Production technology

Sophie Dickson



I confirm that I have not used any AI tools in the research and creation of this assignment. I confirm that I have not presented any AI generated materials as my own work. I confirm I have copies of my drafts, notes, and other resources I used, which I may be asked to provide in evidence.

Roles in sound

SOUND DESIGNER

In straight plays a sound designer will create their own compositions and effects, they will work with the director to find a unified vision for the mood and atmosphere. In musical theatre they will design band and radio mics, and bring the composers sound to reality rater than making it themselves, they will work with the director and musical director to create the unified vision for mood and atmosphere.

SOUND OPERATOR NO2

They are usually the mic and sometimes the effects tech. They will mic the actors, they also do a lot of technical problem solving and preventative maintenance. They will also liase with costume for fitting mic packs. They label everything such as the belt packs and head mics.

SOUND CREW/ IN HOUSE STAFF

If you are touring these are the people who work at the venue you are visiting. You must ask them before plugging up or unplugging venue equipment. They usually work with sound engineers who will go on tour with bands or shows and have to use whatever equipment is at the venue.

DESK MIXER

Desk mixers need to have a perfect ear for sound and are typically musicians themselves. They adjust the equipment to be best suited for the band making sure everything sounds right. They typically work at festivals.

SOUND OPERATOR NO1

They usually have the best ears in the room. They will always stay in the auditorium and be at the desk on faders. They relay instruction to sound operators 2 and 3 and are the go to for the sound designer. They will mix the levels, Eq and monitors for the show. They also fine tune all the input.

SOUND OPERATOR NO3

They are a general assistant for sound operator No1, they will bonce between front and back of house doing jobs and remain free to solve problems. This is usually the newest member of the team.

FOLEY ARTIST

They re-imagine sound effects for example a car door shutting or someone walking, this is so it can be layered. They also create a specific brief for the sound designer. They typically work in radio and film.

MONITOR MIXER

The monitor mixer will mic what each performer hears in the monitor, this is very important as a bad mix can hinder a performance. They need a fast response to imbalanced sound. They also need to be thick skinned and communicative.

Analog mixing desks

CHANNELS AND CHANNEL FADERS

The signals enter the mixer and are each allocated a different channel which are all numbered for easy identification. Thhe channels are graduated, this allows them to be set to different levels and be faded up and down, the graduations are usually in points or decibels. The level set on a channel dictates the level at which the signal will be sent to the amplifier and speaker. Adjusting the channels to different levels allows different sounds to be played at different volumes which helps to achieve good sound balance. Each channel has a number of control that can alter the sound signal such as: the type of signal, the volume of the incoming signal can be adjusted using the gain control, the signal can be allocated to various output channels to amplifiers and speakers, the signal can be faded from on output channel to another (this is called panning), the tone can be adjusted and echoes can be added. The mixer will also have level indicators on each channel which shows the level of the signal being generated from it. Peak indicators show when the volume of the signal reaches a point where the machine can no longer prevent distortion. (Fraser, 1988 p.94)

MASTER FADERS

The volume and quality of an incoming signal are set at the channel and allocated to one or more output. The output channels are governed by controls, these are called master faders. Each output is usually connected to a single amplifier and a speaker. Therefore, these controls relate directly to the speakers in use. These controls have some features of the input channels allowing more change to be made to the sound. For example: tone, echo and prefade. (Fraser, 1988 p.95)



MIXER FACILITIES

Headphone sockets - Allows the operator to listen to the sound mix. If the sound is being used in a scene it can be hard to hear clearly if the mix is correct.

Prefade listen - This allows the operator to listen on headphones to the sound signal before being affacted by the mixer and they can assess its quality. This allows them to make quick adjustments.

Sub-grouping - These allow a mixed sound signal to be further adjusted before leaving the mixer through the output channels. This allows carious groups of mixed sounds to be differently adjusted.

Foldback - This is the ability to send the mixed sound signal to certain speakers which are placed to allow the people making the sound to hear themselves.

Auxiliary outputs - The mixer has extra output channels so external devices can be used to change the sound. These may include echo machines and delay machines. (Fraser, 1988 p.96)

Using analog mixing desks



This is an 8 channel audio mixing desk belonging to my friend. He showed me the basic functions on it prior to our first lesson in sound as I had never used a mixing desk before and this helped me have a basic understanding going into our first lesson. He told me about not putting the faders above 0 or you run the risk of blowing the speaker or the sound coming out wrong, he also showed me how to mute the channels and told me what all the different nobs control. This was really helpful as it made it much easier to understand what I was being told during the lesson.



These are the mixing desks we have provided by the university. It is also an 8 channel audio mixing desk, however, it has a dew more elements than my friends one that I used. For example, it has two nobs for adjusting the medium frequency which provides more precise control over the sound. They also have more outputs for jacks, these can connect more microphones or speakers. I enjoyed learning how to use the analog desks as they are quite simple and I found it quite easy to pick up and understand.

Digital mixing desks

Controls and channels

The faders usually have to be assigned to channels specifically. The faders also tend to be arranged in banks, so you can group channels into arrangements you like. The inputs are usually fixed but need to be linked to channels and you often need to do the same with the outputs. You can expand the mixers with digital stageboxes to condense the inputs used on the mixer directly. The number of inputs and outputs on the mixer doesn't directly reflect the number of available channels on the mixer. This is good for flexibility, it lets you group a lot of instruments into one XLR output. Many digital mixers have individual channel selection buttons that will apply the panel controls to whatever you have chosen to use them on. There is usually a screen for visual feedback and more in-depth editing or effects. They may be touchscreens, or have corresponding edit buttons, or sometimes both. Other digital mixers may come with stripped-back controls that rely more on the display, such as the Yamaha DM3-S, or rackmount mixers like the Behringer X AIR XR16, which require external controls from an app to operate properly. Some more advanced mixers may hybridize these interfaces for a powerful and flexible workflow. (Barnham, 2024)



Yamaha DM3-S

Behringer X AIR XR16



Allen and Heath CQ12T





Processing and effects

Processing in these mixers usually requires a screen to pull up the visual elements of effects. Effects on digital desks are much more tweakable, with a lot of customization and adjustment of parameters you wouldn't have access to on an analog mixer even if it has equivalent effects on it. For example, analog mixer compressors tend to be fixed-ratio, fixed attack and release times, and only offer one knob for adjusting the threshold.

These are designed to work well with everything, but digital mixers such as the Allen and Heath CQ12T will often let you dial up attack, release, input, threshold, ratio, and makeup gain on their compressors, or place them as bus effects to send multiple channels to a single compressor with customized settings. (Barnham, 2024)

Pros and Cons of digital sound desks

Pros - Flexible workflow offers a lot of power for complex live mixing, Recallable settings and in-depth affects allow highly polished and complex mixes, Flexible grouping, higher total channel counts, and no requirement for outbound processors make a great all in one solution.

Cons - There is a significant learning curve for beginners, Typically fewer analog inputs and outputs on machine itself, so often requires expandability with external sources like digital stageboxes.

(Barnham, 2024)

Amplifiers

Until it reaches the amplifier the sound signal is quite small. The amplifier increases the strength of the signal so that it can drive a speaker at volume. A good amplifier will increase the sound with no distortion of the sound. Too great of an output from the amplifier will damage the speaker and too little will require the speaker to be driven at a very high level which can distort the sound signal. The most flexible sound systems will allow each amplifier to be allocated to only one speaker. Due to this, it is common for amplifiers to be built in units of two or four. Fraser (1988)

Controls - The amplifier is very simple. It will have a power switch, level control and indicator. The level control allows the amplifier to dictate the level of output it is generating. Fraser (1988)



ADASTRA RM406 MIXER-AMP 100V, 6 X 40W, USB SD FM BLUETOOTH
Electrical2go (2026)

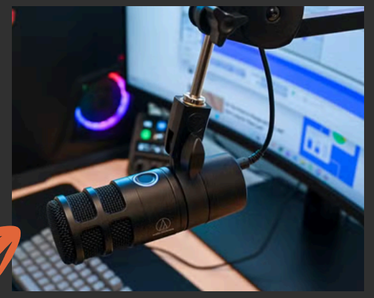
Mixer/Amplifiers

The mixer/amplifier is a combination of both machines. Usually the mixer part will not be as sophisticated as full mixers, it may just have a few controls, a gain control and mike/line allocation. Mixer/amplifiers are particularly popular for public address systems and useful in rehearsals, but usually don't have the sophistication or power to be used in a theatre context. Fraser (1988)

Microphones

USB microphones

USB microphones are designed to connect directly to a computer or device via a USB port. They have built-in analog-to-digital converters, which allows them to send audio in digital form for high-quality sound. These microphones are available in cardioid and omnidirectional polar patterns and are incredibly simple to set up. They are an excellent choice for solo recordings, interviews, and podcasts. Streamers and gamers frequently use USB microphones for live broadcasts, and they are equally effective for voiceover work thanks to features like noise reduction. Many models also include built-in volume controls, making adjusting levels easy. USB microphones are affordable compared to other types and cater to beginners and professionals with their user-friendly design. (Abdul, 2024)



DYNAMIC MICS

Dynamic microphones use a straightforward design to capture sound. They consist of a diaphragm attached to a coil of wire positioned near a magnet. When a sound wave hits the diaphragm, it moves the coil within the magnetic field, which produces an electrical signal replicating the sound. This eliminates the need for external power, such as phantom power. These mics are ideal for live performances because they reject background noise well. They are less sensitive to faint sounds, and are especially well suited for loud sound sources such as drums, electric guitars and loud vocals well without distortion. They feature a durable design which requires minimal maintenance, and are an affordable option. (Abdul, 2024)



Ribbon microphones

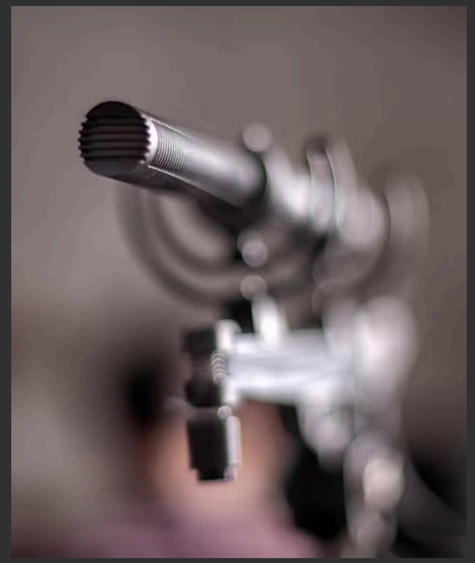


Ribbon microphones are a specialized type of dynamic microphone that uses a thin metal ribbon suspended in a magnetic field instead of a diaphragm. When sound waves hit the ribbon, it moves within the magnetic field to produce an electrical signal. They are often bidirectional, therefore, they capture sound equally from the front and back. Ribbon mics capture a smooth, natural sound, this makes them ideal for recording vintage or classic tones. They perfectly capture the nuances of electric guitar amps and string instruments. They are also great for broadcasting and voiceover work. Passive ribbon mics do not require external power, while active ribbon mics need phantom power. These microphones are more fragile than others and require careful handling. They tend to be more expensive than other options due to their specialized design and better performance. (Abdul, 2024)

Condenser microphones

Condenser microphones are extremely sensitive, this makes them ideal for capturing intricate sound details. They use a thin diaphragm near a solid backplate to form a capacitor. When sound waves strike the diaphragm, its vibrations alter the capacitance, generating an electrical signal. They require an external power source to operate, this is usually phantom power. This design allows them to capture subtle nuances and a broad frequency range with amazing clarity. These microphones are best for recording vocals, acoustic instruments, and orchestral performances. They're also popular for podcasting, voiceover work, video production, and capturing delicate instruments like violins or cymbals. Condenser microphones are great for capturing instrumental skills for musicians. However, they need careful handling to ensure their longevity. (Abdul, 2024)



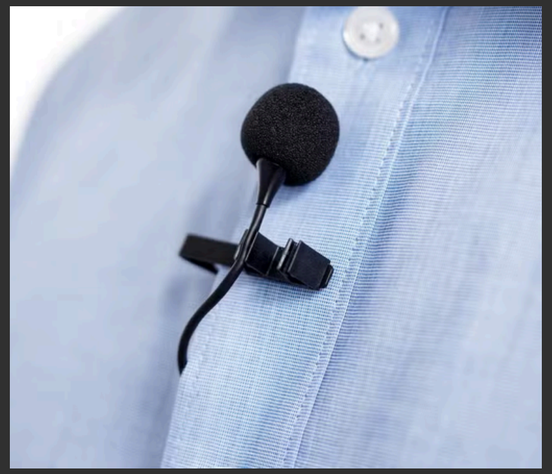


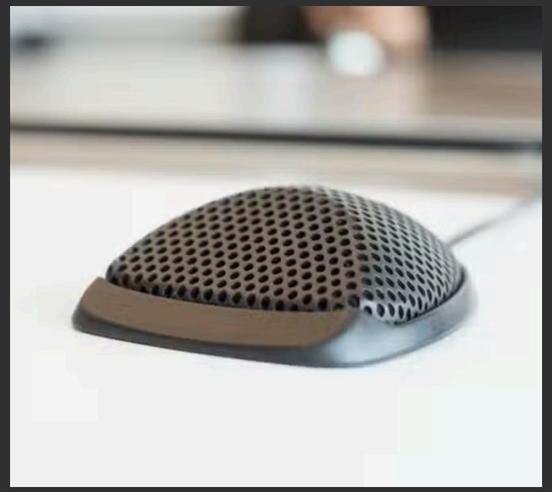
Shotgun microphones

Shotgun microphones are highly directional. They are designed to capture sound from a specific source while minimizing noise from other angles. They achieve this accuracy through a long interference tube in their design, which narrows the focus, typically using super cardioid or hyper cardioid pickup patterns. This design makes them ideal for isolating sound sources in noisy environments. These microphones are used a lot in film and video production to capture dialogue, even in outdoor or noisy settings. They're also excellent for recording distant wildlife sounds and isolating commentary in sports broadcasts. Essentially, they work very well wherever clarity and noise rejection are required. Shotgun mics are typically made from durable materials like metal or high-quality plastic. For outdoor and field use, they may require windshields or shock mounts for optimal recording to ensure it can block out background sounds. They are available across various price ranges, from budget-friendly models starting around $50 to professional-grade options exceeding $500. Most traditional shotgun microphones rely on phantom power, although some models are battery-powered or can draw power directly from a video camera. (Abdul, 2024)

Lavalier microphones

Lavalier or "lapel" mics are compact clip-on devices designed for hands-free audio recording. They are typically worn near the chest, they capture clear sound without requiring the user to hold the microphone. They come in two varieties: wireless, which uses a transmitter, and wired, which connects directly to a recording device. While many lavalier microphones are omnidirectional, capturing sound from all directions, some models are only designed to focus on sound from the front. Their discreet design makes them perfect for situations where users need to move freely, such as, webinars, podcasts, public speaking, and theatre shows. They are widely used in professional environments, including film, theater, and corporate training sessions. As they are clipped close to the speaker’s mouth, lavalier mics provide consistent audio quality without interfering with the visual composition of a shot. Most lavalier mics are battery-powered. The microphone capsule is often encased in lightweight materials. So, they require careful handling. Despite this, they are affordable and highly versatile. (Abdul, 2024)





Boundary microphones

Boundary microphones, called Pressure Zone Microphones (PZMs), operate differently from traditional mics. Instead of a conventional diaphragm, they have a microphone element placed near a flat surface, such as a table or wall, to capture sound reflecting off that surface. This design improves sound clarity and minimizes background noise. These microphones are ideal for environments with multiple sound sources, this makes them perfect for conference rooms, group discussions, and teleconferencing. They are also effective in larger venues like lecture halls and theaters. They also eliminate the need for multiple microphones to capture sound from various directions.

Passive boundary microphones draw power from external equipment like preamps or mixers, while active boundary microphones require an external power source, typically phantom power.

I think these microphones would be good to record a read through of a script to record everyone's ideas and be able to listen to the read through again. (Abdul, 2024)

DI Boxes



What is a DI box

Traditionally, instruments such as, electric guitars, organs, keyboards, and bass guitars were recorded by placing a microphone in front of an amplifier's speakers. However, in the 1960s, engineers wanted to take a direct signal into the mixing desks for a more accurate sound. They called this "Direct Inject", hence the term DI box. There was one key problem though: the output volume of these instruments is much higher than that of a microphone, this would create significant distortion in the recording. DI boxes where created, they are handy devices were made to solve the disparity in volume between these two signals, allowing guitarists and keyboard players to record directly into the console. Engineers found themselves with more tonal control through the console EQ and a much easier recording setup, as well as the possibility of clipping the preamp to add distortion to the sound. DI box designs advanced further over the years, with extra features to solve problems such as "Thru" outputs, these allowed the instrument-level signal to carry on. This allowed musicians to take a DI of their instrument while sending the original signal to pedalboards and guitar amps. "Thru" outputs also allowed for ReAmping, where studio engineers could use a ReAmp box, a reversed DI box that converted the balanced line level signal back to instrument level. They could then send the DI signal back out of the console to amps in order to refine, change, or add extra layers to guitar tones and get something that would fit the mix better or sounded bigger. Ground lift switches helped prevent electrical interference, and the DI boxes became key elements of studio recording. These features also solved a lot of issues in live shows, ensuring a clean guitar signal, a backup DI in case of amp failure, or even the ability to merge multiple signals into a single mixer channel. (Barnham, 2025)

When to use a passive DI box

A passive DI box is best suited to high-output instruments like electric guitars, basses with active pickups, and keyboards.
These instruments produce a strong signal that doesn't need additional boosting, making an active circuit unnecessary. Passive DI boxes rely on a transformer to convert the unbalanced, high-impedance signal into a balanced, low-impedance one, reducing noise and interference over long cable runs.
Most passive DI boxes use a high-quality isolation transformer, often made from materials like mu-metal to minimize distortion and maintain signal clarity. Passive DI boxes are ideal for live performances and studio setups where simplicity and reliability are key. They require no external power, making them convenient for quick stage changes and reducing potential power supply issues. (Barnham, 2025)

When to use an active DI box

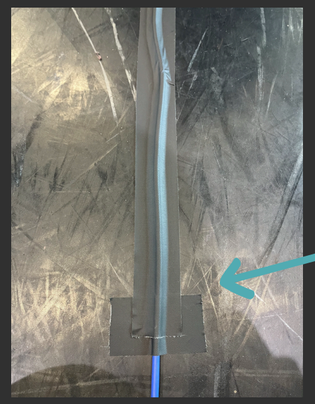
An active DI box is the best choice for low-output instruments like passive electric basses, acoustic guitars without a preamp, and vintage keyboards. Unlike passive models, active DIs include a built-in preamp to boost weak signals before they reach a mixer or audio interface, ensuring clarity and consistency.
These DI boxes require power, either from a battery or phantom power supplied by a mixing desk or audio interface. Many active models include features like gain controls, high-pass filters to remove unwanted low-end rumble, and polarity switches to help with phase alignment in multi-mic setups. An active DI is especially useful in recording and live sound applications where signal integrity is crucial. If you're using a passive instrument with long cable runs, an active DI will maintain sound quality by preventing signal degradation. However, active DIs may not be ideal for high-output instruments. (Barnham, 2025)

First practical sound lesson (9/01/26)

In this session we where split into two groups to look at analog and digital sound desks. My group first looked at the analog sound desk. We plugged a microphone into channel 1 and connected the desk to an amplifier and speaker. We then used the different controls on the desk to make the sound clear and we all tried connecting and disconnecting the microphone and amplifier so we where all comfortable with setting up this system. I enjoyed this and thought the analog desk was very simple to use and I think i picked it up quite quickly.

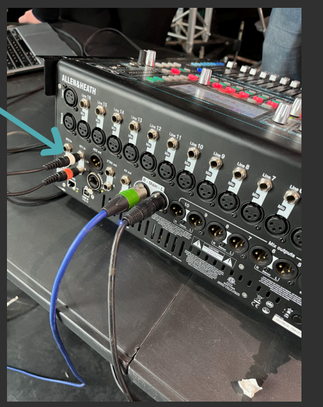
Next we looked at the digital desk. This one i at first though looked a lot more complex but after going through it was relatively simple. We started by plugging the desk in and connecting it to the laptop. We then assembled the speaker and plugged those into the wall then the sound desk, making sure we plugged the lead into the desk before the outputs. We then played the sounds from the laptop through the speakers and played about with adjusting the sound. Next we connected a microphone to the sound desk, we tested this was working by clicking near the mic and saying one two and this is a good way to test the sound is coming through the speakers clearly.

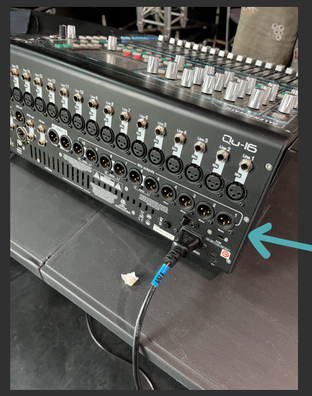
Finally we taped down the wires, this was very simple but it was helpful to learn about how to tape down multiple wire running together and we where told about how sound and lighting wire should cross over each other and not run next to each other to reduce the risk of the signals interrupting each other.



Taping down wires with gaffa tape

The red cable always goes in right (R)





This is where the power plugged into the sound desk.

This is one of the speakers we assembled and used with the sound desk, we had 2 of these. The bottom box is the amplifier and the top part is the speaker there is a cable we plugged into both pieces to connect them then another wire into the ampto supply power to them.





This is the digital sound desk



This is the analog sound desk



Foley art project

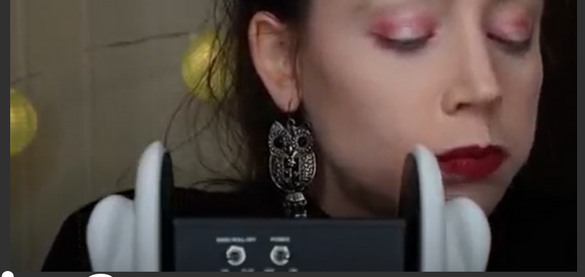
Clip 1

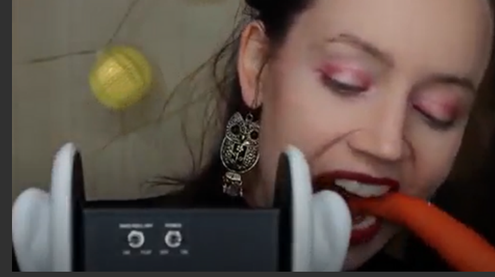






For clip 1 we needed to make the sounds for, folding the sandpaper around a wooden bloc, sanding a block of wood and brushing the wood. Firstly for the wrapping the sandpaper we tried a few things such as, folding card but this wasnt picked up very well by the mic because it was too quiet, we also tried folding the crisp packet but the sound was too high pitched and crinkly. Finally we ended up folding a gum pakcat over a rock, this worked quite well as the rocks texture gave more of the sand paper texture and the gum packet was much thicker than card. Next we had the sanding we tried quite a few things for this such as, scratching the plastic table we where sat at with different things like just our nails, a note book and different kinds of packaging, we also tried sractching things on the chair such as a coat hanger, a rock, a sponge and a stick, however, on the end we thought the thing that sounded best was a strepcil pakcet on the table as this was a thicker plastic and the foil bottom made a good sound against the table. Finally for the brushing we tried scratching a rock on a sponge and swiping a pencil case agasint a note book, in the end Gilly brought in a horn which when rubbed sounded quite good for the brush on wood.





Clip 2

Clip 2 was a woman eating a carrot. For this we needed the sound of her biting into the carrot and her chewing, we also decided we wanted to add a ‘wet’ sound to add more mouth sounds to layer with the chewing sound. For the biting and chewing sounds we where first unsure how to achieve this, we tried a few things, for example, Gilly tried biting a stick and chewing on a leaf but this did not work. We also tried snapping a rice cake for the biting sound but this did not create a sound similar to a carrot. We also tried opening and closing a hand cream tube but because of the hard plastic lid it did not sound very good. In the end Kate chewed on dry pasta as the hard shell made a sound more similar to a carrot and Ellis snapped a stick ecerytime the carrot was bitten into to make a louder noise, I think this worked quite well together and made a sound quite similar to eatring a carrot. For the wet sound we tried squeezing wet blue roll but this sounded odd and was a bit too loud as it was just meant to be more of a background sound to the chewing. We ended up using an orange for the wet sound, Gilly stuck his thumb in the orange and this sound was layered with the others to make it sound like chewing. If I were to do this again i would have used the sound desk to move the sound between the ears of the headphones as the woman in the video moves from one side to the other and I think this would have made the sound more interesting and match the video better.



Clip 3

This clip was someone walking on gravel. We tested out quite a few things for, we tried shaking a box of seashells, shaking a box of mints, shaking a bag of dice but all of these made quite loud noises that didn't sound right through the microphone or would of over powered the other sounds. We also tried stepping of raw pasta on the floor and on cardboard but this noise was too sharp, we also had a packet of oreo crumbs, this made a sound quite similar to the smaller bits of gravel but we found a better sound after more experimentation, we also tried some small bones in a cup but this sound was too high pitched, we also tried rubbing seashells together and kate flicked a metal coathanger with her nail but these didnt sound right for gravel. In the end we layered a few sounds including, Kate scratching a leaf with a small brush, I had a pot of pasta that I was moving my hand around in, Ellis was stepping on a piece of cardboard and Gilly was crunching a bag of crushed up crackers, we all did this in time with the steps in the video to layer the sounds and imitate the sound of the man stepping on gravel.







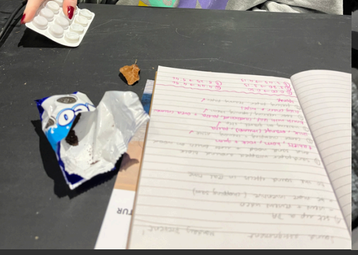
Clip 4

This clip is of a creaky door closing. For this we wanted to make the creaking sound and the door shutting. We tried a crisp packet but this was too crinkly, we also tried a squeaky water bottle lid but this was too high pitched, we also tried to make the sound ourselves with our mouths but this didn't sound realistic. For the door shutting we tried closing a highlighter lid and hitting a pack of hand wipes but neither of these sounded right. In the end we found a squeaky chair which we labelled so we had the right one, Gilly sat downn on the chair really slowly to last as long as the door closing and the chair leaned back then hit the floor when the door closed.

Clip 5

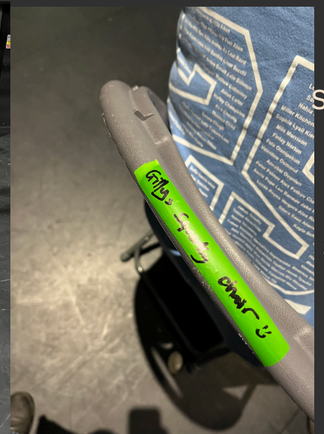
This clip was of a piece of paper being ripped. For this we wanted to make the sounds of picking up and feeling the paper and also ripping the paper. For feeling the paper we tried, brushing a seashell, rubbing toilet paper together, rubbing blue roll together, brushing a leaf, rubbing a pencil on a notebook and rubbing a piece of paper, but none of these sounded right through the headphones. For ripping the paper we tried, pulling tape off a roll and ripping paper and card. In the end we used a washing up sponge, Kate rubbed the softer side for the section where the woman was just feeling the paper, then scratched the rougher side of the sponge for ripping the paper. I think this one worked really well and I was really happy with this as the sponge was a random idea I had when looking for items to use around my room and it ended up sounding good through the headphones.

Final foley art project



These pictures are us makng the sounds for clip 1, the wood being sanded. The picture on the right is how we set it up in the assessment as sitting like this allowed us to make the sounds for all of the clips without too much moving around and setting up between clips. It also helped because everyone was around the microphone so it could pick up all of the layered sounds.

These photos are from clip 4, the squeaky door. We labelled the chair we used so that we had the right one to make the sound we needed for the assessment. We held the microphone really close to the chair so that is picked up the squeak really well and the thud when the door closed.




These pictures are from making clip 2. We had the microphone in the middle so that you could here the orange and Kate chewing at the same time and Ellis could reach close to the mic when snapping the stick for the sections where the carrot was bitten into.



This photo from clip 5, the paper ripping. For this we held the microphone really close to the sponge as the sound where quite quiet and we needed it closer to the sponge to pick up the sound better.



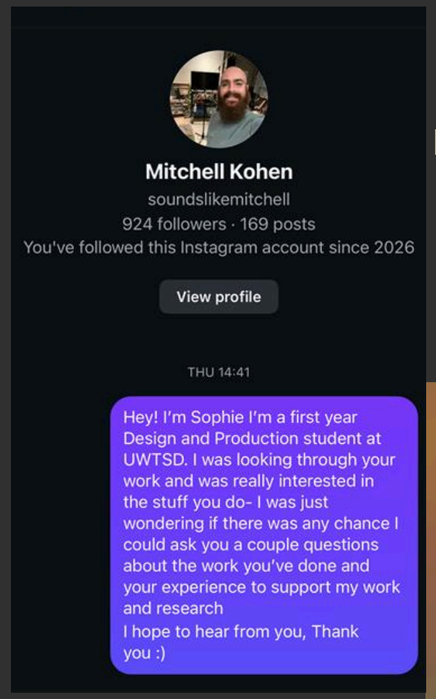
This picture is from clip 3, the gravel. For this I sat on the floor with the microphone so that it would mainly pick up the sound of Ellis stepping on the cardboard. I held the tub of pasta quite far away from the microphone because it was very loud and we didn't want it to cover the sound of the steps. Gilly also held the crackers quite far from the microphone as those where also quite loud, and Kate brushed the leaf close to the microphone as it was a softer quieter sound.

Mitchell Kohen

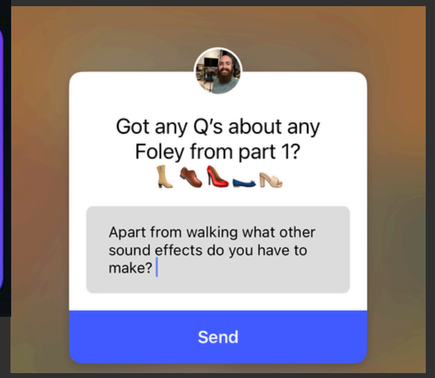
I looked on imdb at the people who worked on Bidgerton as the new season had just come out and I was interesting in how it was made and the people involved. When doing this I came across Mitchell Kohen who is a foley artist on the show, I decided to look into him more as he had worked on a lot of shows I like including Greys anatomy and Cobra kai.



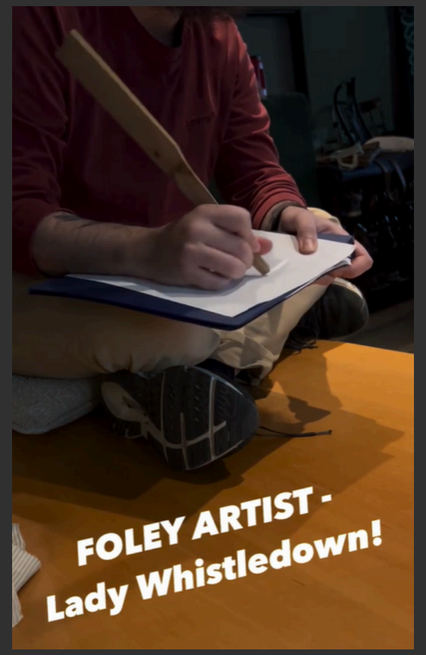
I found his responses quite interesting, especially how in this answer he says about how he added some grit to the usually clean tile sound to show the working class staff in Bridgerton. I found this particularly interesting when watching the show again, it made me notice the difference in the steps sounds depending on who was walking, I like how he thinks of the subtle differences in characters walks to make it a more realistic sound.



I reached out to him directly through Instagram DMs, but I did not get a response. However, when I looked on his Instagram story he had posted a Q&A so I put a question in there and got a response and also looked through the responses he had sent other people.







Soundslikemitchell (2024)

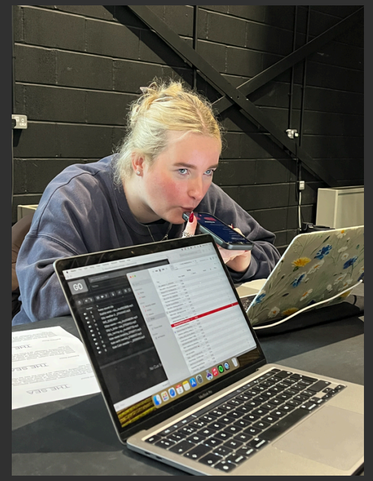
In his answer to my question he said how he made hundreds of different sounds and said to look on his page to see more. While looking through his Instagram page I found a video of his making the sound for Lady Whistledowns writing, I found this interesting as it is such a big part of the show and I had never thought about how that sound was made before.

"The Sea" project

THE SEA

Edward Bond

Beach. Before the curtain. Almost complete darkness. We hear the sound of a storm raging: thunder; wind roaring, whining, crashing and screaming over water; masses of water swelling up, rattling, churning and crashing back into the sea, gravel and sand grinding slowly; the earth trembling. Offstage, as if from the sea we hear WILLY screaming for help.



Kate tried making some wind sounds by blowing into a phone microphone but we decided not to use them as the inhales made them not sound very realistic and we had sourced enough wind sounds for the project.

We tried recording the sounds of a stream but these didn't sound very good for what we wanted as it did not sound like an ocean.



When in the prop cupboard we found a pin board and when Gilly brushed his hand on it we thought this sounded really good for waves so we recorded it and used it in our project.

Blue what we need to make - Foley sounds
Red is what we've sourced from internet

- Storm raging
- Thunder
- Wind roaring
- Wind whining
- Wind crashing
- Water swelling
- Water crashing
- seagulls
- Earth trembling

- Wind screaming
- Water rattling
- Water churning
- Gravel and sand grinding
- Willy screaming for HELP



It was quite windy when we went down to the stream so to get the other wind sounds we needed Ellis recorded the wind by holding his phone in the air and also got a longer clip of it from putting his phone on a fence post.

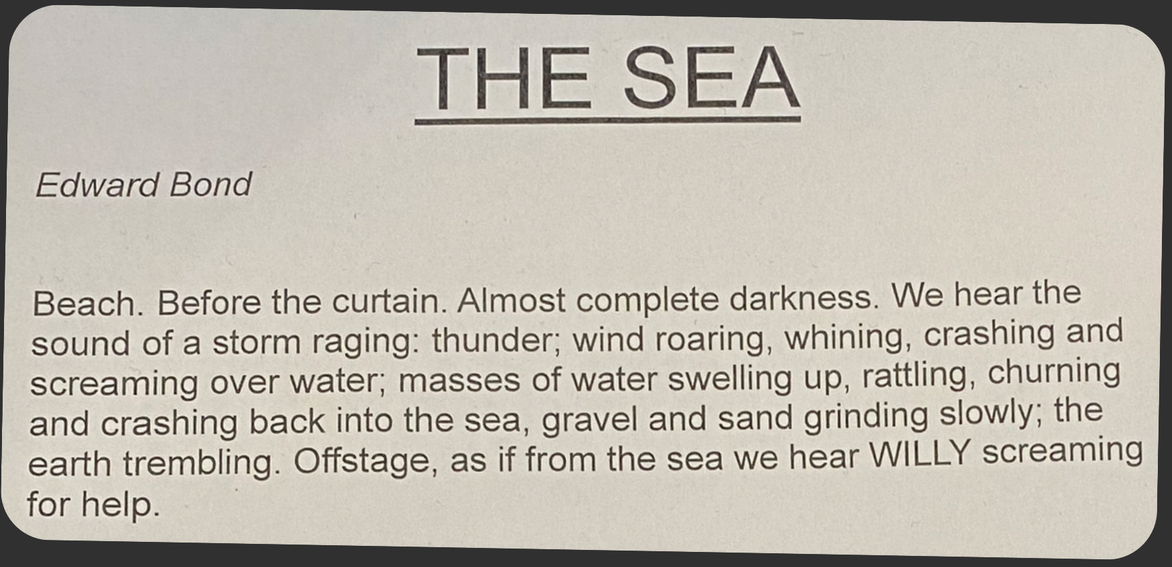


Kate did some research before we started finding sounds so we would all have an idea of what the play is about I also went and googled it later to get a better idea of the play and this is a synopsis i found online:

This is a synopsis of the play from Stage agent:

The Sea depicts a small coastal village on the east coast of England, sharply divided between ruthless order and rampant chaos. After a beloved resident of the village drowns in a storm at sea, the differing reactions of the villagers reveal a community torn apart by disputes and disorder. Willy Carson, the survivor of the tragic boating accident, stays in the village to grieve for his friend and finds himself entrapped within a hierarchical community presided over by the domineering Mrs. Rafi. Mrs. Rafi lives in the big house and represents order and respectability, surrounding herself with the twittering ladies of the village. Leading the official grieving, she finds herself at odds with the local draper, Hatch, who is continuously rebuffed and put out of pocket by the grande dame. Mad as a box of frogs, Hatch believes that aliens have infiltrated the village from another planet. He identifies Willy Carson's sudden appearance in the village as proof of the aliens' arrival and establishes a taskforce to spy on Willy and the wise village drunk, Evens. In a mad rage, Hatch feverishly attacks the washed up corpse of the drowned man with a knife, mistakenly believing it to be Willy sleeping on the beach. In the middle of this madness, Willy encounters Rose Jones, the fiancee of his dead companion. United in their grief, the couple realize that their only hope of moving forwards is to escape from this community and establish a life elsewhere. As Evens tells Willy to go away and find his answers some place else, Willy and Rose prepare to board their train and leave the village far behind. (Appleton,2026)

This play was only has 1 act and was first produced in 1973, The book is by Edward bond and it is set in East Anglia in 1907. (Appleton,2026)

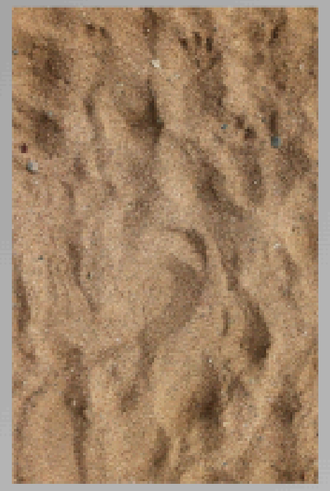
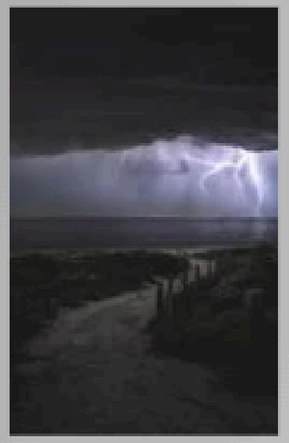
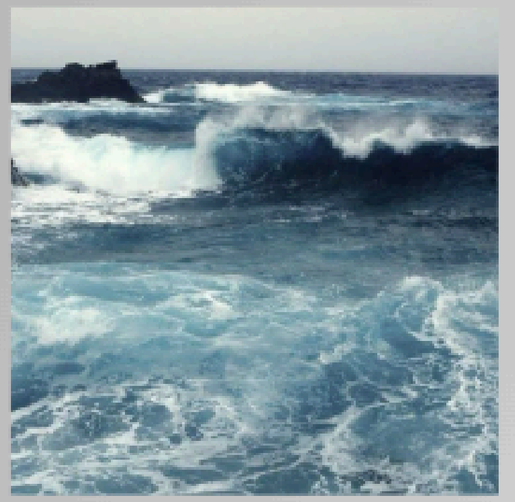
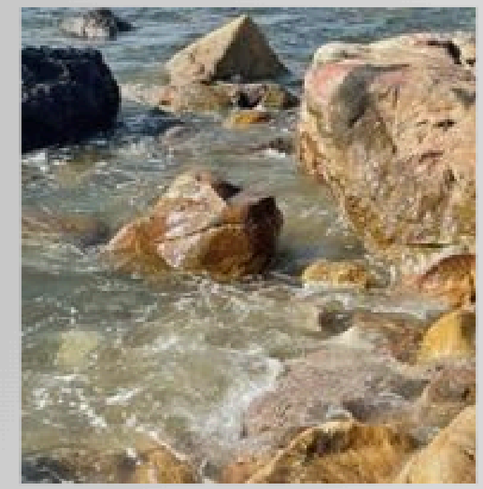
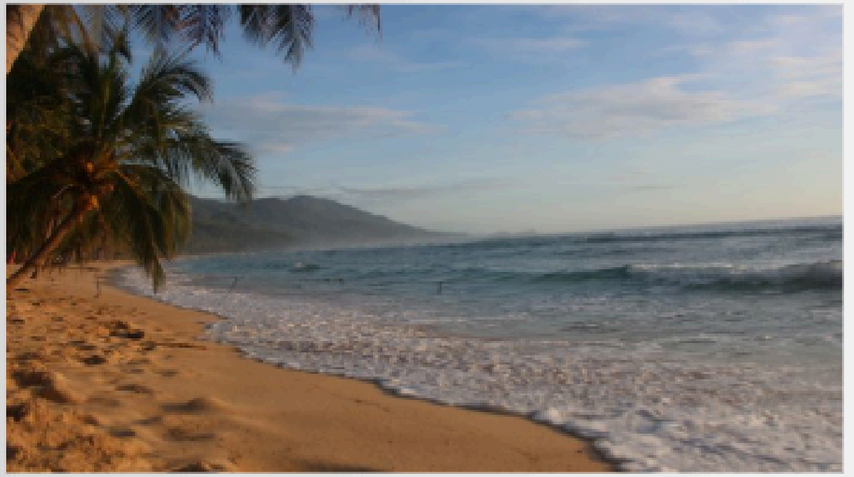


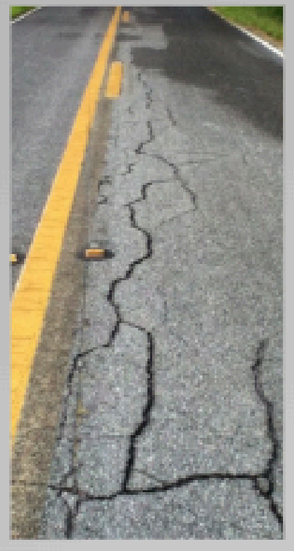
THE SEA

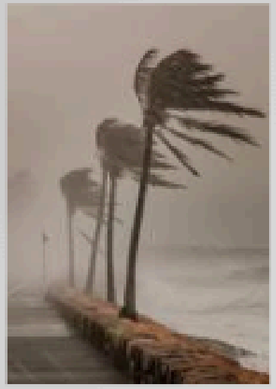
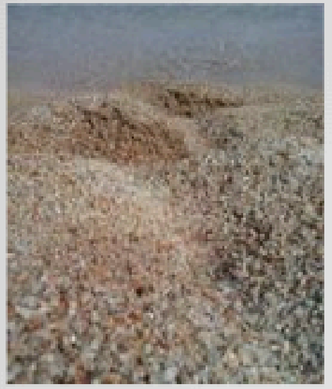
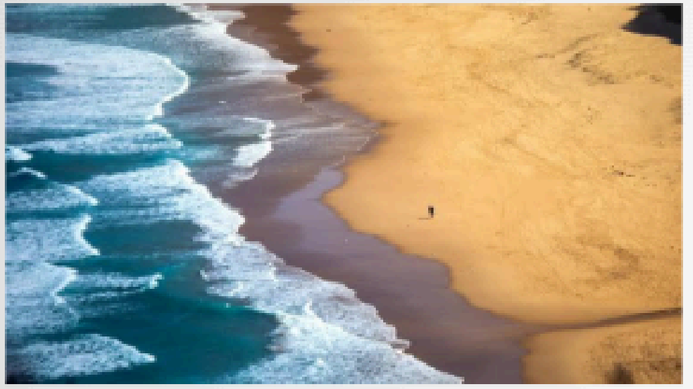
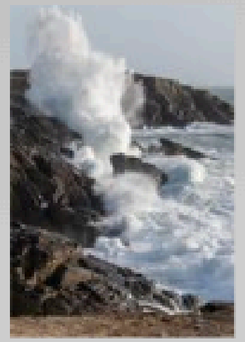
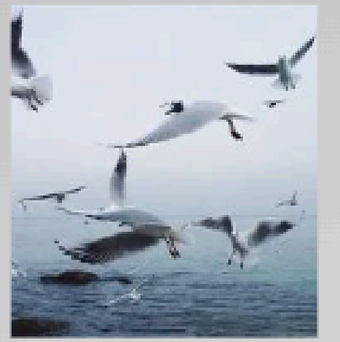
Edward Bond

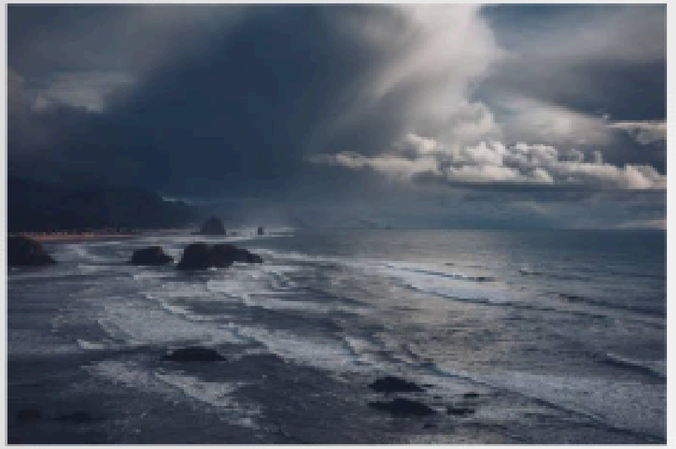
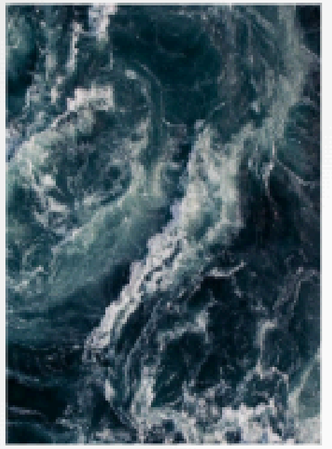
Beach. Before the curtain. Almost complete darkness. We hear the sound of a storm raging: thunder; wind roaring, whining, crashing and screaming over water; masses of water swelling up, rattling, churning and crashing back into the sea, gravel and sand grinding slowly; the earth trembling. Offstage, as if from the sea we hear WILLY screaming for help.

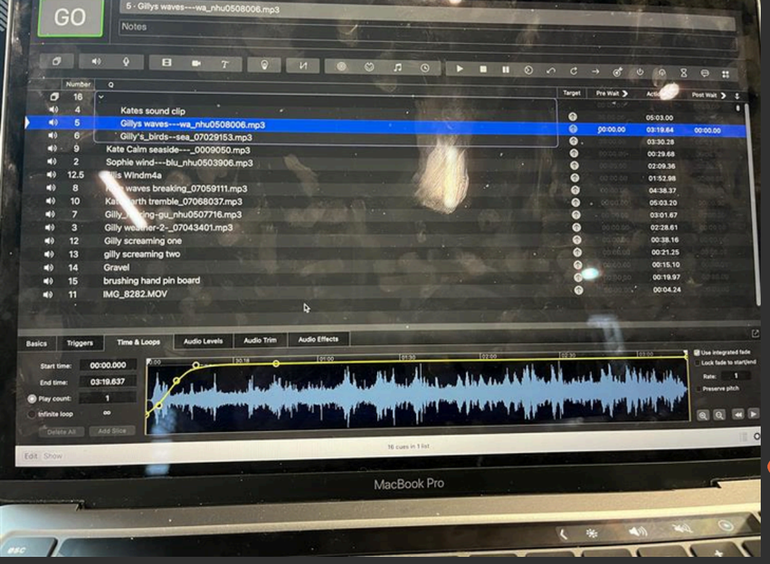
For this project we did a bit of research into the play, but we decided to mainly focus on the section we were given for our project. This first thing we did was look through the extract and write a list of all the sounds we would need, we then separated these into two lists of what sounds we would source from the internet and what sounds we would make ourselves. We then made a visual mood board based off of the extract, which is on the next slide, we used this as inspiration for the visual part of our project, we decided we wanted it to start off quite calm and build up into a big storm which then led to the boating accident and Willy screaming for help.

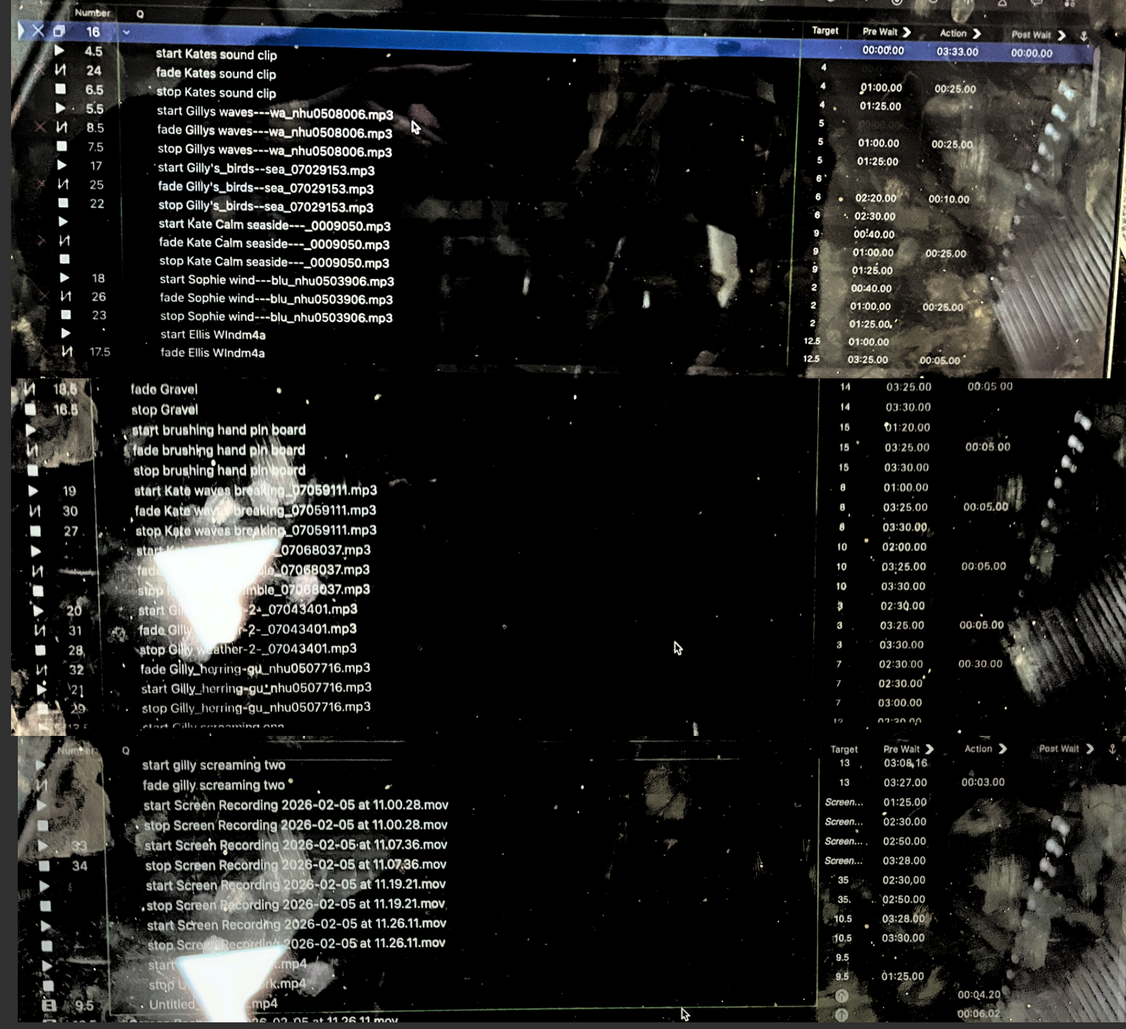




This is how I faded in all of the sounds, I couldn't find a way to do in automatically so I did them manually using the integrated fade. I think this ended up sounding good as I could make the sound fade in a bit erratically rather than just a straight fade.



Once we collected all of the sounds I started to put them together, I had them in sections, so I grouped the calmer sounds and the more dramatic sounds together. The first section just contained three sounds, it was a calm ocean sound, wind and seagulls, the wind faded in immediately, the ocean took a bit longer to fade in as I wanted it to sound almost like you where walking towards the ocean and it was getting louder, the seagulls took much longer too fade in as i wanted there to be a bit of time with just the ocean and wind before the birds came in. This calm section lasted 40 seconds. At this point i added in two more sounds, which where slightly rougher ocean and wind sounds, this bit was meant to sound like the waves where picking up a bit but still not a storm and the wind was also a bit louder and rougher. This section lasted until 1 minute 25 seconds. At this point there was a bigger change the two ocean and two wind sounds both faded out and where replaced with much rougher ocean and wind sounds but I kept the seagulls in until later. So that this change wasn't really sudden the fade out for the original sounds and fade in for the new sounds was 25 seconds, I think this worked well and the change wasn't too abrupt. After this section played for a little bit i added in more sounds layered on top, this was the gravel and Gilly brushing his hand on the pin board, I think these added a good amount of extra rough sea sounds and helped with building up the storm. The next big change was at 2 minutes and 30 seconds, in this section I added a lot more rough ocean sounds and harsher weather, I also stopped the original seagull sounds and added the other bird sounds which were more dramatic as we thought these birds sounded more erratic and scared so it fitted well with the storm getting really bad in this part. In this section i layered more wind and ocean sounds as well as a sound of the earth rumbling and lighting. This is also where I introduced the sounds of screaming which Gilly made, this section was meant to be very dramatic and where the boat crash and drowning occurs. I put the screaming at a volume at which i thought it would sound as if someone right next you or even yourself was screaming, this was so that is matched with the videos we added, as the video in this section was a point of view of someone struggling to not drown in a storm in the ocean. This section only lasted a minute and everything faded out together at 3 minutes 30 seconds.

If i where to this again I would like to spend more time layering and mixing up the sounds as i had a few broken ques, I would also like to spend more time on the visual aspect of the project as I think this was very jumpy, I think we did well designating tasks and also working collaboratively, for example, Ellis, Gilly and Kate found most of the sounds I think i should have been more active in doing this but we all found some sounds, Kate did the research which I think we should have all spent more time on before jumping into making the project, and I mixed all of the sounds once they where in Qlab and also added the animation Gilly made and the videos me and Kate found into Qlab, I overall think this project went quite well but would have been made better if we had a bit more time learning Qlab before hand however I think we would have understood better if we had asked more questions, but I think this was a good project to get used to using Qlab.

The visuals of "The Sea" project



This is a screenshot from an animation Gilly made, this played for the first minute and 25 seconds, as we thought it showed quite a calm ocean.



This then played from 1 minutes 25 seconds till 2 minutes and 30 seconds, we used this because we thought the waves looked more aggressive than in the animation but still not the big storm.



This video only played from 2 minutes 30 seconds until 2 minutes 50 seconds, we used this to show the storm picking up and getting much worse i like this one because it had lightning which fitted with the lightning sounds we added in at this time.



The final video that played was from 2 minutes and 50 seconds until the end (3 minutes and 30 seconds). This was a really good animation that Gilly found online that showed a point of view of someone struggling and trying not to drown in the middle of a storm, I think this video fit really well with our sound.

LIGHTING EQUIPMENT - LIGHTS

Lamp 1 is a flood light. It has 2 basic elements, a bulb and a reflector which pushes the light out. There is a frame just behind the lens which pops out to put gels in, this allows you to change the colour of the light. The bulbs are made from tungsten which gives the light an orange colour so a pale blue gel would be used if you wanted the light to appear more white. They are tungsten halogen bulbs meaning the filament is made from tungsten and there is halogen gas inside the bulb which makes it glow. These bulbs are quite expensive but cannot be used if touched with your bare hands as the oil or sweat from your hands will be heated when the bulb is turned on and cause it to explode, to avoid this the bulbs usually come with a plastic cover to hold the bulb with when screwing it in. There is symmetrical and asymmetrical flood lights, the symmetrical lamp will spread the light evenly whereas an asymmetrical bulb will direct the light more.







Lamp 2 is a PAR Can reflector, (parabolic aluminized reflector). It is a sealed-beam lamp, like a cars headlight. The filament, reflector and lens are combined into a single, non-moving unit. The PAR Can, merely hold the lamp, colour and any external hardware. The size and dispersion of the lamps elliptical beam depends on the type, size and number of facets that are molded into the lens. The light beam often retains a soft edge, (Shelly ,2009 p.31). The gel is placed at the front of the lamp to prevent the hot bulb from bleaching its colour.



Lamp 3 is a PAR Can reflector like lamp 2. However, in this one you can change the bulb without changing the whole unit as it is separated. In this lamp the bulb is facing the reflector which increases the luminosity and will produce more light even with less power and electricity. Its focal point is at the back of the lamp which makes the beam horizontal.

LIGHTING EQUIPMENT - LIGHTS

Lamp 4 is a half K Fresnel. It contains a lamp and spherical reflector mounted on a carriage, because of this the Fresnel's beam can get larger or smaller, and the edge of the beam can be shaped using the barndoors. The Fresnel lens has a softer edge, and as the lens is "cut-away" it can withstand greater heat. Current instruments equiped with Fresnel lenses can be lamped up to 18,000 watts (Shelley, 2009 p.31). When changing the size of the beam using the carriage (spotting down or flooding out) always try to do this with the lamp horizontal as it may vibrate and break the bulb whereas it being horizontal gives you more control.



Lamp 5 is a 1K Fresnel. It is the same as lamp 4 but has a larger lens. The side of the lamp will tell you the beam angle, with a larger beam angle there will be more ground covered as there would be a wider beam, however, this will decrease your luminosity per square inch so you may need to use two lamps so you would have the same coverage but with double the light. There is shutters on the front of the lamp, these are called barndoors, make sure not to leave these too far shut while the lamp is on or they will become too hot. Once the lamp is done being used you can close the barndoors and use these to rest the lamp on.







Lamp 6 is a bifocal profile. These can have a hard edged bulb, this bulb doesn't move and the focused lenses move back and forth to make a wider or narrower beam. The barndoors can change the shape of the beam and the beams focal point is outside of the light. These lights can project shapes using gobos, the gobos have to be put into the lamp upside down and back to front to project the pattern correctly. The gobos get extremely hot beacuse of the bulb so it should never be touched directly and you should only touch the gobo holder. These lamps can hold a gobo and a gel at the same time to make colourful patterns.

The lighting process

Initial brief

The lighting brief is usually acquired through detailed conversation with the director and other design team members. They will establish a style and period for the production and the role and function of lighting.

Creative design process

Design ideas are developed through immersion in the project, attending rehearsals, research and further discussion with the director and designers. A lot of experimentation with ideas will take place on paper and in practice.

Technical planning and organization

This is the translation of the conceptual response to the script in terms of lighting. A lighting plan and other accompanying documentation is made to be understood by the members of the electrics team.

Rigging

This is the process of placing all the lanterns in a rig according to the lighting plan. This process is part of the fit-up of production. Each lantern is plugged into a dimmer to create a circuit.

Focusing

This is when the orientation and beam characteristics are set. The precise position of each lantern in relation to the stage, the beam size, shape, texture and colour will be set.

Plotting

The lighting is created by setting the intensity of each lantern, this builds up individual stage pictures of light or 'lighting states'. Each state is then plotted (recorded) so it can be replayed accurately for the performance.

Technical rehearsal

This is the run through of the performance with the cast and all technical cues in place. This is the time when the lighting designer checks the timing, light levels, colour, positioning and if what has been plotted is technically feasible in performance. Minor changes are often made to the lighting plot at this stage.

Dress rehearsal

This is a non-stop run through of the play under performance conditions. This gives and uninterrupted view of the lighting. Check fade times, intensity and visual impact of the lighting on stage.

Performance

Lighting should be replayed exactly as plotted. Freelance lighting designers usually leave the show after the opening night, to begin a new project.

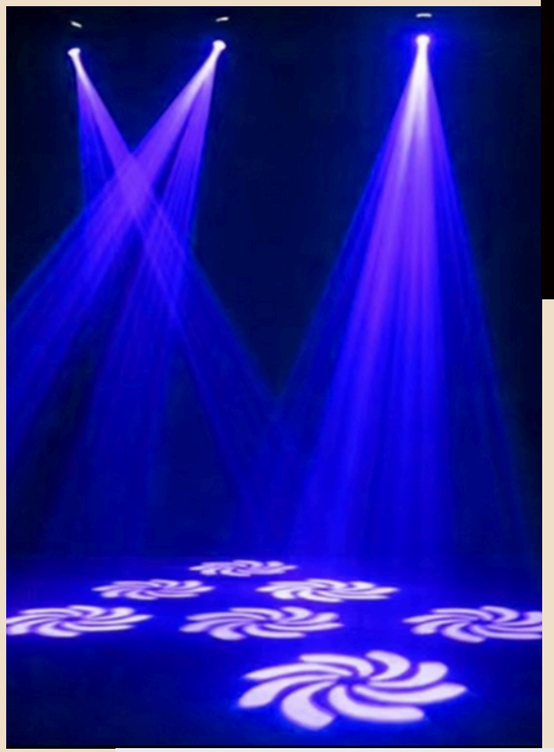
Post-production

At the get-out all equipment is derigged and hire equipment is returned. The lighting team may be involved in post-production evaluations.

Palmer (2000)

GoBos

A gobo is a metal plate with a pattern or shape cut out ot etched into it. You can buy and rent a whole variety of these, or can even make your own from thin metal. When a pierced or cut gobo is fitted in front of a profile spot, textures and shapes are projected onto the stage or a drape. Some will project purely abstract ‘break-up’ patterns, while others suggest dappled woodland light, a mountain range, windows etc. A soft focus is most effective with gobos. They become very hot very fast so they cannot be changed with your bare hands, gloves or a cloth will be needed when handling them, even after a very short use. Also, the lights may be set up very high or in view of the audience, so this will limit how many gobos can be changed and when. However, if there is enough lights to set up to use in succession the gobos will be most effective. Gobos can also be useful in situations when stage hands are changing scenery in front of the audience: a dappled light effect will ‘break-up’ their outlines and be visually interesting.(Davies, 2009)









All photos from Top dance



1-3 are all half K Frannels with tungsten bulbs. Lamp 2 is front and center and is angled at 45 degrees which is a similar angle to the sun for a natural look. Lamps 1 and 3 help to eliminate dark spots.

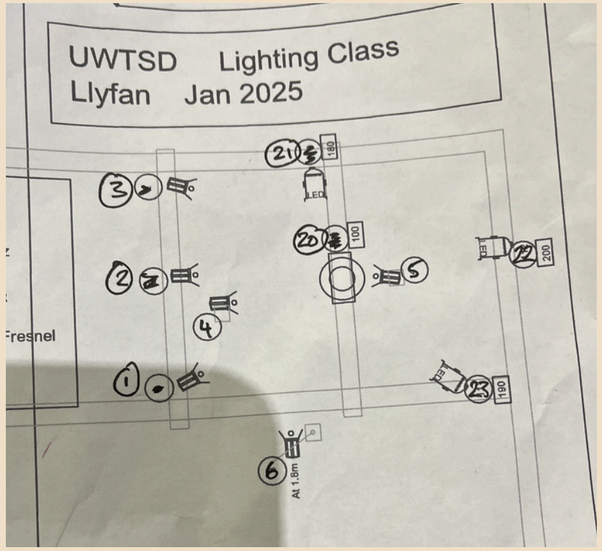


Lamps 20-23 are LEDs. 20 is a moving light and a top light this covers most of the body but not too much of the face. The LED lights are added from behind the actor as the colour should be added from behind, this is so there isnt too much colour on the skin and face as this wouldlook unnatural and a bit strange.













Lamp 4 is a foot light. This looks less natural and actors would use makeup with dark shades to add more shadow to their face and have a flatter more natural look.



Lamp 6 is a side light. It is commonly used in dance, the light can be put lower to only hit the dancer this will also highlight their shins or at a higher angle which would light the floor as well this would be more at a shoulder height.



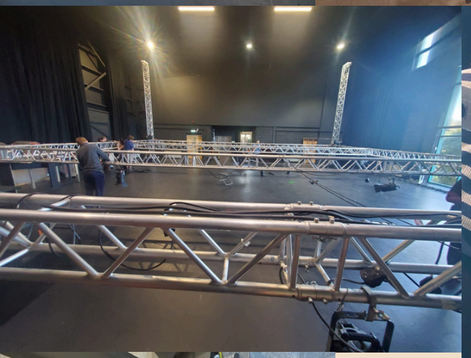
Lamp 5 is a back foot light. While actors are on stage this can allow them to see the audience which can help with the actors interacting with the audience but if this lighting is used alone it makes it very hard for the audience to see the actors.

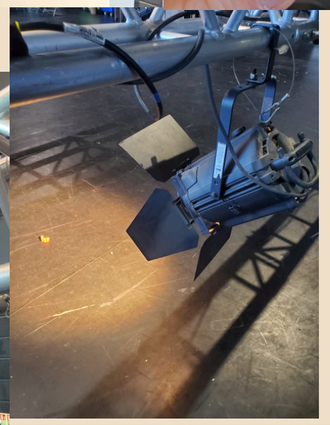


Rigging
















We rigged the lights in Y Llwyfan for an event happening. We started by bringing up all of the lights and putting them on the rig. Then we started plugging the lamps in, but a few of the lamps wouldn't turn on. First we saw if it was an electrical problem with the plug by plugging a working lamp into that plug, if it was the plug we had to find a new one and we put red tape around the plugs that didn't work. If it was the lamp that wasn't working, for some of them we just swapped them with other lamps but, some of them just needed bulbs changed so Dave showed us how to change the bulbs in the lamps. Whilst the lamps where being fixed me and Kate made up the gels for all of the lamps. Once all the lamps where up and had the right coloured gels in them we had to focus them. For this we had to put the rig back up to it's normal height and move the lamps by going up a ladder and focusing them on the centre. To do this, we had people stand on the centre point and corner points of the "stage" we had taped out in the middle of the room then focused the lights o them. I tried going up the ladder and focusing a lamp but I ended up coming down as I wasn't comfortable letting go of the ladder because I don't like being up ladders.

Lighting project

For our lighting project, we had to choose a speech and then create lighting to go along with it. For my project I chose a monologue from The Green Mile where Coffey was telling the prison guards that he was done with the world and was ready to be killed. I thought this was a good speech to choose as it has a lot of emotion that i could play on and I also found a lot of key words in it that I used as inspiration for sections of my lighting. For example, my first lighting section was lit by a side light and a light behind Trick, I did this as i wanted the side light to be a key light for the first couple sections to imitate a prison cell and only having a small window for light but in the first sentence I used god as a key word and went for a light behind to make a kind of halo effect around Trick, especially on their hair/around their head. I also did this in the middle section where Coffey says “lonely as a sparrow in the rain”, I tried to make this section look quite cold and rainy by using blue and white lighting, in this section I liked how the lights i used ended up creating an area of blue around Trick and around that was dark as I think this reflected the loneliness quite well. Towards the end I wanted to have some green lighting to show death approaching, as in the film the inmates walk “The Geen Mile” before they are executed.

COFFEY
You tell God the Father it was a kindness you done.
(takes his hand)
I know you hurtin' and worryin', I can feel it on you, but you oughtta quit on it now. Because I want it over and done. I do.

Coffey hesitates--now he's the one trying to find the right words, trying to make Paul understand:

COFFEY
I'm tired, boss. Tired of bein' on the road, lonely as a sparrow in the rain. Tired of not ever having me a buddy to be with, or tell me where we's coming from or going to, or why. Mostly I'm tired of people being ugly to each other.

I'm tired of all the pain I feel and hear in the world ever' day. There's too much of it. It's like pieces of glass in my head all the time. Can you understand?

The next slide shows the mood board I made based on the speech and the atmosphere I was trying to convey.





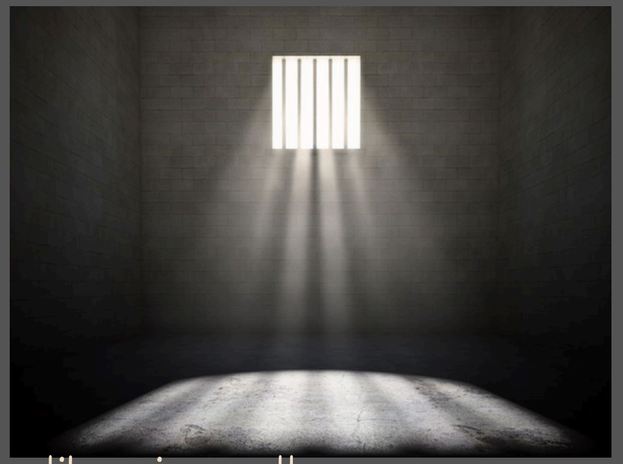
These two pictures where my visual references when designing my lighting. I like how in the top picture it is quite dimly lit and has the green floor, this picture is the empty set from the film and I think this picture shows the atmosphere I was going for in my project as it is quite dark and gloomy but still has the green which i knew i wanted to include, as a reference to the inmates walking the green mile. The second photo is a scene from the film and it is of Coffey in his prison cell, I like this and used it as inspiration, this gave me the idea of having the side light be the key light as I like how there is only light from the side and the face is not lit very well.



Cold rainy atmosphere



"YOU TELL GOD THE FATHER"



Light through window like prison cell



"I'M TIRED OF ALL THE PAIN"



Green lighting to signify The Green Mile

"LONELY AS A SPARROW
IN THE RAIN"



Not much light on face







"I'M TIRED BOSS"

MY FINAL LIGHTING ASSESSMENT



The first queue goes with the line “You tell god the father it was a kindness you done”. So for this lighting I wanted to play on the “god” imagery so wanted a light from behind, I tried a higher up light but ended up going for the lower one as i thought it looked better on Trick, who is who I chose to read out my speech. I think it illuminated them better and created a bit of a glow around them. I initially didn’t have this queue and was going to start with the second queue, however, when going through the speech I thought it would be better to add another queue to start with the face a bit darker.



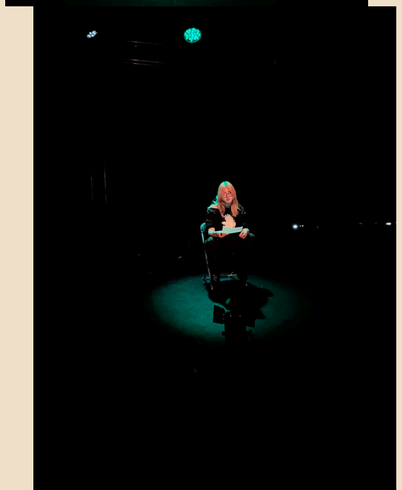
For the second queue I had the side light as the key light to create the illusion of a small window, like in a prison cell. I also added more lighting on the face so that Trick could be seen better as in the movie Coffey is talking directly to Paul so wanted them to be seen better by the audience as that section is directly addressing someone.



For the third queue I used more blue and white lights, as in this section of the speech they say “lonely as a sparrow in the rain”. I wanted this section to appear colder to reflect how Coffey felt as though he was alone in the rain. I used an LED from behind and to the side so that it would cast over the stage area and not make Tricks face look unnatural with the blue light



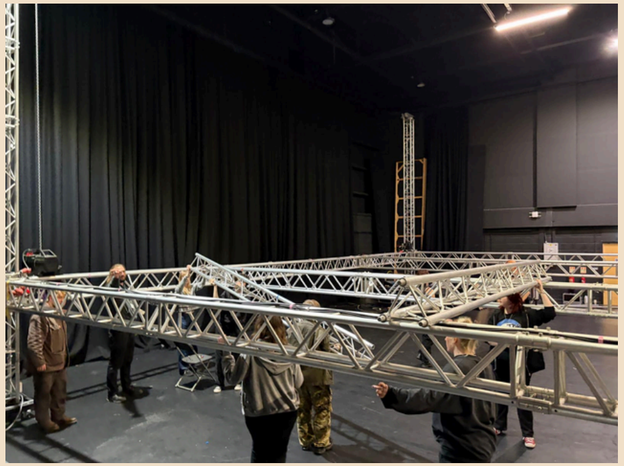
The fourth queue had a green light for above, I had other filler lights to make sure Tricks face still had a more natural look. However, i wanted the green wash over the stage area to signify the “green mile” which is what the inmates would walk before being executed, I wanted to add this to show how Coffey is getting closer to death and almost be seen as though death is coming for him with the green light kind of flooding the stage.



The final queue was all of the lights fading out. I faded the front light which was illuminating Tricks face later than the other lights so that the focus would be on their face when they say the line “Can you understand?” as it is more of a direct address than the rest of the speech.

Derigging















We first started by unplugging and moving all the lights on the floor and the side light, we also took down the frame holding the side light. Then the rig was moved down so that we could all reach to take the lights off. We firstly unplugged and took off all of the lamps, then we removed all the other wires which had all of the plugs and connected to the power. We then coiled up all of the wires. Next we took the extra beams off of the rigs. These were attached with rachet straps which we had to remove and fold up to be put away. We then took all of the lamps downstairs and put them away.

I enjoyed the derigging and think it was helpful so that we knew where to put things away and find them, I'm also glad we did this as I got to practice coiling wires which was something I wanted more practice with.

Lighting Names, Information and How I used them

Frontlight

This is a light that is striking the front of someone's body. A frontlight is a system, instrument or light beam above and in front of a person on stage. It is meant to provide visibility and allow performers faces to be seen by the audience, it also helps to direct the audiences focus (Shelley, 2009, P.8). I used front lights in my lighting project to light Tricks face and in my second que I used it to direct attention to their face as that line was directly addressing the audience as in the speech I chose that any lines directed at the other character, the prison gaurds, would be directed toward the audience to make them feel like they were involved in the speech and create an atmosphere that was quite dark and gloomy but also personal.

Backlight

This is generally defined as a system, instrument, or light beam above and behind a person on stage. This often means the backlight is pointed downstage towards the audience, so the light covers the head and shoulders of the performer (Shelley, 2009, P.12). In my project I used backlights but not from straight above. In my first que I had a backlight that was on the floor facing upward at Trick as I thought this created a really nice effect surrounding Trick. I also used a backlights in my third que to add the blue wash to the stage, howveer, this was not straight down from behind it was from the right hand side, I used this instead of the straight ahead backlight as I think it overlapped better with the other lights and made a nicer effect in the end.

Sidelight

This is a light striking a person’s body from approximately a 90 degree angle on either side of the centre line. If the instrument is hung above the person, it can be referred to as an overhead sidelight, high sidelight or high sides. If they are lower on stage it can be referred to as a low sidelight or referred to by their hanging position as a boom sidelight (Shelley,2009, P.9-10). I used a sidelight in my project, I used it in the first two ques, it was the key light in my second que as I wanted it to give the illusion of a small window, like in a prison cell which is where the speech is set in the film.

Downlight

A downlight or toplight, is generally defined as a system, instrument or light beam directly above a person on stage. The visual epitome of downlights are shafts of light pointing straight down, so that the light covers the head and shoulders of a person. An overhead hanging position rarely gets placed directly above each zone of focus points. In many cases, they end up located in the up and downstage electrics (Shelley, 2009, P.11). I used a downlight in my project, this was in the section where I wanted a green wash over the stage, I used this so that it would be the main light on stage and cover the majority of the area without being extremely bright, I think it worked well as when I tried using multiple green lights I think it was too bright as I wanted it as the main colour but not very overpowering, as I wanted it as more of a warning of the impending doom which is “The Green Mile”.

Evaluation

I really enjoyed this module as I haven't worked with sound or lighting before so it was really interesting to learn everything and learn a lot of new skills and techniques, such as, coiling the wires, using sound and lighting mixing desks and foley art. It was also interesting to experiment with foley art and making sounds in ways I wouldn't of thought of before, I really enjoyed doing the foley art project and enjoyed looking at how some of the sounds in my favourite shows are made, this is why I reached out to Mitchell Kohen as he has worked on a lot of shows I like such as, Greys anatomy, Bridgerton and Cobra Kai, although I did not get a response it was still interesting to look through his work and follow what he is currently doing on social media. Another thing I liked in this module was how we got a lot of time and freedom to try out the equipment so we where more familiar with it especially before the lighting assessment, I think this really helped with my project as I had more time to make my ques so that Dave could talk to us about more in depth and technical things to improve our projects as we had time to make all of our ques before doing the run through with him. I also liked the final project for using Qlab and I think I picked up the basics quite well, but I definitely need more practice on this as I had a few broken ques and was not sure how to fix these. I think I also need to start doing more experimentation before making decisions, for example in our foley art project I think we should of experimented more, however, I think that project went well overall. I think my favourite part of this module was the lighting, as I found it a bit easier as the controls where very straight forward, this allowed me to be more creative with the lights as it was easier to play about with different lighting and I could try out more things. However, I also enjoyed the sound part, but I think I would enjoyed it more if I had spent a bit more time learning the controls on the sound desks to understand them better. I think in the future I want to be more hands on in practical lessons and more proactive in asking questions and doing research, I think this will help me have a better understanding in lessons and improve my knowledge in future modules. In the future, I would probably not go into this part of the industry as I do not think I understand or enjoy this as much as other modules we have done, however, I am glad I have learnt this and have a few skills in production technology as it would be useful in supporting peers and potential future colleagues if need be, despite not persuing it as a future job prospect.

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