TE3075 Assignment 2 **Pipeline**

Post-Production Process for 'VR Hell Dungeon'

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Introduction

This document evidences my post-production process for my version of VR Hell Dungeon. I will discuss my workflow and any decisions I have made that impact the process. I will be using the Adobe CC suite of apps. At the end, I will discuss what I have learned and analyse points for improvement.

Link

https://www.youtube.com/watch?v=Qf77frWd6Sk

Post-Production Process

Ingestion

I took a copy of the footage on the hand in deadline, 1st March 2016 and brought it home for ingest. I booted up Prelude, located the AVCHD file and began to preview the footage. Group E had recorded footage and voice clips into the same AVCHD file. First, I selected the files which



Ingesting the footage and audio into Prelude

were footage. Usually I transcode footage into ProRes 1080p 25fps 422 HQ, a great intermediate codec. However, I have begun to hear good things about GoPro's CineForm codec. Editors in the PC community have been using it as an alternative to ProRes¹ for obvious reasons however Mac users have also reported decreased latency when shuttling thought heavy timelines. As this assignment includes a lot of VFX, I decided to use this assignment to try it out so I transcoded to GoPro CineForm YUV 10-bit which uses the .mov container and is also 4:2:2. One drawback of CineForm I have noticed already is that OS X Finder natively understands and can preview ProRes files but it cannot for CineForm. Next, I selected the Voice over clips and transcoded into WAV 48000 16-bit so that they would sit in the same Audition Multitrack session as the other footage without having to be conformed. Once all my clips had transcoded, I selected them all and sent them into a new Premiere Pro project. Group E had used an external mic plugged into the camera, however this was only routed to the left channel, the

¹ Cineform - superior alternative to ProRes (2010) Available at: <u>http://www.reduser.net/forum/showthread.php?121568-</u> <u>Cineform-superior-alternative-to-ProRes</u> (Accessed: 14 March 2016).

right channel was just noise. To correct this, I moved all of the footage into a 'Footage' bin, shift selected them all, right clicked, moved to Modify and selected Audio Channels. In the menu that appeared, I changed the 'Clip Channel format' to Mono and opted to use only the left channel.

| Clip C | hannel F | ormat: | Mono | • |
|------------------------------|----------|----------|------|---|
| Number | of Audio | o Clips: | 1 | |
| Media Source Channel: L R | | | | |
| Clip 1 | Ch. 1 | v | | |

There was also a folder of 'Animated Game Assets' however this only included two broken .png's, a flash file with 1 frame animated and two auto-saves of that flash file. On 2nd March, more files populated the folder. Upon inspecting the metadata these files has been created before the deadline however they appear to have not uploaded to the server correctly. As this was only corrected after I had taken a copy, I was missing assets for the ingestion stage.



Left: The old assets folder.

Right: The updated assets folder after the deadline.



Deciphering the Pre-Production

With the footage, Group E included file called Thomas Codd Pre-prod.docx. This included the following:

• Synopsis

- Shot List
- Post-Production guidance
- Storyboards

Script

I printed off a copy of this and began to watch through the footage. After multiple hours spend trying to understand the footage, I came to a few conclusions:

- 1. Scenes 3 & 4 had not been filmed (or had not been uploaded to the server).
- 2. The Shot List does not match up with the script in certain places.
- 3. The footage does not match up with the Shot List in some places.
- 4. Several compromises had been made during filming.

The synopsis and pre-production tells us that 'Jeff' was a "greasy looking man" who lived in a "darkly lit lair filled with porno mags" however, they have obviously filmed in Jaison's house with religious artefacts everywhere, frilly curtains, a Jesus statue in the window, and a huge cuddly teddy bear on the sofa. This completely limits the essence of Jeff that I can portray in the final video

and ruins the mis-en-scene.



The living room - not quite a lair.

The biggest issue is that the whole story hinges on a VR headset, the entire video is about VR; yet they have not used a VR headset? There is an Oculus Rift available in Media Factory Stores! This really confused me as I wasn't sure if the video was to be composited onto the laptop screen, floating in the air or wherever else! This was not covered in the post production guidance. I sent an email to all of Group E asking for advice however none of them have yet replied.

After speaking to the Thomas Codd in class on 8th of March about his preproduction and the footage, he confirmed all of my conclusions. He also helped explain how he intended the footage to be put together, explaining that the VR overlay should appear in Jeff's glasses.



How Group E intended the VR to appear.

Rough Cut

I began to put a rough cut together of the footage. As the paperwork is disjointed I first had to decide what I would base the video off. This assignment gives creative licence to make a great video, however I felt that by sticking to the paperwork as much as possible, I would be able to put more creativity and spend more time on the effects and post production elements rather than trying to reconstruct the narrative. Therefore, I decided to work from the shot list and use this as the skeleton on which I would lay my footage. First I created a sequence and laid out the clips according to the shot list. I ignored the lengths at first as I wanted to leave handles for the visual effects. It quickly became quite clear that they had not stuck to the shot list or script when shooting. This made it very difficult to choose the right clips, sometimes having to merge multiple clips together to make one line. I had to leave some gaps in the timeline for the VR elements as I had not yet found them in the new assets folder and was planning on creating them later.

Once I had found all of the right clips and the narrative was in place, I began to try and edit the clips according to the times on the shot list. This was impossible as many of the lines and much of the action was longer than the allotted time. Take shots 6 and 7, 'Jeff throws off the headset and reaches for the phone' and 'Close up of Jeff on the phone' as an example. 30 seconds is allotted for these shots together however the action and speech takes 1 minute and 20 seconds.

I struggled choosing between different shots. Some takes were more technically competent however Alex did not stick to the script meaning some shots did not fit with the rest of the edit. There are a few shots where I have had to use blurry footage to keep the narrative. As the group shot on a DSLR, it's shallow depth of field has caused a lot of issues for them. There are many shots where a key aspect is out of focus, some examples below.



Left: Alex's face is in focus whilst his hand and the 3.5mm jack are out of focus.

Right: Alex's face and glasses are in focus however his hands are out of focus.

By this point, I had now received the new assets, I dropped these in and edited them into place.

Visual Effects

My next step was to move onto the visual effects. I started chronologically, replacing each clip that required effects with an After Effects composition.

<u>Shot 4 - VR Boot up</u>

The first shot that required effects was shot 4 where Jeff boots up the VR device for the first time. To do this I took the title screen .fla file and exported it as a .swf so that it could be loaded into After Effects. Alternatively I could have exported the still

as a .png however as there was no animation, time stretching the .swf was no problem and it kept with the Adobe workflow. I brought this onto the layer above the clip in the composition. Making sure I was on the first



frame of the clip, I first flipped the overlay so that it would be readable to Alex, I used the transform tools and a mask to make the screen fit within one lens of the glasses. I then used the Bulge effect to make it look like it was on the lens rather than just stuck on-top. I then keyframed the opacity to make is appear as if it was booting up or warming up. I then duplicated this layer and tweaked the position and mask so it fitted the other lens. I then alt-clicked on the opacity of the second eye and used the pinwheel tool to set the expression below. This had the effect of

thisComp.layer("MASTER EYE (L)").transform.opacity



Main: The final motion track anchor points and paths. Inset Right: The layer panel showing the parenting options.

the right eye mirroring the opacity of the first eye, even If I decided to change the keyframes later.

Next I had to motion track the glasses so that the overlay would stay on the lens. Looking at Alex's movement, I decided that I would need to track for Position and Scale. Since scale requires two tracking points anyway, I also ticked rotation. finding two tracking points was very difficult as the shot is slightly blurry. After lots of trial and error, I managed two find two corners on the frame of Alex's glasses that the tracker would keep sight of for the whole clip, shown in the image on the previous page. After the motion tracker had processed, I created a null object which I then applied the tracking data to. Making sure I was still on the first frame,

I then selected the null to be the parent of the two eye overlays.

Error Message 1

To create the first error message section, I first imported the 'Standing Still.mov' asset. I transitioned to this



from the title screen. At the time I wanted the error to occur, I split the clip. I then applied some noise to the second clip and desaturated it. I then pulled in the error message asset as a .png and layered it on-top.

First Error

To create the first error for Shot 6, I used the same method as detailed above to track Alex's glasses. I tracked for Position, Rotation and Scale. Using Mocha to track Perspective too would have provided a better result, especially for when Alex turns his head at an angle, however for the small duration Alex has his head turned and the small size of the overlay, the improvement would have been negligible. I used the same bulge method as



Using Mocha could have improved this angle.

above to try and improve the realism. As well as the error box, I put a devil in each eye, I then used the opacity to flick between them to simulate the VR glasses crashing/being hacked. I used expressions on both of the slave overlays as detailed above.

Loading 2

At the end of the phone call, Jeff boots up the VR headset again. For this, I used the exact same method as the first time.

Loading - BCU

For the big close up on Alex's face, I used the same method as before. however, it was more difficult this time as the left corner of Alex's glasses go out of frame. I tried using alternative anchor points such as his hair, nose and eyebrows however the lower portion of the frame is slightly



blurry, making tracking difficult. Eventually I managed to find two tracking points that worked for the majority of the shot. However, as the bridge of the glasses is

slightly blurry, the left overlay does bounce a little. I tried to pick a portion of the shot where the wiggling was at a minimum to go into the Premiere sequence.

Error Message 2 - Devil

For the section where the devil is wiggling around I used a similar method to the first error message except this time I edited it After Effects. To make the devil wiggle around, I used the 'Wiggle-Position' Effect with 15 wigs/sec and a movement of 200 pixels. For the second half of the shot, I duplicated the tunnel layer,

applied a red hue/saturation effect and then keyframed the opacity to bring it in. I tried key framing the hue/saturation effect but it could not find the correct combination of effects to keyframe.

Devil in Glasses

For this, I first motion tracked the devil into the centre of Alex's glasses. I did not need to mask the devil as it fit nicely in the frame. Once the motion was smooth throughout the shot, I then applied the same wiggle effect with the same setting to the devil.

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Error Message in Glasses

For the error message in Alex's glasses, I for used the same method as I did for the first

error.

<u>Flies</u>

For the flies, I followed a tutorial² which showed how to use the Particle World effect, I then modified the settings to those shown on the right. To make the flies start appearing, I keyframe the birth rate from 0 to 3.8. I also keyframed the transformation controls of the whole swarm to make the swarm seem as if it was moving. For some shots, such as the POV through glasses, I masked the glasses out of the flies layer. I did this because the flies are a VR artefact and would therefore not be in-between the glasses and face. Later, when Alex realises that the flies are only a VR artefact, I set the Birth Rate back to 0 and the flies 'died' naturally over 0.3s.

Locked Door POV

For the shot with the locked door error message, I struggled to track to the glasses as they were so blurry. To get it to work, I tracked the entire bridge of the glasses. This large area took a long time to analyse but the result worked very well. I used the bulge



effect in the opposite direction as we are looking at it from the other side. I also masked out the glasses again. I also took a white solid, applied a fast blur and masked it to look like a reflection; I then put this over the right error message. This was to increase the verisimilitude slightly and make it seem as if it is on the other side of the lens.

This door seems to be locked. It

not open. It's locked. Locked, it cannot be opened.

It's locke

² Flies (2007) Available at: <u>http://www.ivfilms.net/resources/Flies_Tut/Flies.html</u> (Accessed: 18 March 2016).

Colour Correction & Grading



Colour correction was a very difficult process, one that I generally struggle with anyway. The source footage was very orange, the red channel was quite often clipped! The footage was quite often very dark. I went through trying to correct the temperature of the clips and fixing the Magenta level to make them less green. After that, most of the clips needed the gain increasing, however this brought a lot of noise with it. It also showed how dark the room was that they filmed in, in the example above



you can see the light from the laptop screen reflecting from Alex's face! In the example of the door to the right, you can see that the LED light they used has blown out the highlights in the shot so when I bring up the gain for the shot, it clips almost immediately. After I had corrected the shots, I applied an adjustment layer over the entire project and applied a duo-toning preset which cooled the shadows and warmed the highlights. I hoped that this would make the shadows seem dingy as the script requests but also warm the highlights form the laptop on Alex's face.

Audio Editing

The last thing I did was work on the audio. From Premiere, I sent the sequence to Audition with 1.5 second audio handles. At first, I tried dynamically linking the sequence for my video preview, however due to the amount of effects, Audition would take 4-5 seconds to play. This was not good enough for me so I exported out a 720p proxy video of the sequence, imported this into Audition and replaced it as the video reference track.

I then created four tracks: Speech 1, Speech 2, Phonecall and Room FX. Speech 1 was the track that the in-camera audio had been put from Premiere. I went through each clip individually and added fade-ins and fade-outs to make sure the clips started and ended on a zero-crossing. I also went into each clip and normalised it. I did this with the clips which were background noise too as I wanted to set the levels myself rather than relying on Group E's mic positioning. After I had done this, I listen through and wrote down some thresholds for audio, measured in dB:

- Speech/Foreground noise: -3 to -9
- White Noise: ~-40

• Background Noise: -21 to -24

• Music: -9 to -12

Using these thresholds, I would be able to efficiently mix the video whilst keeping everything separated nicely. I was classing foreground noises as noises that the viewer would expect to see matched with action, such as the fly slaps, putting the bowl down etc. I classed Background noises as noises that It would seem odd if they were missing but the viewer might not necessarily miss, for example clothes rustling, breathing, room ambiance, background noise etc. Some of the speech clips needed compressing to keep them within the threshold, I did this on a perclip basis.

For the phone call track, I used a 'Scientific Filter' track effect. I started with the 'Strictly 1KHz' preset and adjusted the bandwidth so that only frequencies from 300Hz to 4KHz came through. I chose a slightly larger bandwidth than actual telephones as I knew I would be pitch shifting the devil's voice, the overall effect still sounds like a telephone call however.

For the Room FX track, I used a Studio Reverb and modified the 'Room Ambiance 1' preset. This would make some sound effects sound less out of the box. This track held the white noise, the flies as well as the DTMF and dial tones for the phone. I generated the DTMF tones in Audacity. I counted the number of times Alex pressed his phone's screen and generated that many tones. I then chopped them up and matched them to the action. I also created the dial tone in Audacity. I researched the UK dial tone and found that it is a "Continuous tone of 350Hz at -20dB modulated with 440Hz at -23dB"³. This was the incorrect tone as it "Indicates that the user can now dial"; I should have used the "Ringing Tone (Awaiting Answer)" however it worked for the purpose of the film.

I generated the static in Audition by creating a new audio file, and selecting Effects > Generate > Noise. I used white noise as it seemed to fit the best with the video.

For the Devil's voice, I used the extra audio clips that Group E had recorded. I used the Pitch Shifter effect as a clip effect on each occurrence. I used 'The Dark Lord' preset and then moved it back up a few semi-tones to make it less deep for the telephone section.

Music

I downloaded the music from the Free Music Archive. I chose it because I felt it fitted with the tone of the virtual game. Also, because of it's name, "Am I The Devil?"⁴. It is licensed with a Creative Commons Attribution-NonCommercial 3.0 International License.

SFX

Some of the sound effects were downloaded from <u>freesfx.co.uk</u>. They allow use of their sounds as long as I give credit. I will give credit in the description of the video on YouTube. The Flies sound effect is sourced from YouTube which allows me to re-use the clip for use in a non-commercial YouTube video.

Once all of my audio editing was done, I exported the multi-track back into Premiere Pro.

³ UK Dial and Progress Tones (2007) Available at: <u>http://blog.trumpton.org.uk/2010/10/uk-dial-and-progress-tones.html</u> (Accessed: 24 March 2016).

⁴ YEYEY (no date) Free music archive: YEYEY - am I the devil (instrumental). Available at: <u>http://freemusicarchive.org/music/YEYEY/</u> The_Vision_Instrumentals/Am_I_The_Devil_Instrumental (Accessed: 22 March 2016).

Evaluation & Analysis

Despite this not being a piece of work that I'd feel comfortable displaying on a showreel, I do feel that I have made the most of the situation and tried my hardest to work on my VFX skills. I have also tried to use it as an opportunity to develop other related areas, such as codec choice. Unfortunately, due to the sheer amount to effects and editing and techniques I have used, there is so much to talk about and I have been unable to keep my report concise. I apologise for the high word count, however I did not want to cut out any information about my process and workflow.

Apple ProRes v GoPro Cineform

I decided to use the Cineform codec for this assignment to try it out. For me though, there was no noticeable improvement in editing speed or any other area. I also missed being able to preview the clips in Finder like I can with Prores. This leads me to conclude that for future projects I will be using Prores again.

Colour Grading

I've never been much good at colour correcting and grading. I feel like I did a decent job at correcting the footage. I think that the final tone of the shots fits with the story. Using an Adjustment layer for the final look is definitely the way to go in my opinion.

Learning Objectives

Below I will take a look at some of the aims in the brief and how I have tacked them in relation to the Learning Objectives.

A competent understanding of editing grammar

I feel like my edit makes sense. It does not stick exactly to the pre-production however I have tried to make sure the narrative shines through.

<u>A coherent use of sound</u>

I have spent a lot of time on sound, it is one of my favourite areas. Setting thresholds for the audio helped me direct what sound was important and what should be backgrounded. It also gave me targets to aim for when mixing. This is something that I would try to use again in other projects, perhaps revising my thresholds.

Any footage correction required

Unfortunately, it impossible to sharpen out of focus footage, however I feel that I have worked well at colour correcting the footage, choosing carefully from the available shots and working with reflections and darkness issues.

Any motion tracking or match moving required

As mentioned throughout, motion tracking the footage was difficult. I had to think carefully about my anchor points and work with what I had. Having to be creative and think about what surface would work well with the motion tracker has changed my thinking and improved my ability to choose suitable anchor points.

Any vfx required

Working with low quality assets is difficulty however I feel that I have created some good effects. I found it challenging but helpful trying to keep the verisimilitude up however I also enjoyed the lee-way that futuristic technology gave me. I got to use some new effects such as Particle World and Bulge which I have not used before. I also had to use some effects I was familiar with in creative ways, such as masking and blurring a solid to simulate a glass reflection. These are all skills I can carry into future projects.

Clear and sensible media management

Using the Adobe workflow, lots of rendering time has been saved by dynamic linking. This is one of the main advantages of it for me. I have kept all of my clips, comps and audio in separate bins. This was especially useful for needing to change the Audio Channel settings on the footage. Having an assets folder allowed me to keep all of the images and audio separate from the footage. Ingesting using Prelude is great as it allows you to rename the footage to something useful, rather than 00000, whilst allowing the addition of metadata too.

Conclusion

I was very skeptical about the Pipeline assignment when I first heard about it as I was worried about receiving sub-optimal footage and being unable to produce a good piece of work. I have worked hard towards LO4: "Design/develop & post production material to a professional level". Now, at the end of the assignment, I can begin to see that having sub-optimal footage has provided ample opportunity for me to work on improvements to the video. I also feel that my strength is in the audio side of things.

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Appendices

1. <u>Resources</u>

Music

Am I The Devil (Instrumental) by YEYEY

Am I The Devil (Instrumental) by YEYEY is licensed under a Attribution-NonCommercial 3.0 International License. Located at: http://freemusicarchive.org/music/YEYEY/The_Vision_Instrumentals/ Am_I_The_Devil_Instrumental

SFX

Phone Pickup 01

Alert Asterisk 1

<u>http://www.freesfx.co.uk/info/eula/</u> : You MUST credit <u>freesfx.co.uk</u> if you use our sound effects or music in your project.

Flies

<u>https://www.youtube.com/watch?v=bcuKTheCcsE</u> Section 8.1B of <u>YouTube's Terms of Service</u> grants me a "royalty-free license to" "use, reproduce, distribute, prepare derivative works of" for use on YouTube".

Dial Tone & DMTF Tones

Created using Audacity, A Free Digital Audio Editor <u>http://audacity.sourceforge.net/</u>