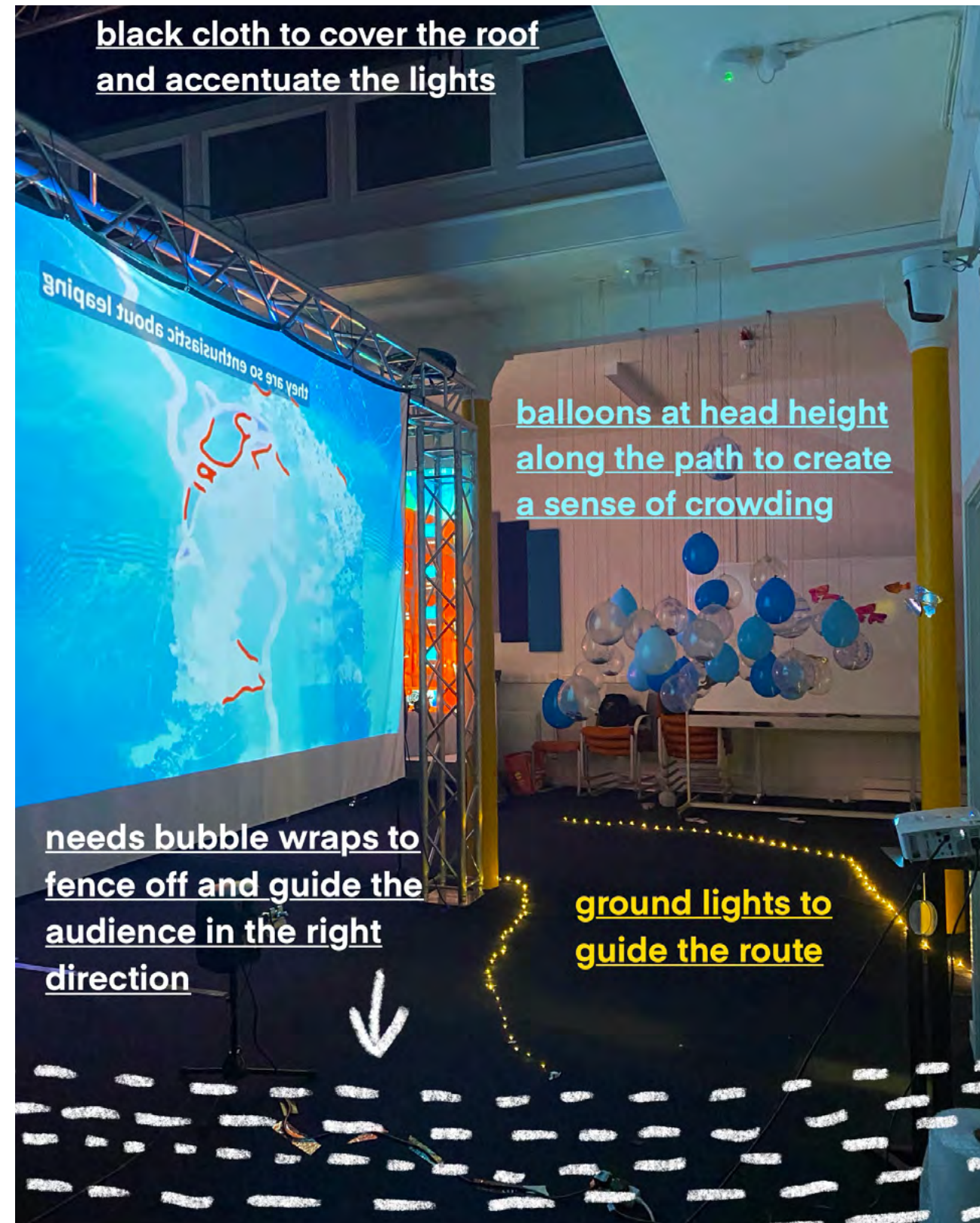
Implementing this setup, however, presented several challenges, the most significant being the length of the HDMI cables. Our system design intended for a Mac at the main control console to manage the television displays, the main stage sound system, and the main stage projection, ensuring synchronization of sound and visuals. This required HDMI cables of approximately 8 meters in length to avoid crossing performance areas. Unfortunately, on the day of the performance, the longer cables had already been borrowed from Bookit, leading to a lengthy search that eventually procured slightly shorter cables than needed. Safety concerns with the cables also arose during rehearsals; ultimately, we secured all cables to the floor with gaff tape to mitigate any hazards.



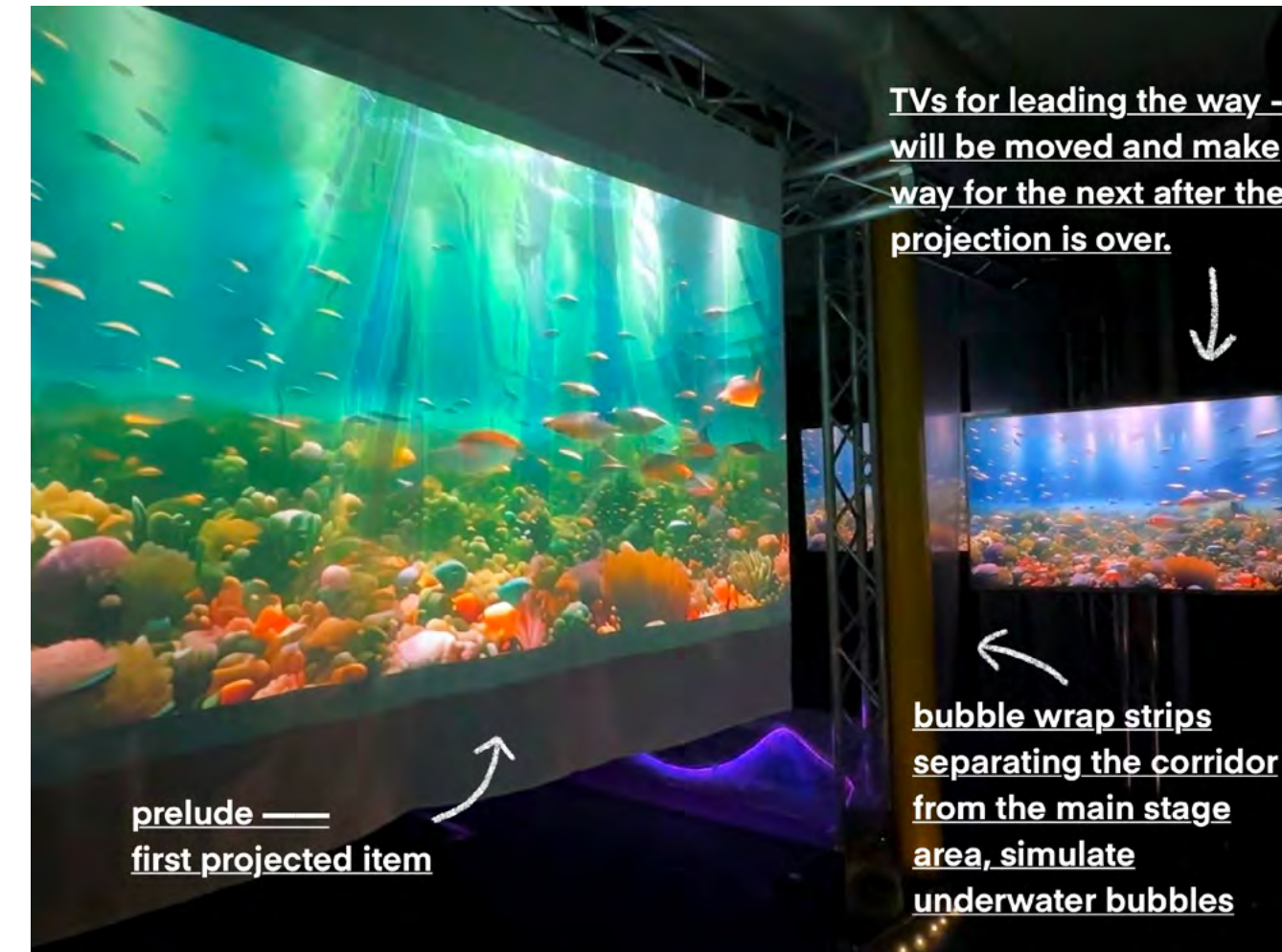
visual

Set Dressings

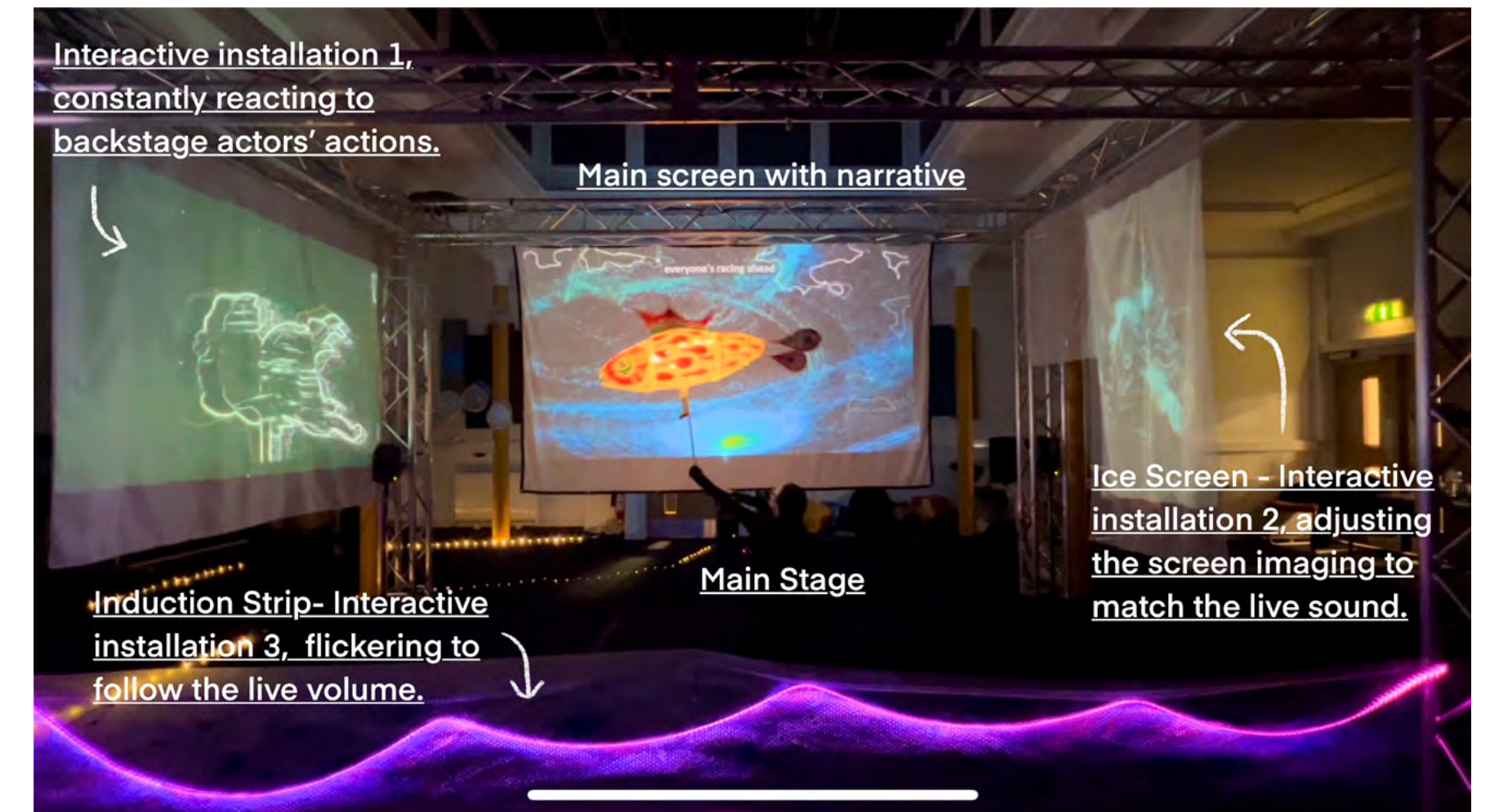
At the entrance, our priority was directing the audience accurately, highlighted during rehearsals when some attendees strayed despite floor light guides. To ensure clarity, I enclosed the walkway with bubble wrap, providing a single, clear path. The obstruction will swiftly be removed after, as the corridor is vital for actors and dancers transitioning to the main set.



The prelude, our initial screen projection, sets the immersive tone through live music and AI-generated motion images. Originally, Xianni played as the drummer in the corner, but after rehearsals, we placed her at the forefront to lead, guiding the audience into the main stage. This adjustment clarifies the narrative in the darkness, enhancing the overall performance flow.



As we reach the main stage area, we've separated the audience from the performance space using bubble wrap and sound-activated light strips. Three screens around the stage work together: the left and right ones feature interactives to enhance the atmosphere without disrupting the narrative. For example, during the Devil's Whisper sequence, real-time face imaging on the left screen directs attention, while the central screen displays a dance silhouette, immersing viewers in Carp's perspective. The right screen adapts abstract graphics based on live sound, enriching the ambiance.



Visual Technology Applied

The opening video for the performance serves as a teaser for the entire show, aiming to concisely present the main content within two minutes to build audience anticipation. The video is displayed on TV screens along the hallway and on a projection screen, with the latter using a translucent shower curtain to accentuate the underwater scenes. The video production process involves first generating images using AI and then converting them into a video format. During the design phase, ChatGPT was used to generate images related to the theme, such as shimmering carp scales in sunlight, jumping motions, and scenes of rivers and dragon gates, to emphasize the atmosphere of challenge and hope.

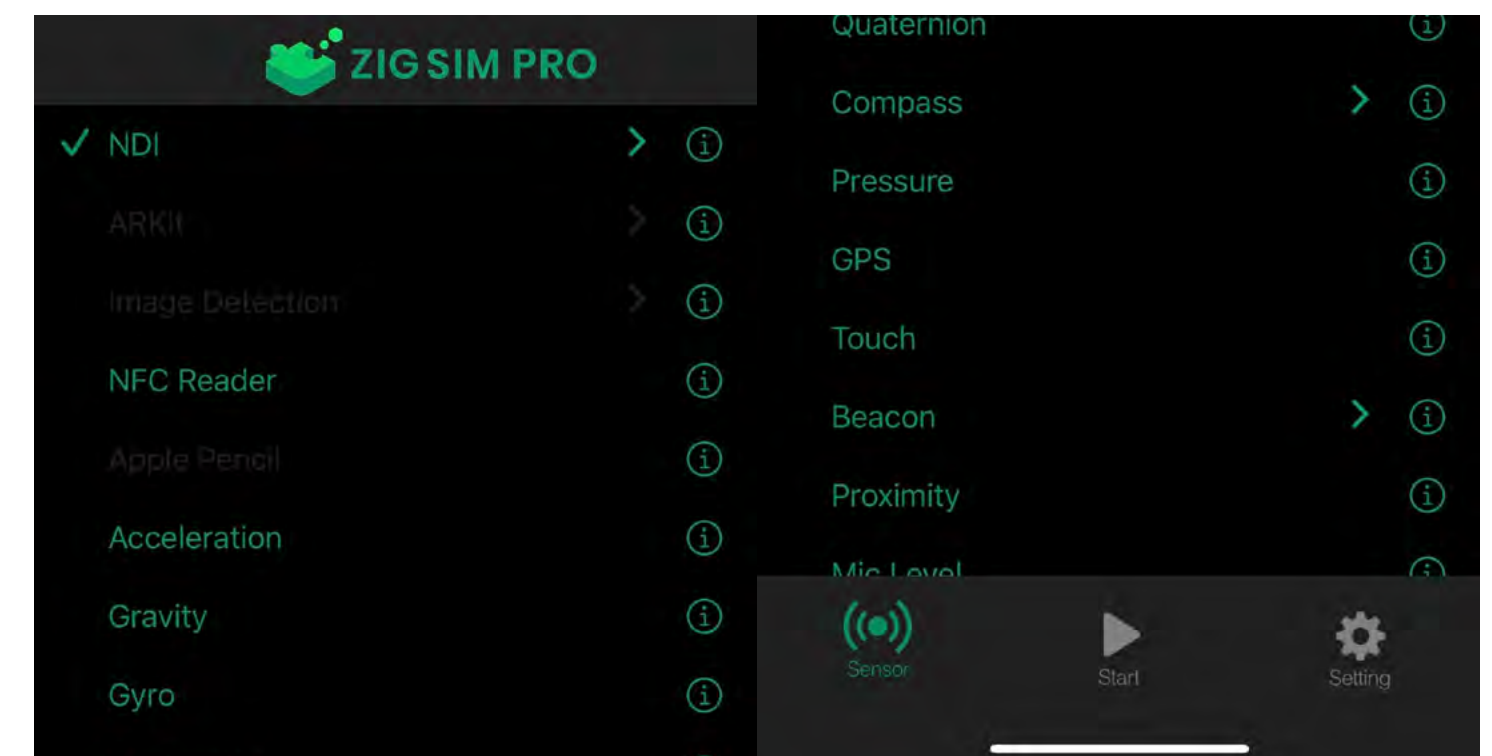
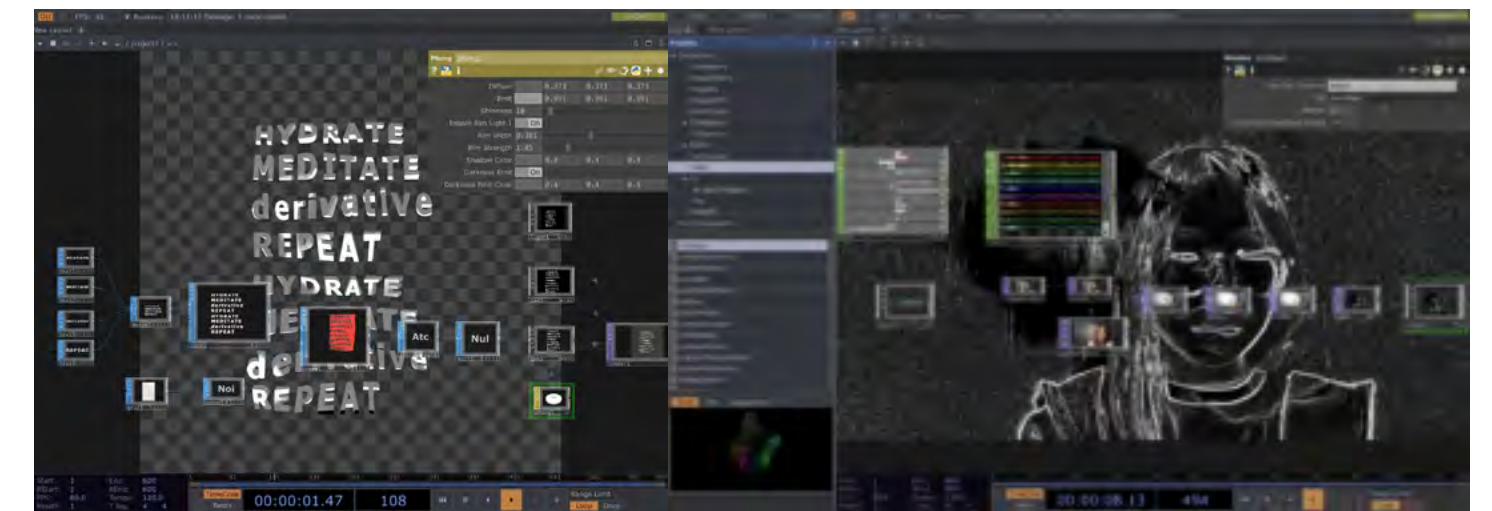
Next, Runway's Gen-2 model was used to create the short film, and animation tools were applied in the editing process to execute camera pans, zooms, rotations, and other effects. The subtitles were created using Touch Designer, with dynamic artistic fonts to enhance the visual appeal. The entire production process involved font adjustments, dynamic effects, color and texture selection, and post-production work, including adding noise, surface textures, brightness adjustments, image compositing, and adjustments to edges and background framing.

TouchDesigner Project Link: https://uoe-my.sharepoint.com/:f/g/personal/s2546925_ed_ac_uk/EvxncuG6ZtpPnj68pVqmIMAB1XnPqvpGyZr0tDBCnJHhlg?e=yqA5IW

To enrich the main stage's visual effects, we plan to add a secondary screen on the left side of the stage, utilizing Touch Designer to create unique visual effects to complement the performance. The original plan was to use cameras to capture the dancers' movements and silhouettes. However, due to insufficient lighting on the main stage, the figures couldn't be accurately detected, leading us to set up LED lights on both sides of the stage instead. Unfortunately, the lighting equipment was too heavy to hang safely, so this interactive effect was eventually applied to the main stage's "Demon's Whisper" and "Leap Over the Dragon Gate" scenes.

Due to the late change in plans, we couldn't prepare the Kinect cameras in time, so we used the ZigSim mobile app to turn our phone into a sensor and camera, transmitting the video signal to Touch Designer over a network. In Touch Designer, we used caching to store video frames, applied differential detection to obtain movement trajectories, and adjusted brightness, contrast, and edge detection to enhance the silhouettes.

Backstage Video Link: <https://youtu.be/7SBKFSJOcSw>



Visual Technology Abandoned

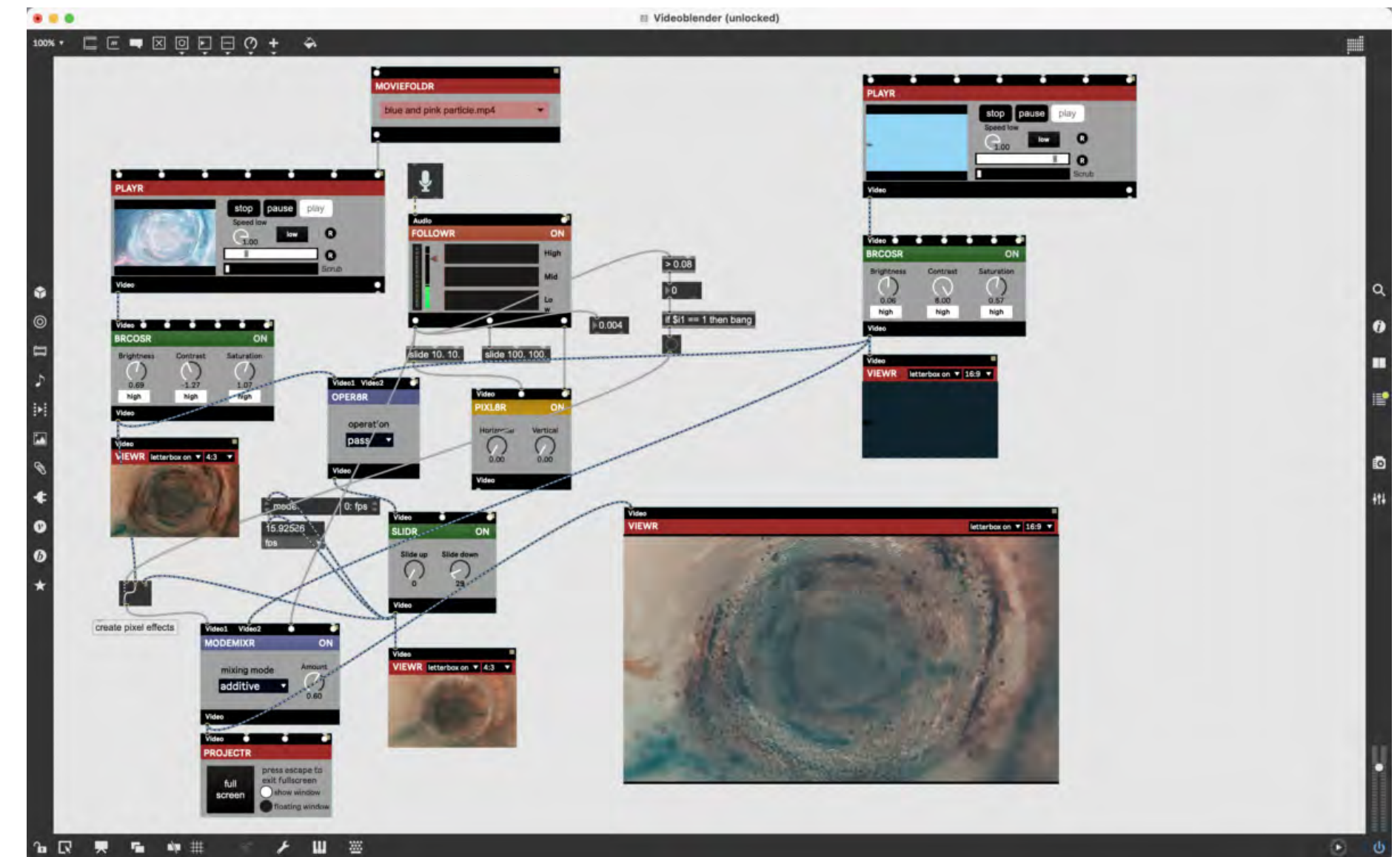
Max Visual Blender

The basic principle involves using Video Blender to merge two videos in different ways, while utilizing the volume levels of the audio input in Max8 to trigger operations in Blender. When the audio input reaches a certain level, it outputs a "bang," which triggers a switch. This allows for the automatic switching of the videos used in the blending process.

However, for unknown reasons, this setup consumed a substantial amount of processing power, causing instability in the operation of the two computers, despite it being just a simple video mixer for live feeds. Consequently, we had to make a last-minute substitution with sound-activated light strips controlled by Arduino sensors. These strips were hung on bubble wrap that separated the audience area from the performance space, adding an interactive element to the stage setup.

Max Patches Link:

https://uoe-my.sharepoint.com/:f:/g/personal/s2541346_ed_ac_uk/EmpphTFG5AlEhw68WtXUKbkB8CvjFavcpOmqtcwBiJEzrA?e=jP315P



Projection Making

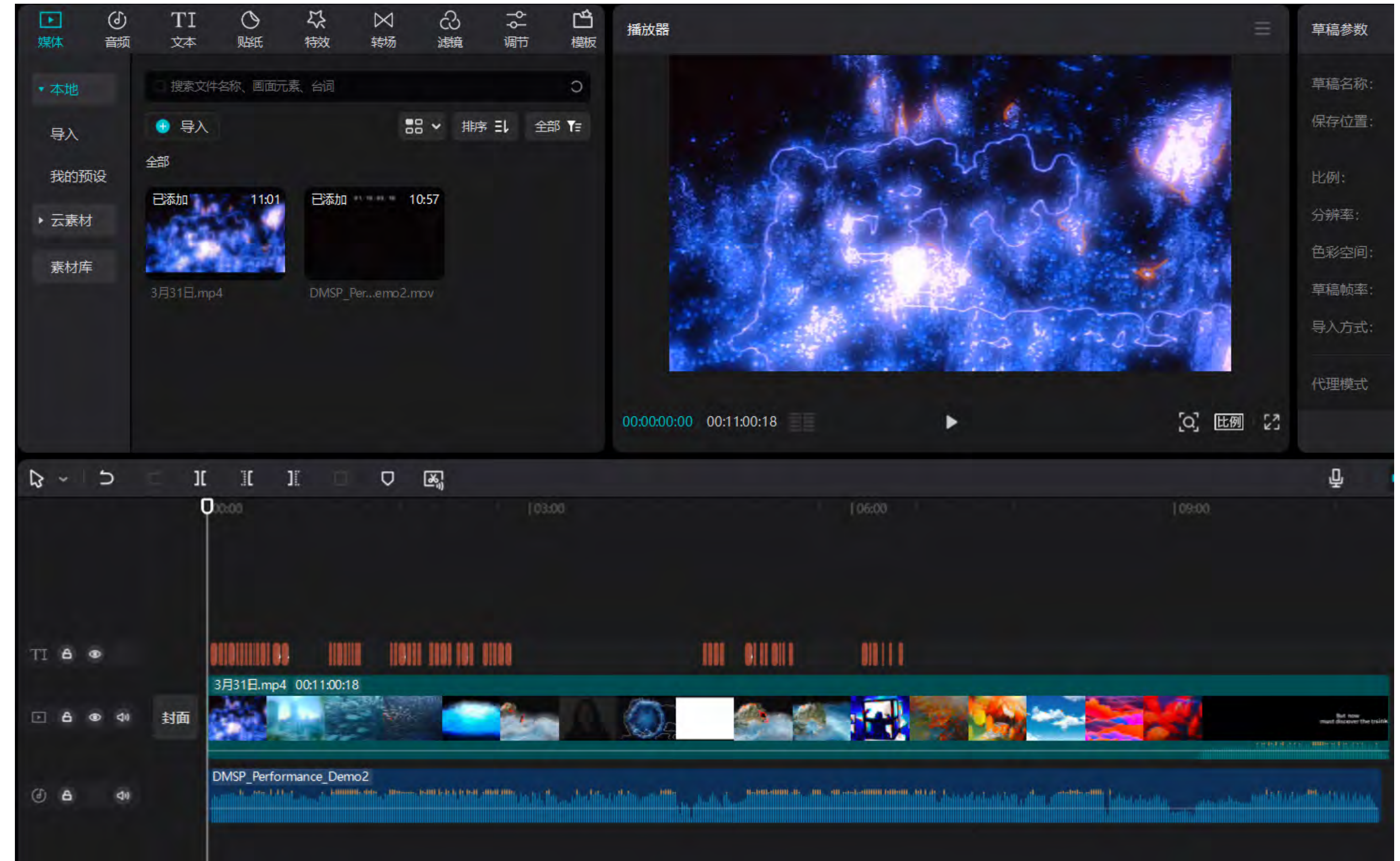
Video link: <https://youtu.be/7ps3wrfmTVE>

The material I use to make videos comes mainly from primary sources: scenes shot on my own; secondary material: video sharing platforms; and fusion material: videos that have been edited and processed repeatedly by AI.

We tried many different edits separately, including but not limited to:

- Use TensorFlow's pretrained style transfer model to apply an image's style to a target content image.
- Generate a series of similar images in Midjourney and compile them into animated sequences or frame-by-frame animations using AnimateDiff.
- Feed the images into Runway Gen-2 to create animations up to 4 seconds long.
- Overlaying the drawings, photographs, animations and videos captured on-site to construct a blended video by CapCut.

The next few pages will describe how we used new technology to composite the projected video.

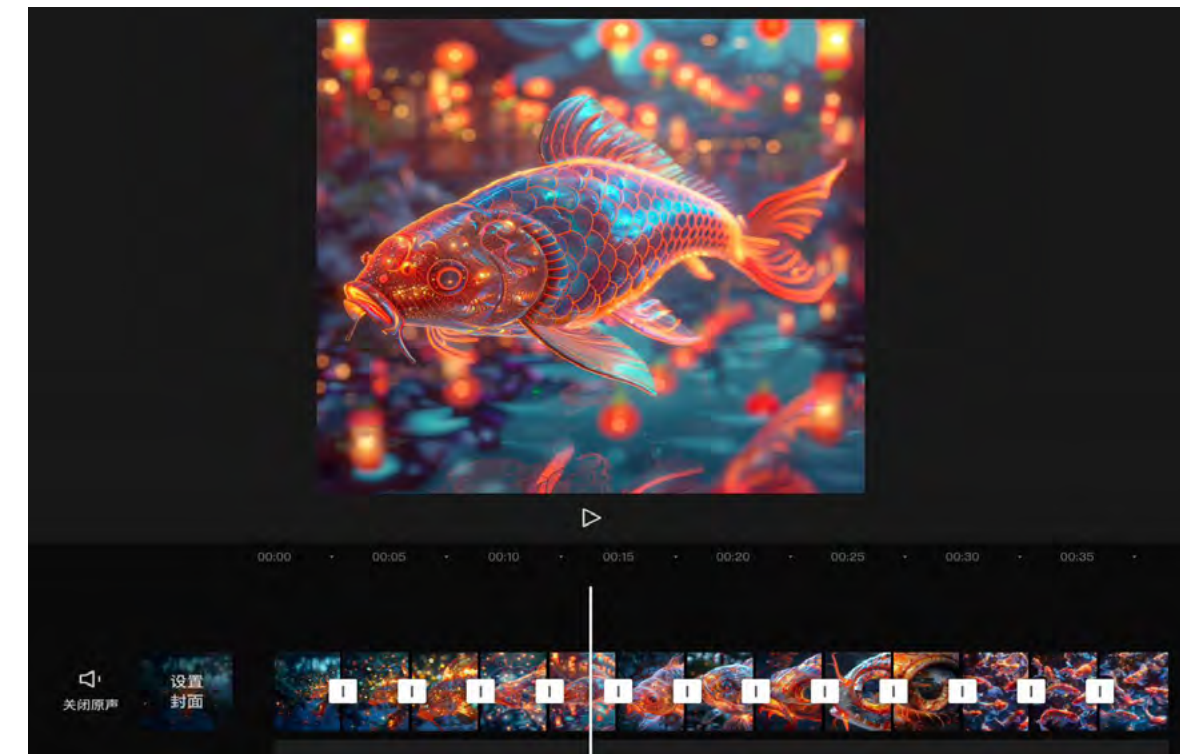


Research in AI-generations

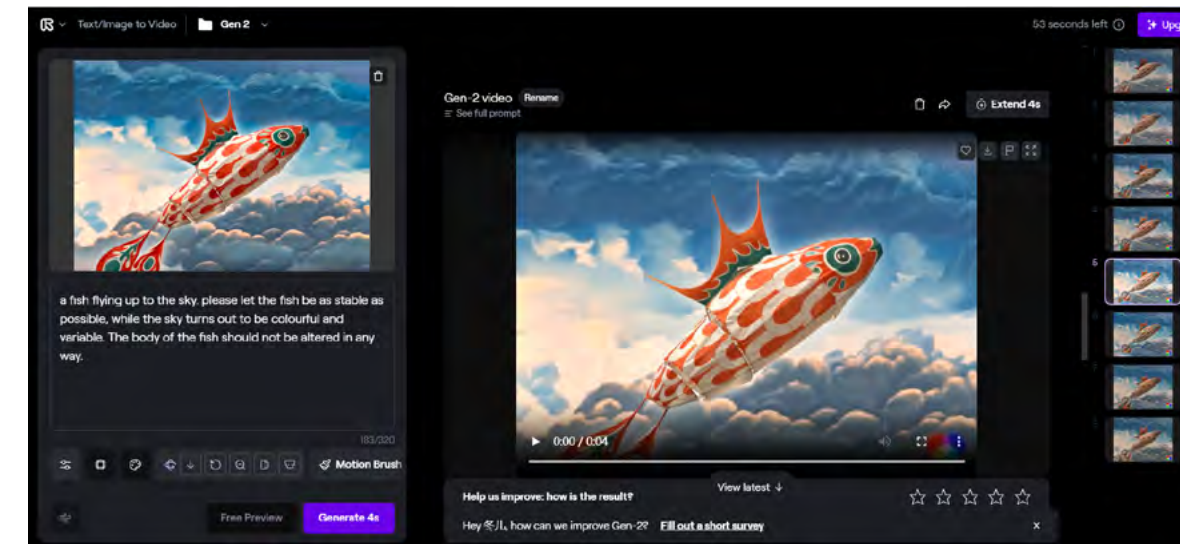
We explore different ways of generating images/videos with AI and explore its usability in stage performance.

Use TensorFlow's pretrained style transfer model to transfer the style from an image to the target content image (https://www.tensorflow.org/hub/tutorials/tf2_arbitrary_image_stylization). The model inference was performed on Google Colab, with minor modification on the code to accept personalized inputs(my drawings). After several tests, I find that the style image is suppose to be photo with white spaces, which is a drawback. The modified code was generated by ChatGPT. I assume that the generated images could be put into our projection video.

The image shows a Google Colab notebook interface. On the left, there is a chat window with a user asking "I want to load them as tf tensor, what should I do?" and ChatGPT providing a Python code snippet to load an image as a TensorFlow tensor. The code defines a function `load_image_as_tensor` that takes an image path and size, and returns a TensorFlow tensor. Below the chat, the notebook code is visible, showing the same function and its application to load and stylize images. On the right, there is a grid of images. Each row shows an "Original content image", a "Style image", and the resulting "Stylized image". The first row shows a group of goldfish, a style image of a person in a colorful outfit, and a stylized group of goldfish. The second row shows a close-up of a goldfish, a style image of a person's face, and a stylized close-up of a goldfish. The third row shows a group of goldfish, a style image of a person in a colorful outfit, and a stylized group of goldfish.

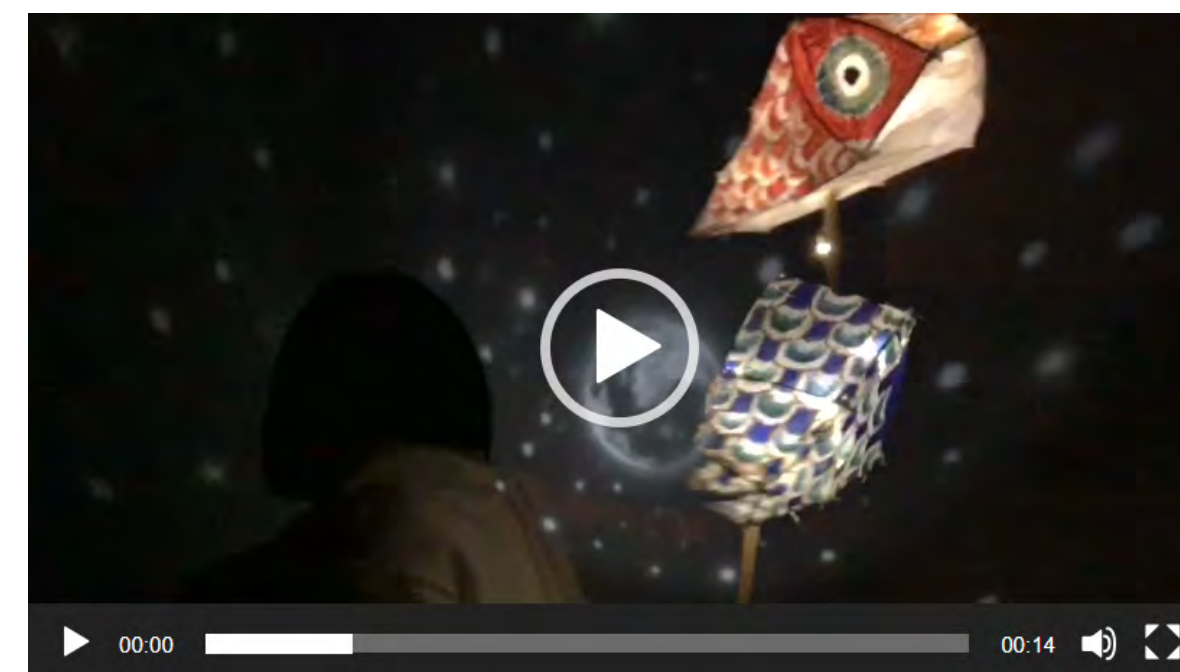


Producing numerous similar images within Midjourney and assembling them into moving images or frame-by-frame animations. (AnimateDiff)



Using Runway Gen-2 to generate animations of up to 4 seconds from images, efficient but with less stability and dynamism in AI-generated videos. Relying on the words given.

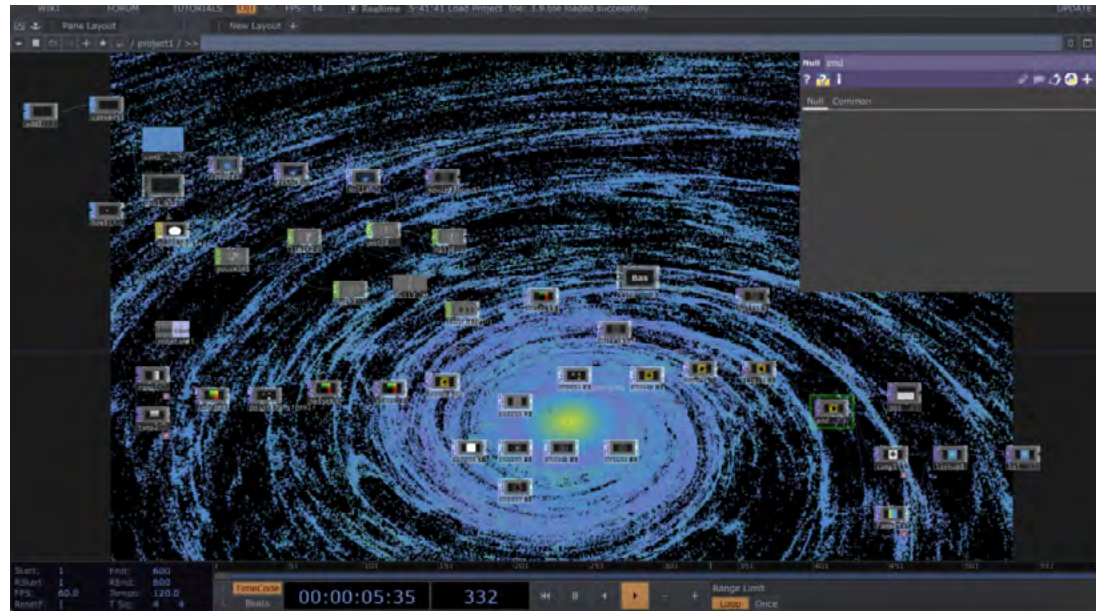
https://drive.google.com/file/d/1EIRdtA88n89Qjhl_i84sqYtnzd0lgWiX/view?usp=sharing



Overlaying the drawings, photographs, animations and videos captured on-site to construct a blended video by CapCut.

<https://drive.google.com/file/d/1sZCbtomEhvTlXliMpk8zPK4nQ5LDGvAd/view?usp=sharing>

Animating with TouchDesigner



Tornado

For the tornado animation, I designed a system that could be manipulated based on mouse position. By manipulating the mouse in the software, I recorded the ideal tornado motion trajectory to make it look more realistic and dynamic.

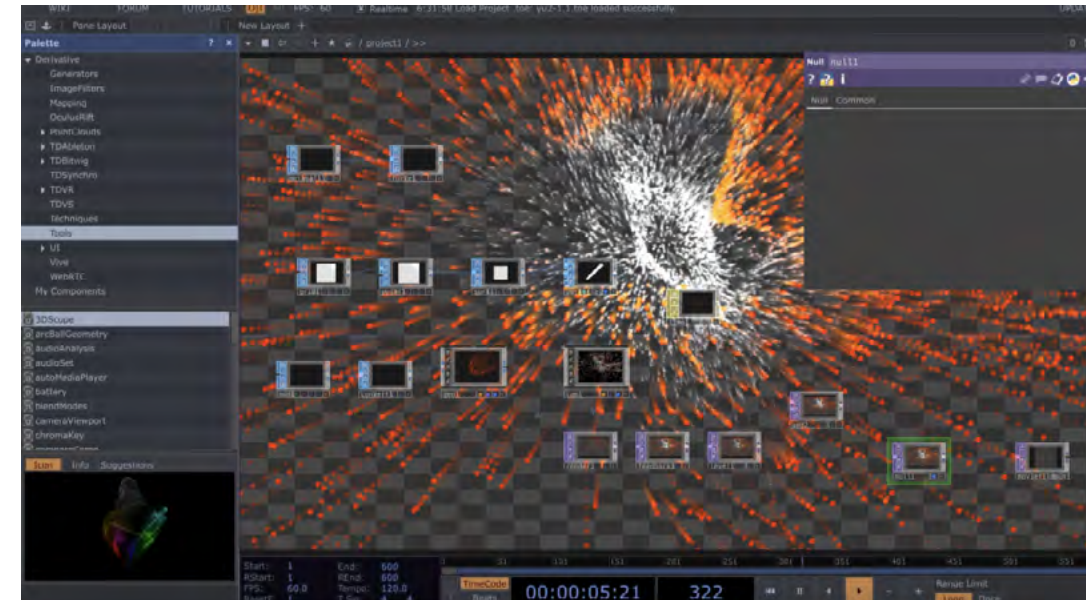
<https://blogs.ed.ac.uk/dmsp-performance24/wp-content/uploads/sites/9672/2024/04/Tornad.mp4>



Wave

When creating the wave effect, I initially tried the sound control method, hoping that the waves would rise and fall with the rhythm of the music. However, after actual testing, the result was not satisfactory. After repeated tests, I finally chose to use constant value to simulate the movement of the waves, which can better control the overall effect of the picture.

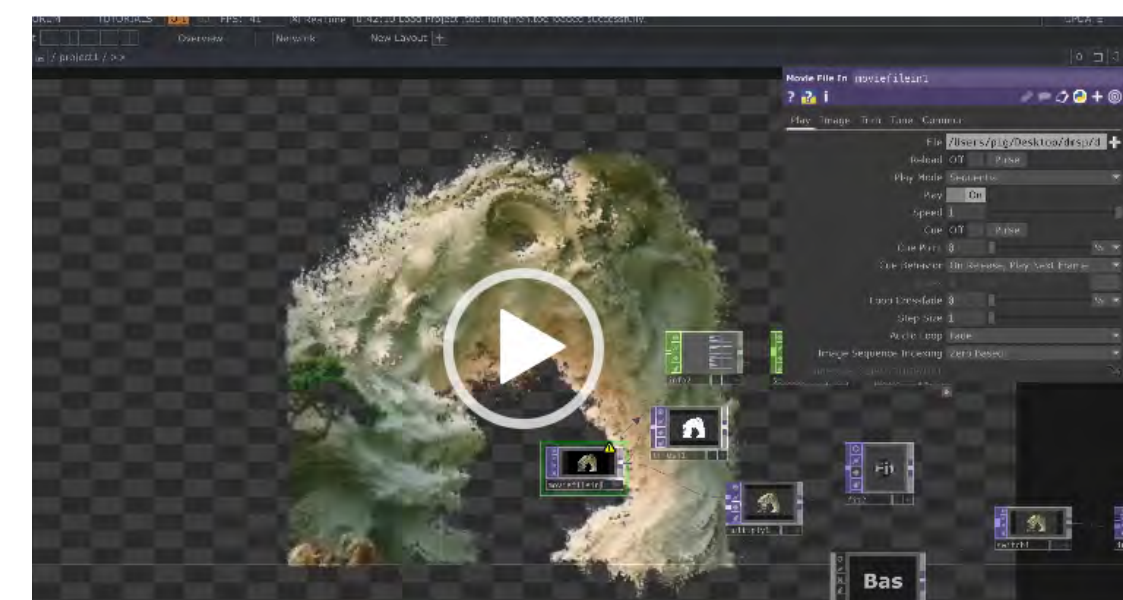
<https://blogs.ed.ac.uk/dmsp-performance24/wp-content/uploads/sites/9672/2024/04/wave.mp4>



Fish swimming head-on

The image of the fish swimming head-on is to create a feeling of suffocation and oppression. By adjusting the density, speed and direction of the particles, I succeeded in creating the effect of a large number of fish swimming head-on, which makes the audience feel as if they are in the water, feeling the helplessness and struggle with the carp.

<https://blogs.ed.ac.uk/dmsp-performance24/wp-content/uploads/sites/9672/2024/04/fish.mp4>



heartbeat and the dragon gate

For parts such as the heartbeat and the dragon gate, I used TouchDesigner to further process the footage video by adjusting the colours, contrast, particle effects, etc. to make the image more artistic and abstract to match the overall atmosphere of the performance.

<https://blogs.ed.ac.uk/dmsp-performance24/wp-content/uploads/sites/9672/2024/04/dragon-gate.mp4>

Right Interactive Screen Design

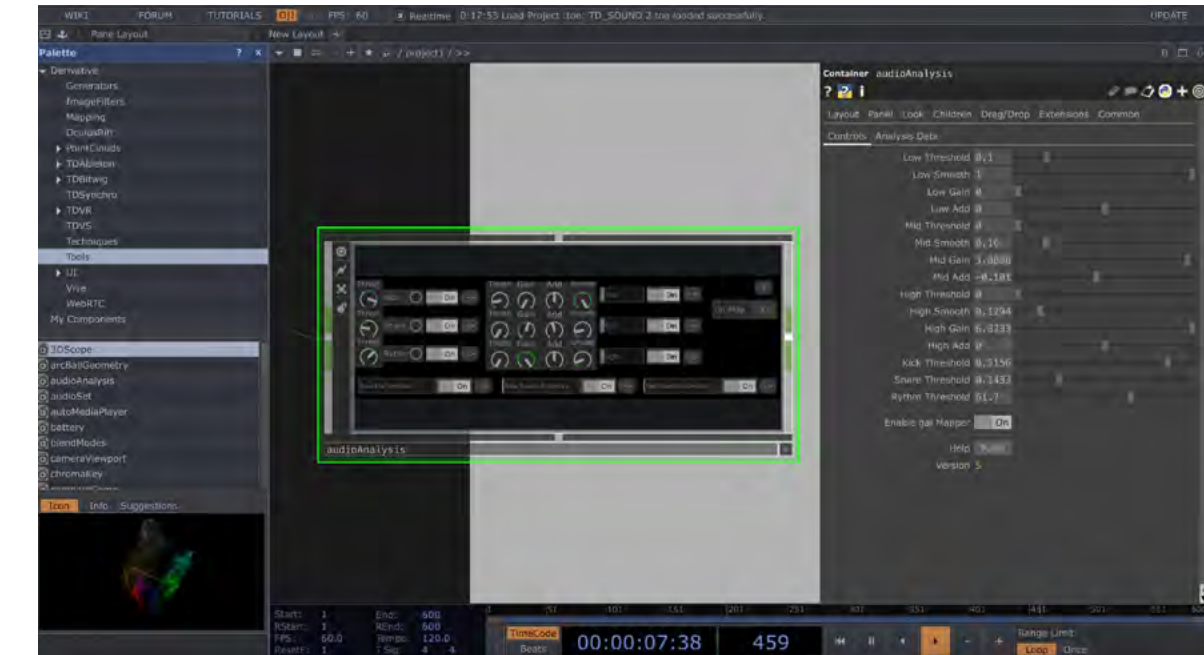
In our stage performance project, we originally planned to place an ice screen in front of the main screen to project the gantry image and the expression performance to express the emotions of the little fish. Actors could travel in front of and behind the ice screen during the performance, creating a before and after scene.

However, during the testing phase, we encountered some challenges:

1. The superposition of the front and back stage structures did not meet our expectations in terms of visual effect. There was a lack of harmonious integration between them, which in turn appeared to be abrupt and distracted the audience's attention.
2. The size ratio of the ice screen is 1:2, which is quite different from the ratio of the projected image of the projector, causing difficulties in video production.
3. The light source of the small projector would penetrate the translucent ice screen and shine on the main screen, which affected the picture effect of the main screen.

For these reasons, we decided to move the ice screen to the right side of the stage and adjust the content strategy. We dropped the originally planned gantry screen and small fish emoji performance and instead created an abstract screen that could interact with the performers in real time. I created a TouchDesigner file to achieve this, and chose a blue colour palette that echoed the theme of the stage to simulate the flowing aesthetic of liquid water. Driven by the live sound, the dots of light in the image would flicker and flicker in response to the intensity of the sound, resembling the light jumping off the surface of the water.

At first I tried to use the audioAnalysis block to capture the low, mid and high frequencies, spectrum, tempo and volume of the live sound, in order to generate a varied and layered visual effect. However, after a series of tests, I found that this approach did not work as well as I had hoped when combined with live sound. So I turned to the switch component. Although switch is not as sophisticated as audioAnalysis in terms of functionality, it shows a much better and more stable performance in the field.



<https://blogs.ed.ac.uk/dmsp-performance24/wp-content/uploads/sites/9672/2024/04/Side-screen-touch-designer.mp4>



<https://blogs.ed.ac.uk/dmsp-performance24/wp-content/uploads/sites/9672/2024/04/2111.mp4>



<https://blogs.ed.ac.uk/dmsp-performance24/wp-content/uploads/sites/9672/2024/04/IMG4629.mp4>

Audiovisual Research and design Notes

I attended the Edinburgh Blues and Jazz concert and found their set interesting - the projected video responded to the rhythm of the music so that the audience could simultaneously feel a stronger resonance on the audition. They take on abstract and realistic usages for different music and scenarios.

1. https://drive.google.com/file/d/1PD_YsehuFe_06th2SG4sGAz_gSwsjAM4/view?usp=sharing
2. <https://drive.google.com/file/d/1mgz00vzciFigeMMB6k7DlakCXpEtsSZn/view?usp=sharing>



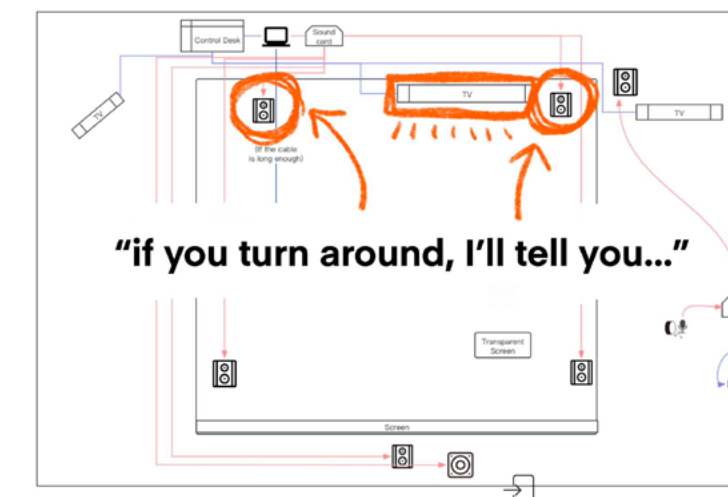
I learned to create animations that change according to the music.

1. https://drive.google.com/file/d/17co5xMI2L9zar8gS288Y6A_Am6pRNyUU/view?usp=drive_link
2. https://drive.google.com/file/d/1uO2745sN5jUQqO-M_TaDL6bcFji9Yx3L/view?usp=sharing

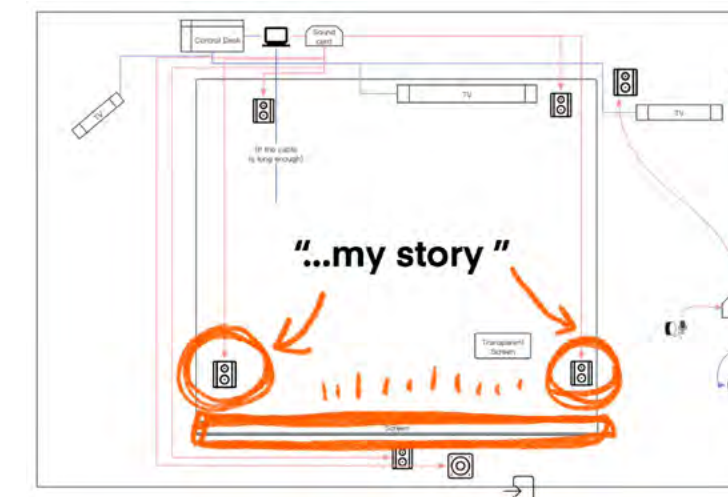
Design of audio-visual coordination

To direct the audience's attention to a specific screen, we ingeniously used 5.1 surround sound along with strategic changes in the front and back screen spaces.

*"If you turn around,
I'll tell you..."*

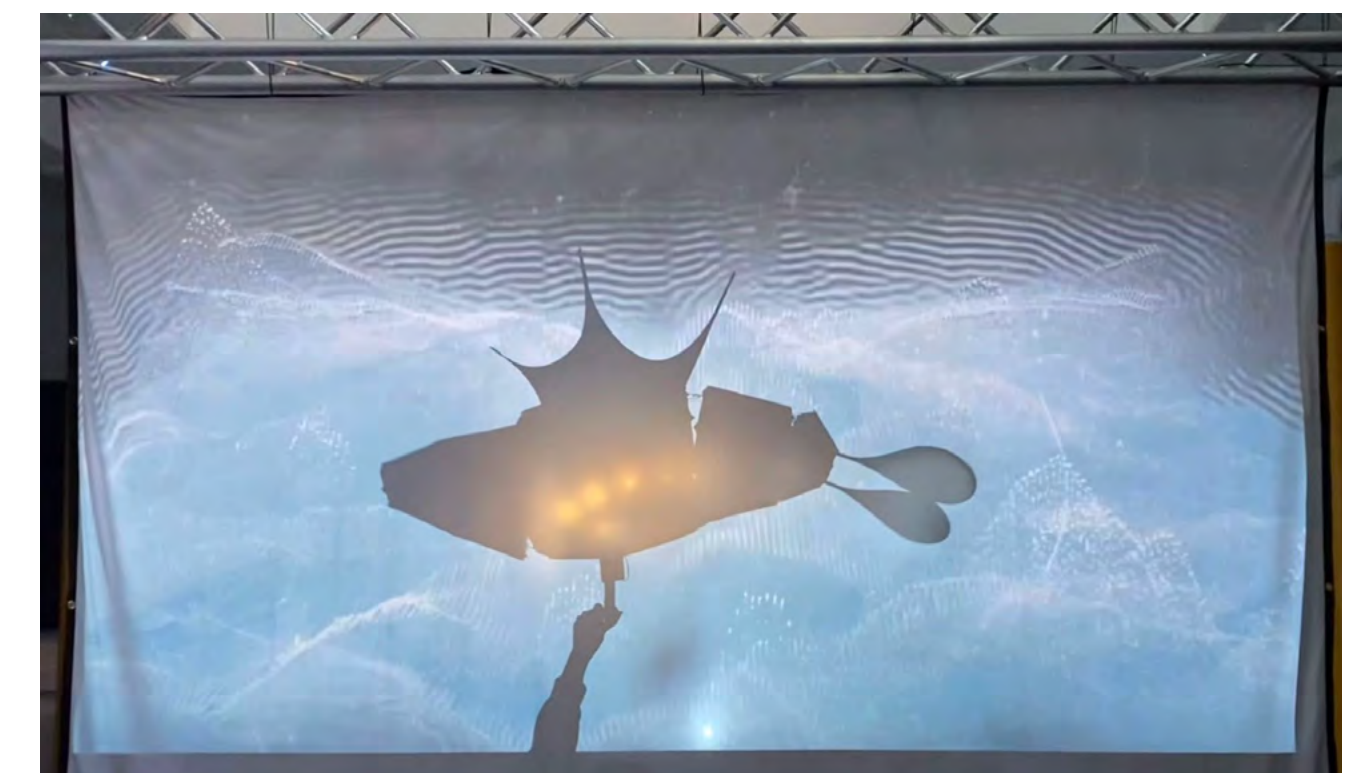


"...my story"



Light and shadow

The shadow play in the opening credits aims to create mystery and intrigue. At the end of the movie, the shadow play mirrors the opening, implying the carp has returned to its cage.



Interactive light strip design and commissioning

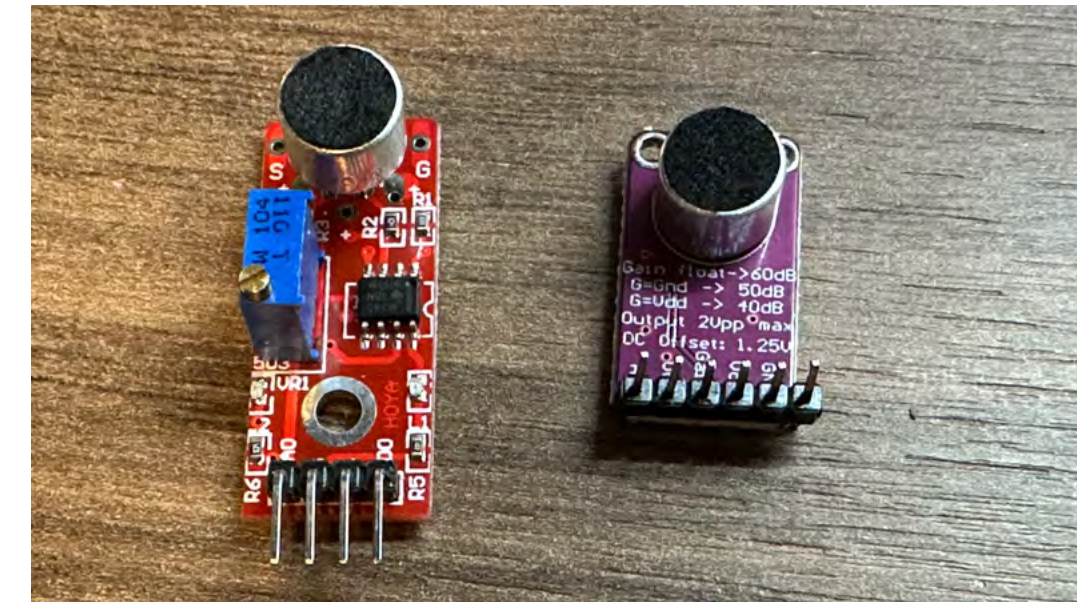
Firstly, I picked up a 5 metre roll of WS2812B RGB LED Pixel Strip. This strip features individual colour control for each LED pixel, making it ideal for flexible and versatile lighting effects. Next, I chose the Arduino software as the control platform to enable precise control of the lights for live music.

Initially, I used the LM393 sound sensor to capture the sound signal of the live music, and then tried to write code to convert the sound signal into lighting effects. However, after many attempts and adjustments to the code, the results were still not satisfactory.

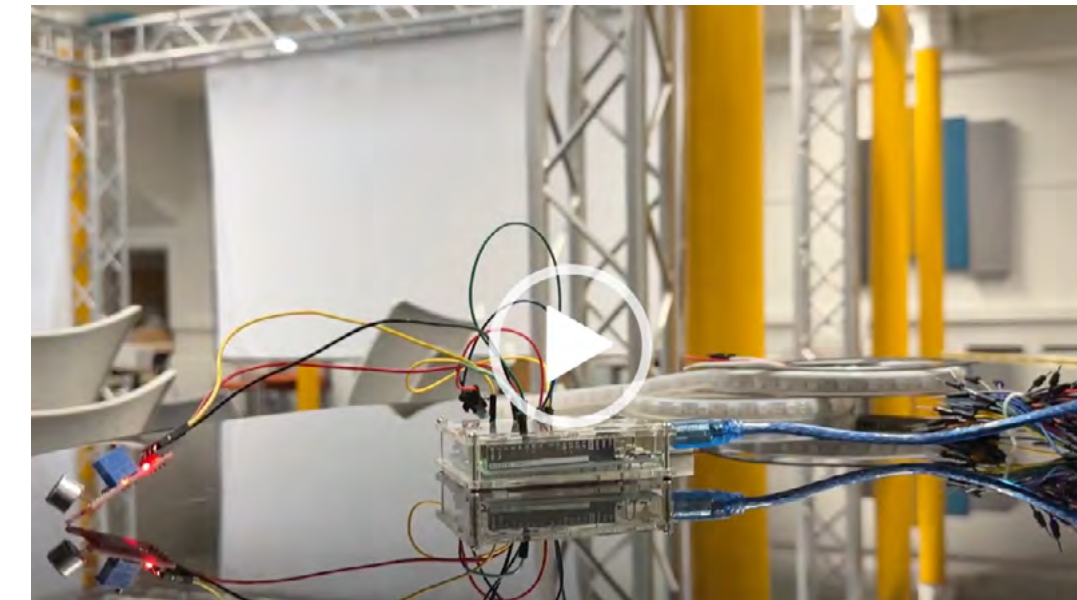
After a series of searching and learning, I decided to try to use MAX9814 sound sensor instead. MAX9814 sensor has higher sensitivity and performance to capture the music signal more accurately, which improves the accuracy and response speed of the lighting effect. And the code logic was realigned. In the original code, the update of the lighting effect is executed based on a fixed delay, which may result in being out of sync with the music tempo. In the improved code, an interval-based update mechanism is introduced, using the `millis()` function to achieve timed updates. This allows for more precise control of the update frequency of the lighting effects, allowing them to be better synchronised with the music tempo.

By increasing the sensitivity of the sensor and optimising the structure of the code, I managed to improve the capture of the music signal and reduce the latency of the code to make the lighting effect smoother.

Next, I secured the light strips to foam tape to create a water ripple shape and positioned them in the area between the stage and the audience.



<https://blogs.ed.ac.uk/dmsp-performance24/wp-content/uploads/sites/9672/2024/04/IMG4467.mp4>



<https://blogs.ed.ac.uk/dmsp-performance24/wp-content/uploads/sites/9672/2024/04/IMG4467.mp4>

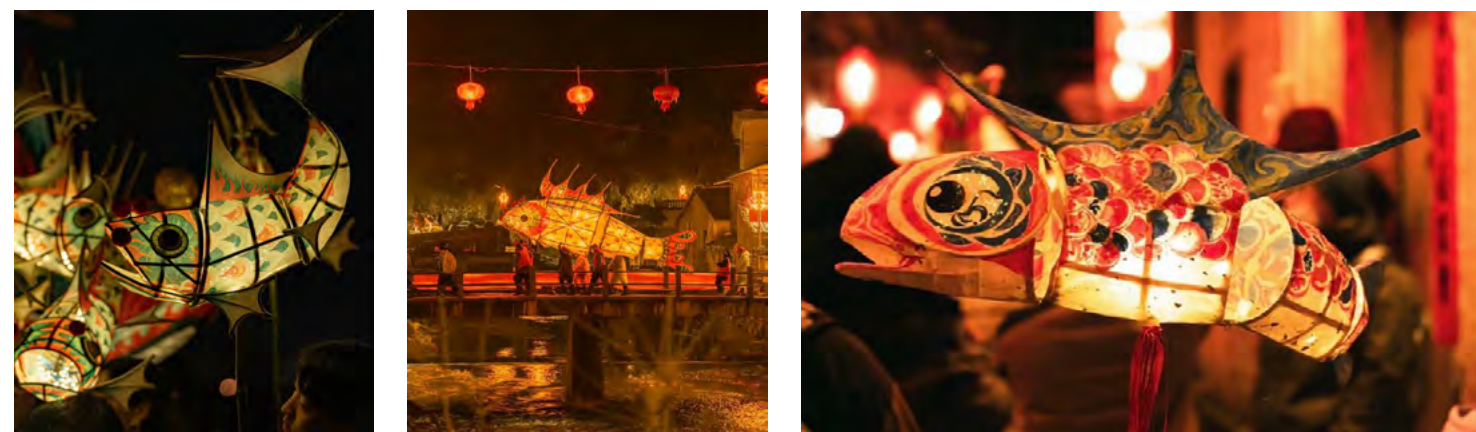


Fish Lantern Production

Research

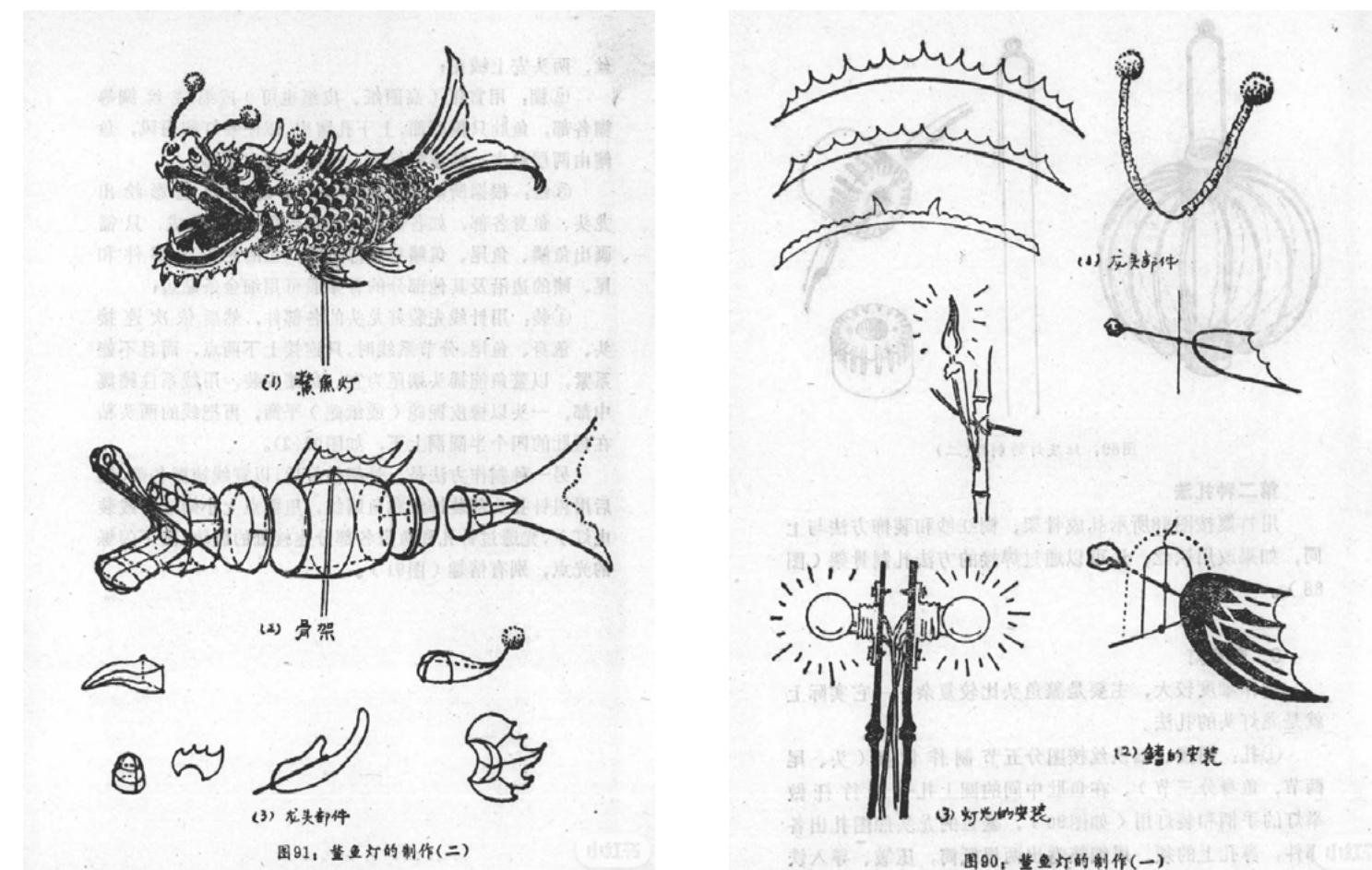
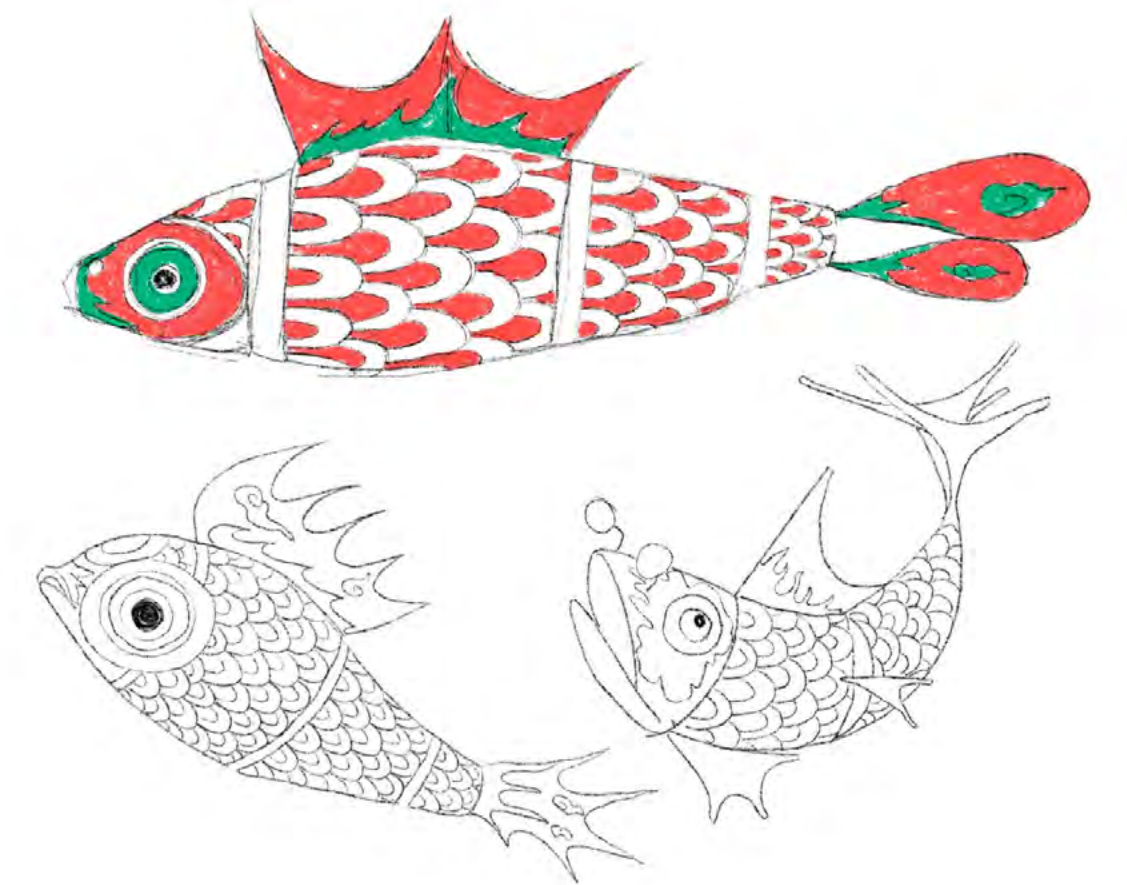
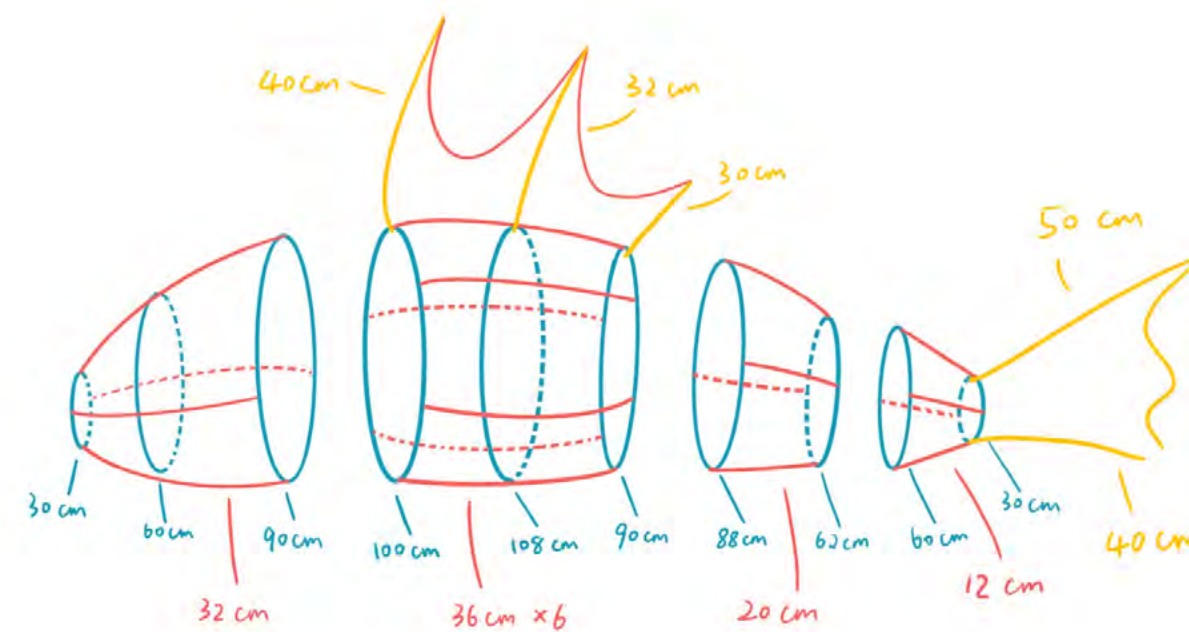
I studied the traditional fish lanterns from Chinese lantern festivals, tweaking them slightly. Opting for a classic red and green palette, I aimed for better visibility. Though crafting fish lanterns is intricate, I honed my skills through traditional sources and online tutorials.

Video tutorial of making fish lantern: https://www.bilibili.com/video/BV1hV4y1P75T/?share_source=copy_web&vd_source=aa7293d854a97fa85bdb47314a5b6fbe

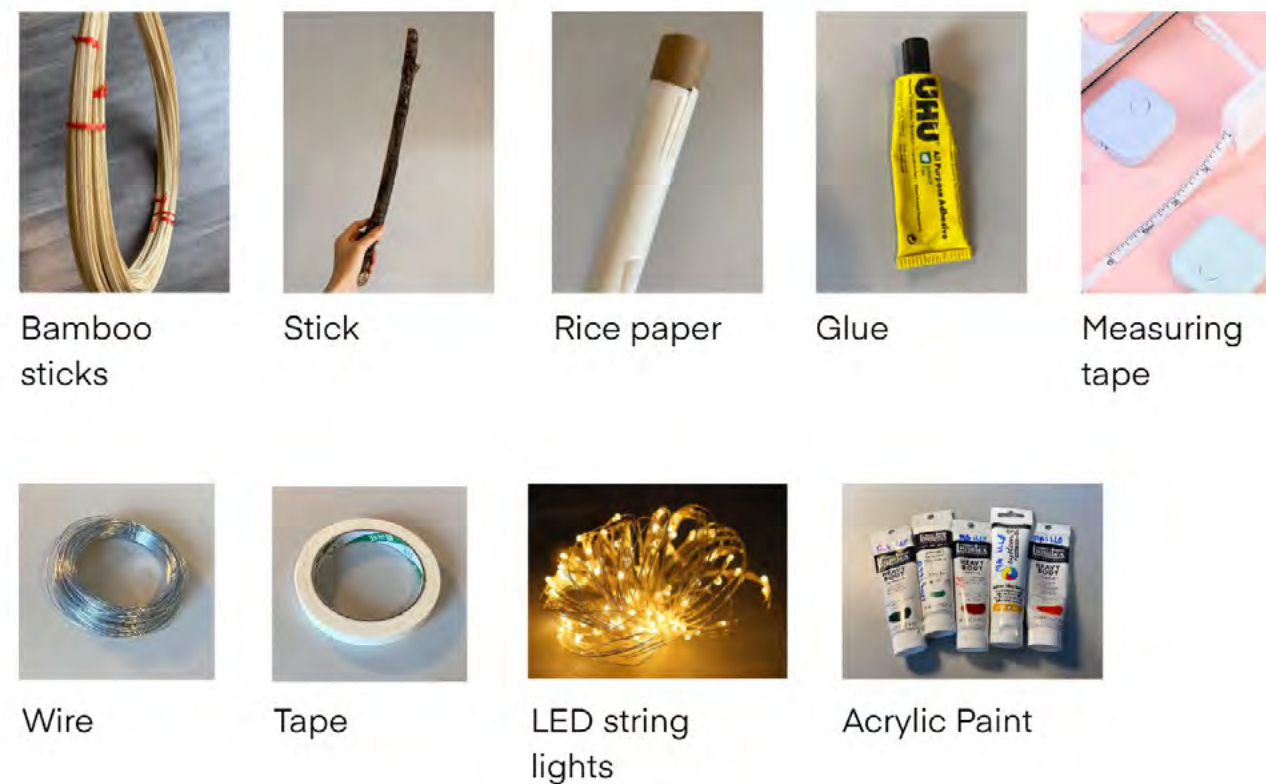


Design

I started by sketching designs and structural blueprints, figuring out the ideal cane size and estimating the fish lantern's dimensions. For assembly, I divided the lantern into four sections, connecting them with wire hooks to create a swinging motion.



Material list



Video of production records:

<https://youtu.be/3905qkRxWMk?si=LQaKEQzXvOYqMqjE>

1. Soak the rattan in water to soften it.
2. Cut them in size and tape together to form the body part.
3. Put the light strings in.
4. Cover it with rice/tissue paper.
5. Colour it with acrylic paint.

Props Design & Production

Small fish lanterns

The overall design of two of the small fish is similar to that of the big fish, but we used material packages to make the process much simpler to save unnecessary work. These two small fish have light strips wrapped around their interiors, enabling them to emit a faint glow on stage, enhancing the visual effect. They will be on stage in three of the acts. The other two small fish are decorated on top of the lanterns to mimic the form of a fish. The red fish is controlled by Hongpei Cao and performs in real time, with its performance projected on the left screen. The pink fish is used as a live decoration.

Production record: <https://blogs.ed.ac.uk/dmsp-performance24/wp-content/uploads/sites/9672/2024/03/Four-Little-Fish-production-and-presentation.mp4>



Decorative Goldfish

We created decorative goldfish from glossy cardboard, drawing goldfish patterns on them. While we initially planned to hang them on stage, we ultimately placed them on the passageway wall for safety reasons.



Balloons

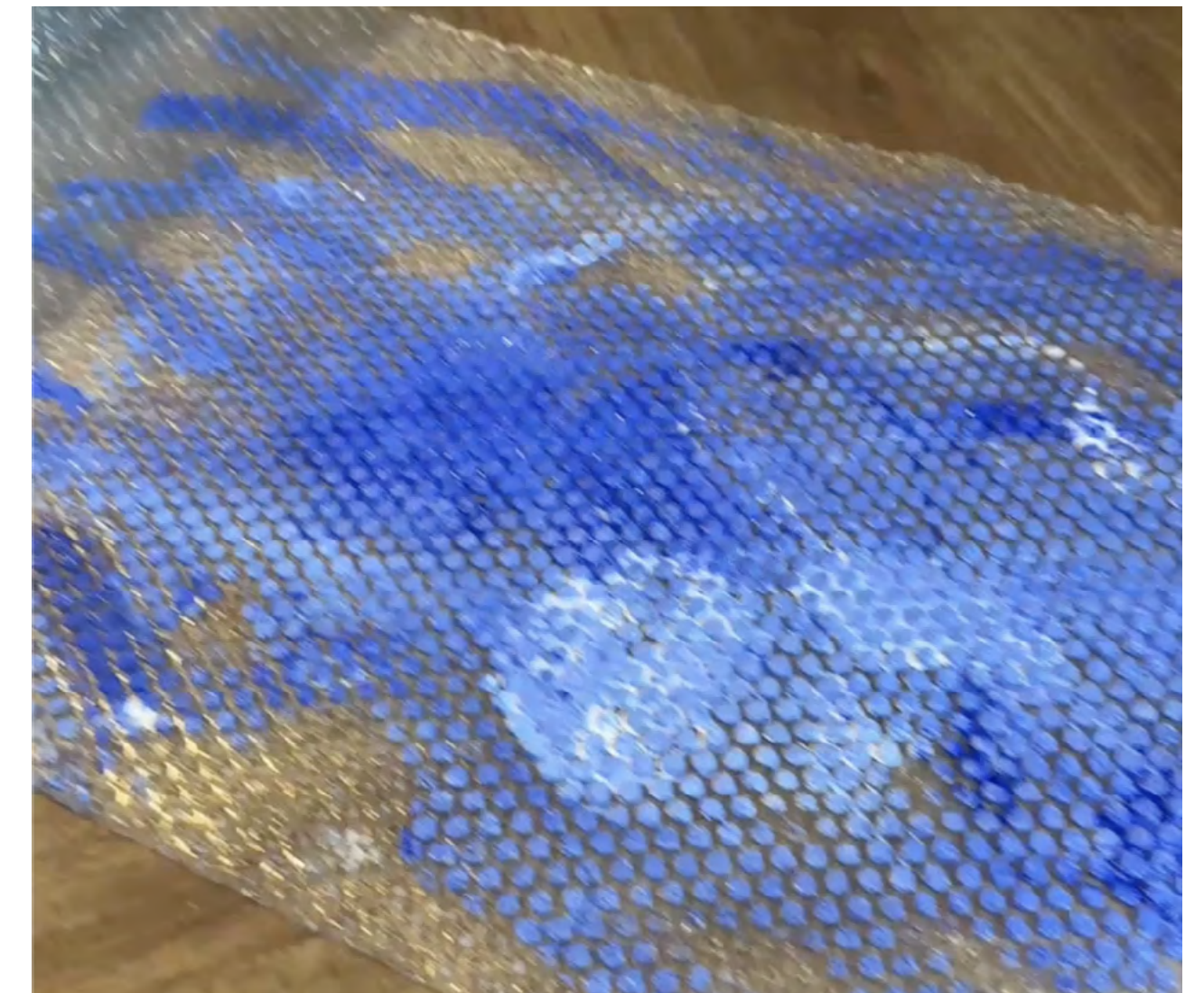
We hung different coloured balloons at the entrance, including transparent, light blue and dark blue. The transparent balloons were also filled with tricolour wool inside. When viewers wish to enter, their faces are blocked by the balloons, which creates a suffocating, crowded and oppressive feeling, symbolising the crowded and oppressive existence of carp in the lake.



<https://blogs.ed.ac.uk/dmsp-performance24/wp-content/uploads/sites/9672/2024/04/IMG4618.mp4>

Foam Tape on the Floor

We noticed during rehearsals that the audience would have trouble determining where they wanted to stand, so we decided to place a foam strip on the floor to differentiate between the stage and the auditorium. The foam paper will be painted with a blue water pattern, suggesting that the story takes place in water.



Dance

Dance plays a central role in this performance, symbolising the internal struggles of the carp, setting the mood and emotional tone, and conveying our story to the audience through movement and body language.

We had the pleasure of collaborating with Ruby Yang, a talented dancer, to take the lead in our dance performance. After several rounds of discussions and negotiations, we established four distinct emotional stages for the dance: confusion, the state of mind when the devil whispers, brainwashing, and the madness that arises from overwhelming stress. Our dance instructor choreographed the movements based on the storyline and ambience we aimed to create, while also considering the constraints of our performance venue.

The costume we designed for Ruby was inspired by traditional Chinese ethnic goddess attire. We chose this style because it exudes a mystical aura, and adding rags and bells would enhance the audio-visual impact during the dance sequence.

We explored various options to illuminate the dance, considering stage lighting techniques that weren't currently available, adding light strips to costumes, increasing projection brightness, and more. Given our tight timeline, we ultimately opted for a simpler approach: manual lighting. This allowed us to adapt quickly and focus on creating the best possible performance with the resources we had.



Choreography Video: https://uoe-my.sharepoint.com/personal/s1934638_ed_ac_uk/_layouts/15/onedrive.aspx?id=%2Fpersonal%2Fs1934638%5Fed%5Fac%5Fuk%2FDocuments%2FPerformance%20File%2FVisual%2FDance&view=0



Costume

sound

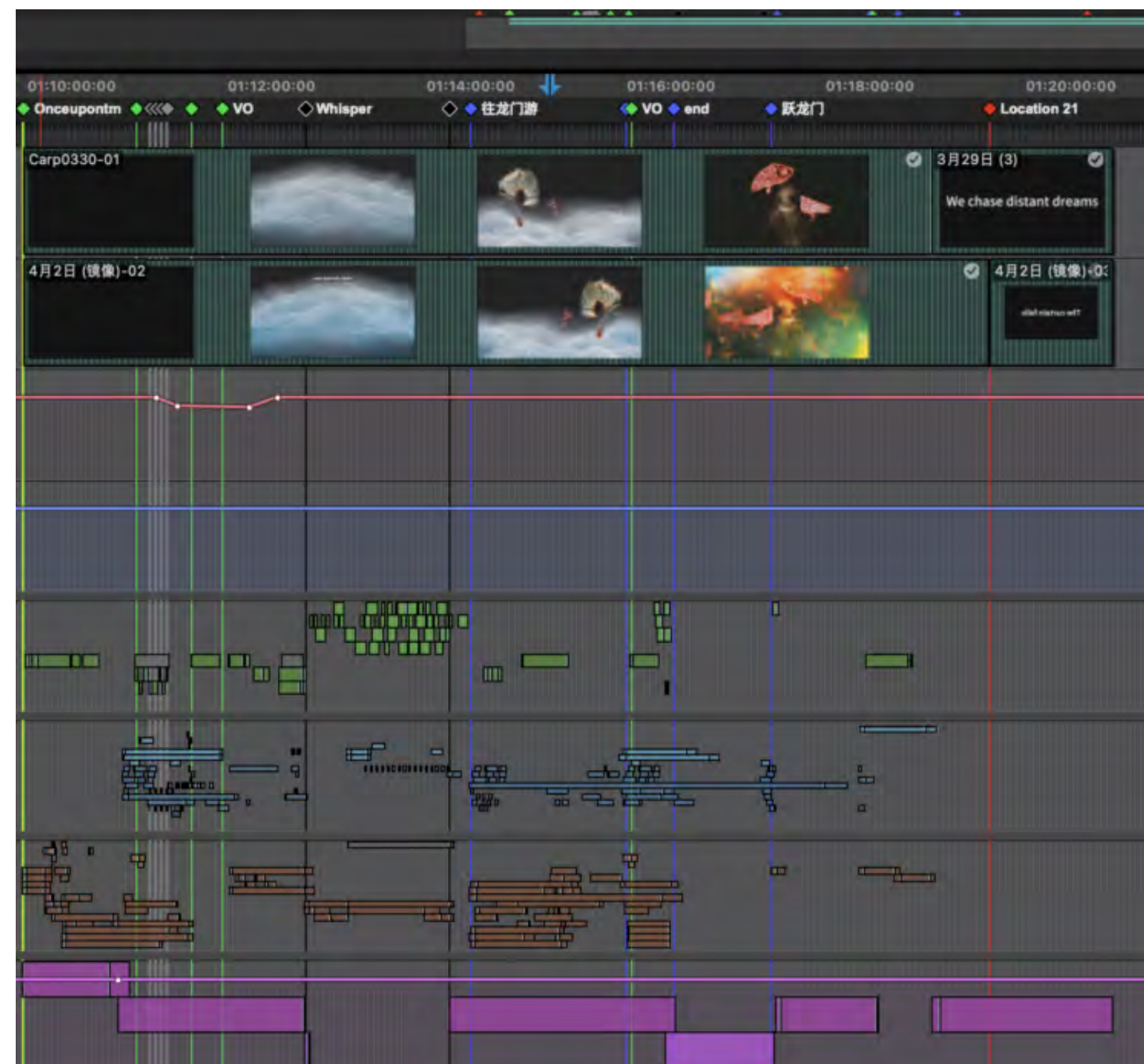
Sound Design - Effects and Mixing

Sound Effects Production

With only about a week remaining for audio production, the majority of the sound was edited and designed using sounds from personal and commercial sound libraries to save time. The project's structure consisted of four main components: vocals, sound effects, ambiance, and music. Vocals included narration and demonic whispers, which were processed through pitch shifting, electronification, and overloading to achieve the desired effects. The ambiance was created using multitrack stereo with sound image variations to produce a surround sound track.

Full Protocols Session Link:

https://uoe-my.sharepoint.com/:f:/g/personal/s2541346_ed_ac_uk/Eu0lgCslxJhAonxgm4Z79awBGyGA_a7ixQOdCuHDhKVNQw?e=bkXQgo



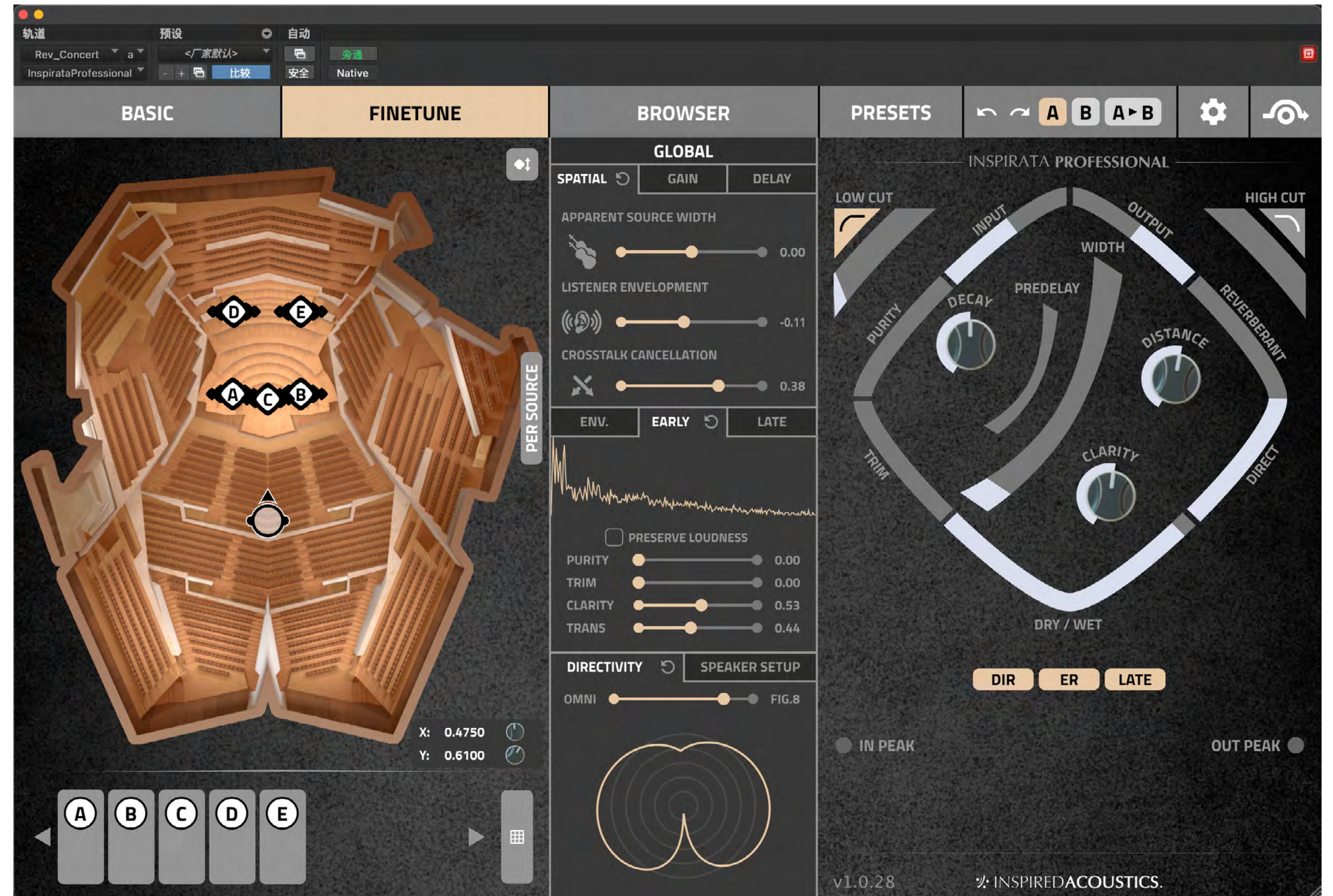
Plugin Applied

iZotope VocalSynth2
Krotos Reformer Pro
Krotos Studio
Avid Pitch II
Inspirata Reverb

Sound Design - Effects and Mixing

Surround Sound Editing and Mixing

Sound effects were produced in a manner typical of film and television sound production: markers were initially set along the timeline, and the tracks were gradually filled to complement the music and convey emotions. We also experimented with various abstract processing techniques, fully utilizing the advantages of the surround sound track to create rapid, continuous sound image changes, reducing auditory fatigue for the audience. As for the music mix, since the music was initially in stereo format, we added a surround sound reverb send to compensate for the lack of rear surround sound.



5.1 Reverb Setting for Music Tracks

music

Music composition of the project

To begin with, throughout the performance, the music is composed to fit the story line, blending ethnic and contemporary musical elements and compositional techniques, with an operatic-style songwriting format added at the end. The music in this project can be divided into three phases and seven sections: Music for corridor section, Music for main stage (include 5 part) and a song at the end of the whole performance.

Music for Corridor Section

This music serves as the soundtrack to the very first scene of the entire performance and acts as an introduction to the performance, aiming to create an atmosphere that fits the context of the story as the audience moves through the corridor. It creates a low, mysterious atmosphere and introduces the audience to the environment setting in which the story takes place – underwater environment.

Meanwhile, because the story presented in the performance is adapted from the ancient Chinese story of Carp Leaping Dragon Gate, many Chinese instrumental sounds are used in this piece of music, for example chimes, small beaters and ocarinas.

To furthermore, percussion and vocal samples are also used in this piece. The vocal samples originate from the north of China, and this special singing style is called hu mai, which is a special method of singing to achieve the effect of singing in harmony with one person, with a unique ethnic characteristic.

The percussion samples come from a Chinese national instrument, the demi-drum, which simultaneously produces the sound of a drum being struck, the sound of a bell, and the sound of metal rubbing against metal. In this piece of music, some of these drum samples are added and played live, using the instrumentalist's walking route as a clue to lead the audience from the corridor into the formal performance venue.



Cubase project document 1

Music video link: https://youtu.be/Gtr_QjljnkI?si=HL2sFQcXKxxdMQJ1



Drum sample recording

Music for main stage

Part 1

Music video link:

<https://youtu.be/2iKh-MD1XrQ?si=kA0X37GLFTJdCtIM>

As the beginning of the official performance stage, the first half of the music of the first part still focuses on describing the environment, with soft piano chords being used. In the second half of this music, pentatonic modulation is used, as well as a melodic line and live performance of the bamboo flute is added to serve as an expression of the protagonist's movement, while adding high frequencies to the music to enhance dynamics. Meanwhile, the instrumental timbres do some sonic direction according to the protagonist's movements in this section.

Part 2

Music video link:

https://youtu.be/GzpkRSQLHmk?si=zj0t06_ch-RdG1KQ

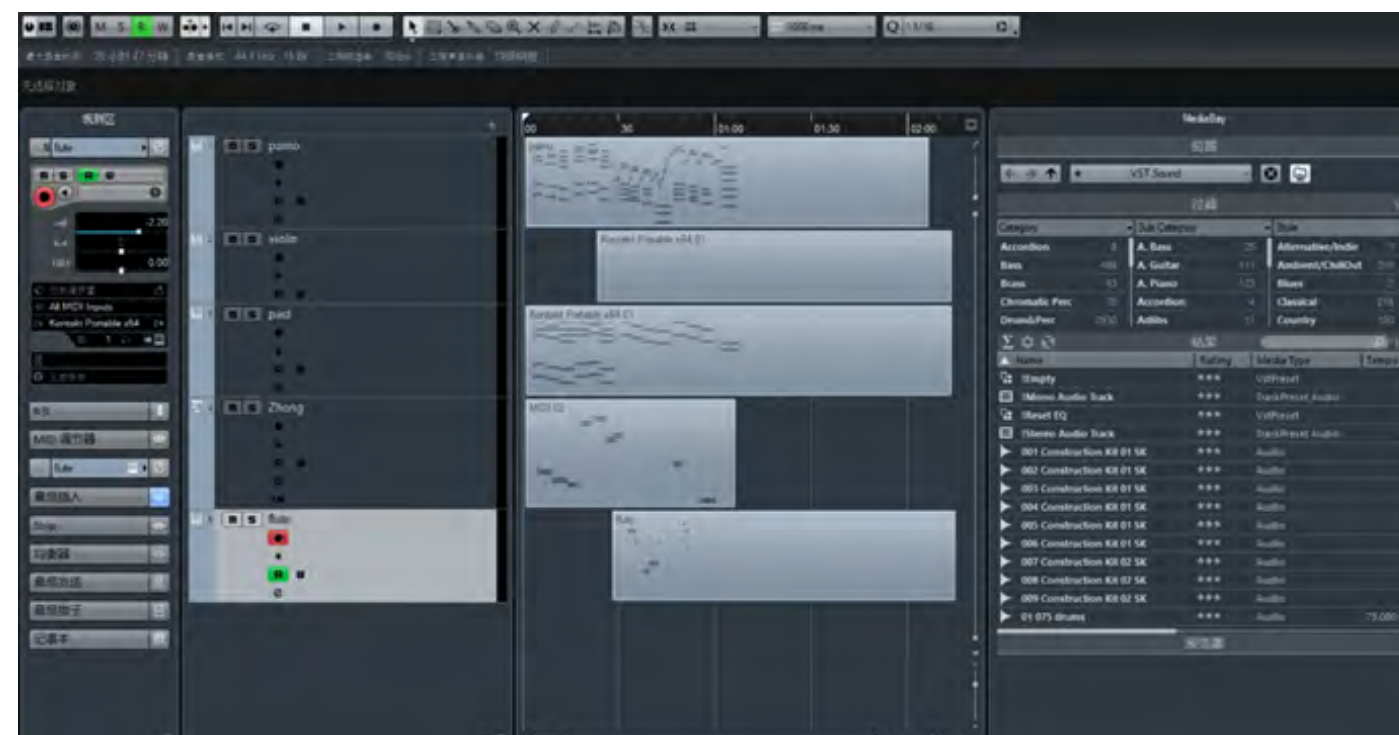
In the second part, the plot of the story begins to move forward, and in order to state the background of the story (fish live in depressing and crowded waters), the color of the music in this part turns low and depressing, and the 0 to 43 seconds need to give way to sound space for the lines, which are mainly produced as background music. 43 seconds later, the dance joins in, and there is a strong twist in the visual effect, in the case of the original piano as the base, the more intense percussion and string groups were also added.

3. Part 3

Music video link:

<https://youtu.be/p-FCcYl4fQI?si=q02I7FysnqYArNMA>

In the third part, the music is accompanied by the sound effects of the water flow, which is also composed as an aural effect with fluidity, consisting mainly of delayed electronic pads. At the same time, the percussion in the second half of this piece of music is joined by a processed electronic sound similar to poor contact, in order to articulate the next part of the fifth part of the segmentation of different music.



Cubase project document 1

Cubase project document 2

Cubase project document 3

4. Part 4

Music video link:

<https://youtu.be/wKjYGEWhjus?si=pbRmq3dpWSVAYqJx>

In the fourth part, the story line is gradually coming to a climax and the protagonist is going through intense psychological changes and self-conflicts. At the same time, throughout the performance, the fourth part is the part that tends to show the dark line of the story most directly, i.e. the story of the carp living in the depressing waters and longing to cross the dragon's gate, alluding to the fact that people in modern society are struggling in the crowded living environment. Therefore, this part of the music was produced with a strong contemporary style and a lot of real-life sound samples, such as alarm clock samples, typing samples and loud vocals. At the same time, this part of the music is chaotic and noisy in general, using a lot of

pre-produced piano tones and noise tones, trying to create a conflicting and dramatic aural effect with these dissonant musical elements.

5. Part 5

Music video link:

<https://youtu.be/I6L5XNIQa5U?si=fOPetUEfHWslT1pL>

In part 5, the entire story line officially reaches its climax- the moment when the protagonist crosses the dragon gate. This part of the music is still composed in a combination of frame and character instruments, with the string section's staccato as the frame, and considering the cultural background of the mythological story of the Carp Leaping Dragon Gate, the character instrument chosen is the traditional Chinese Suona, which possesses a special, extremely loud and clear tone, and has a special auditory impact, which is able to push the whole story to the climax.

Song at the end

Music video link (The Accompany):

<https://youtu.be/hCjrMUIrq4o?si=GiyCBLSk1kVEjdoY>

The song was inspired by musicals and films, and because the story presented in this show has a certain theatricality to it, as well as a certain metaphorical meaning underneath the surface storyline, a song that draws on the style of an opera was created as a curtain raiser to the whole performance. To furthermore, the lyrics of this song are also one of the more direct parts of the song that show the theme.



Cubase project document 4

Cubase project document 5

Cubase project document 6

rehearsal

First rehearsal venue set-up attempt and equipment commissioning

The first rehearsal is a crucial stage in our stage performance project, which gives us the opportunity to test the venue set-up and equipment commissioning in a real-world environment. During the process, we made several attempts to test the projection effect of the projector, the induction sensitivity of the light strips, and the lighting effect of the fish lights. We also explored different setup options, including wool wraps, light decorations, and foam paper effects.

Equipment Commissioning

The projector was our main visual device, and we adjusted the projection angle and brightness during the rehearsal to ensure the best projection effect. The sensing sensitivity of the light strips, on the other hand, has a crucial impact on the synchronisation between the music and the light effects, but in the test, the strips had difficulty in accurately capturing the sound changes in the scene.

Venue Setup

In terms of venue setup, we first tried the wool winding solution. However, the test results did not meet our expectations. The combination of wool and lights was average and did not create the visual effect we hoped for. We also tried light decoration, but again, the desired effect was not achieved. Finally, we tried the foam paper effect. This effect was unexpected, it added a hazy feel to the venue and we decided to keep this design. However, we found that the foam paper was easy to stick diagonally and we plan to improve this before the official performance.



General set-up of the rehearsal stage

<https://blogs.ed.ac.uk/dmsp-performance24/wp-content/uploads/sites/9672/2024/04/First-rehearsal-venue-set-up.mp4>

Induction strip light commissioning

<https://blogs.ed.ac.uk/dmsp-performance24/wp-content/uploads/sites/9672/2024/04/IMG4467.mp4>

live setup video

<https://blogs.ed.ac.uk/dmsp-performance24/wp-content/uploads/sites/9672/2024/04/Livesetupvideo-1.mp4>

Rehearsals

Pre-performance rehearsals were crucial for ironing out issues ahead of subsequent shows. Here's a summary of our experiences and key adjustments.

Rehearsal videos:

1. https://youtu.be/3KvcBmFg_dw
2. <https://youtu.be/m3WkOy3HMR4>

- Bubble wrap will be required to block the pathways at all points of entry, keeping only one in the correct direction to ensure that the audience does not go astray.
- A drummer leading the audience from the corridor's front is a great idea.
- The sound-activated light strips dividing the audience and the main stage detract from the visual experience by overbright. But we noticed this issue too late to rearrange before the official show.
- It's best to brighten the lights at the film's end and have everyone come up on stage together for a curtain call, signifying respect and closure.
- We used the ladder without proper protocol due to a misunderstanding highlighted the need for caution. In the future, ladders should only be used with approval from a safety manager.

Reflections

We have experimented with and explored the possibilities and value of using emerging technologies in live performance in this show. On the visual side, we explored different ways Artificial intelligence productivity, from projected video to set installations, including the use of programming code, AI running platforms, etc. In addition, we also experimented with stitching together various AI-generated videos to give them a narrative. The benefit of those technique is that it is efficient, productive and fast. With the development of AI-produced video technology, we can expect to see more real-time generated backgrounds at stage performances in the future, visually echoing live music.

While there is room for improvement:

- In terms of innovation and creativity, try making the fish lantern a motorised unit to better remote control it for many poses.
- The current three screens are too independent, showing their content on their own. We should try to make the three screens the same colour or connect them into one big long screen to surround the audience for a more immersive effect.
- My biggest regret stems from inadequate lighting during our performance. Due to technical limitations, we couldn't set up proper stage lighting and had to resort to artificial lights. While the dancers wore stunning traditional Tibetan costumes, our lighting wasn't bright enough to showcase them effectively. We considered illuminating the costumes with light strips but found it restrictive for the dancers. Given more time, we would have eagerly learned stage lighting programming to enhance our show.
- The strip of lights separating the audience from the stage was a little too shaky. Since it's sound-activated, it flickers like crazy during some of the high-frequency drum clips. We probably should have dimmed it or taped it to the other side of the bubble wrap.
- Are subtitles really necessary? As most voiceovers are clear. However, considering that the audience may come from various countries and perhaps their first language is not English, and we aim to prioritise ensuring that we can tell the story well, a second thought was to add full subtitles.

conclusion

JUMP, CARP, JUMP!

Live Performance · 2024 · 14mins



Final Performance Video:

<https://youtu.be/pK5vWC88SvI?si=MD675I7hOxtdCbmB>

To summarise, in this show, we experimented with new technologies in various fields to explore their potential in live performance.

From our studies and exercises, we've found that one major advantage is the flexibility of digital making, allowing for easy adjustments and on-the-fly changes to adapt to different venues or audience preferences. Additionally, AI-generated videos can produce numerous images that align with the story's mood, creating stunning visual effects and immersive graphics for a more engaging experience. Sound editing can enable audience interaction, deepening their connection to the performance through a richer audio experience. Moreover, AI has proven useful in optimizing the English grammar of scripts and dialogue.

It's important to acknowledge that there's still much to explore with emerging technologies. In this performance, we examined lighting technology, which proved to be key. We look forward to diving deeper into other digital technologies in the context of performance in future projects.

Finally, we offer this hearty performance, which we hope you enjoy!

Onedrive collection of all source material:

https://uoe-my.sharepoint.com/personal/s1934638_ed_ac_uk/_layouts/15/onedrive.aspx?id=%2Fpersonal%2Fs1934638%5Fed%5Facc%5Fuk%2FDocuments%2FPerformance%20File&view=0

Thank you !