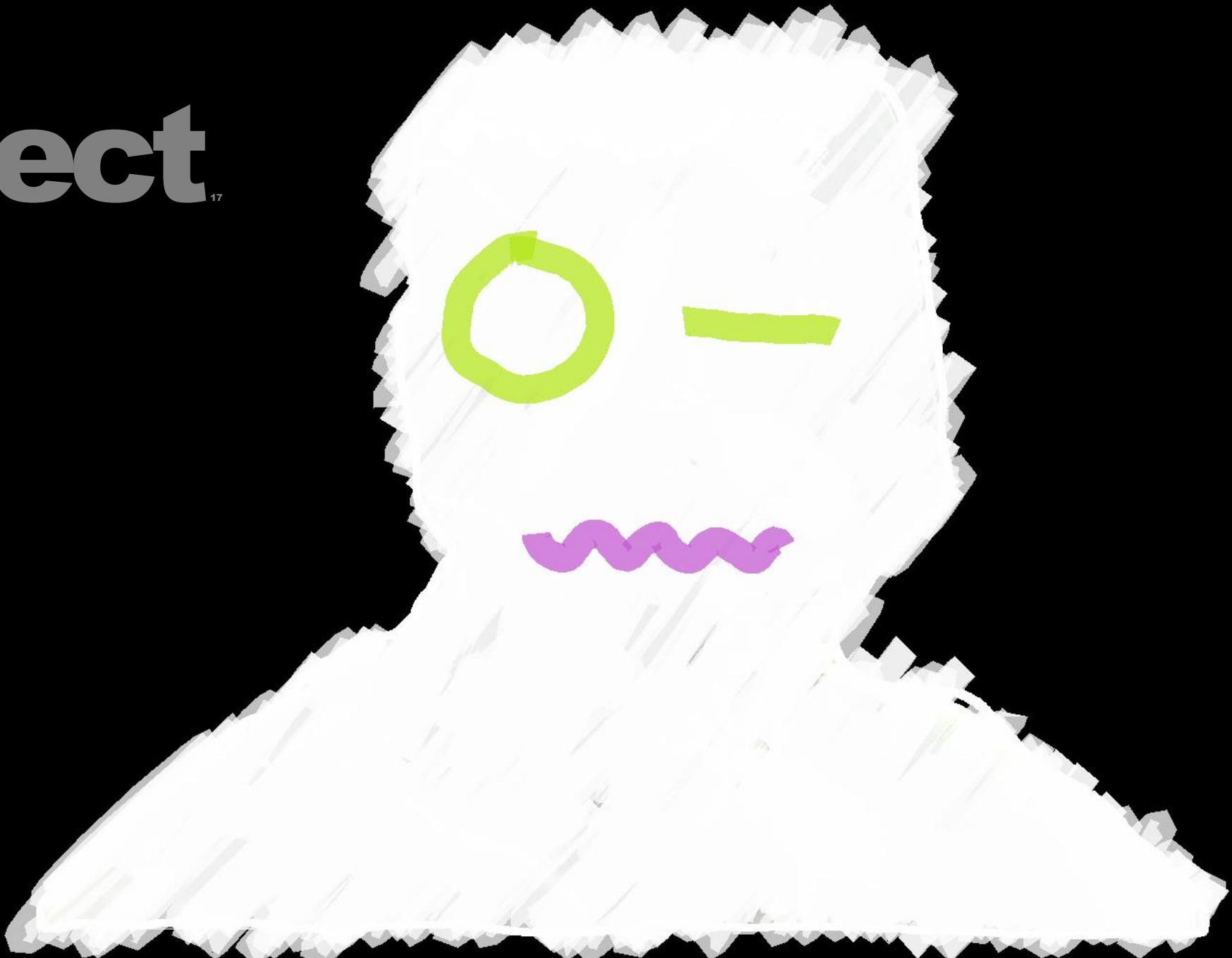


IT Multimedia

Major Project¹⁷

CTRL///

29092737



Statement of Intent

Welcome Reader to my Major Project Portfolio!

For my HSC Industrial Technology major work, It is my intention to create a short film/music video. I aim to combine a wide range of different medias; including editing of raw footage, adding frame by frame animation, cinematic techniques and green screen technologies to produce a short film of high quality, given the bounds of the project due date.

During the early production stage of the video, I will be keeping a log of all events I complete, including the time spent on the activity, and the location where it was completed. I am aware of the 70 hours of work that needs to be completed within school hours. Alongside my timeline of events, I will be proposing a Gantt chart to firstly help with time management, but also to draw upon the week's events to conduct weekly summaries of my progress. The Gantt chart will run from the first week in Term 4 (2016), up until the due date in Term 3 (2017).

The Gantt chart will be very beneficial to the task as it will help me to keep a balance between completing the major project and other schoolwork, and hopefully prevent me from falling behind in the latter stages of the project. Drawing from my Major Project produced in Year 11 (creating an animated weather report), I know that time management is something that I am challenged by and it will be important for me to complete certain aspects of the task in my own time as well as in class.

Moving forward with the early, planning stages of the major project, I would like to present some ideas I have had for setting out the film, how I aim to achieve producing the film, and issues I have already come across, preventing me from creating something similar to the next 'James Bond'.

Firstly, striking the correct balance between other schoolwork, my part-time job and completing the project will influence the value of the final film. I have set myself a task which will not be easy to complete without a high level of weekly commitment and patience. However, I hope I have set myself a task which will keep me actively concentrated on and overall 'enthusiastic' to complete in my spare time – rather than the project becoming an imposition. Important to account for in the planning of the project are the foreseeable impediments that may arise during the project. Whilst developing the preparation resources, it will be important to allow for 'buffers' between assessment hand in dates, should a delay such as rendering times and software compatibility problems occur. It will be important for me to keep in the back of my mind that these intermissions are out of my control and an important part of the major project task to help challenge me to bounce back and improve on my time management skills.

Whilst I can't wait to begin the production and editing stages for the film, there is still a large amount of background research to undergo, necessary to assist me in improving my skills in the area of design choices and special effects. Heavy research and analysis of similar film media will help

evaluate the selections made by other screenwriters; choices such as colour and sound that give a desired effect to the audience; whether it makes the audience feel a tone of excitement or sadness. Accounted for in my project management are the weekly, Plus, Minus, Implication tutorial evaluations that will help familiarise me with perhaps new software packages not previously used before or knowledge on how to create effects and apply them to my short film. I hope to research to a point where I feel I reach a level that will leave me highly competent in the parameters of the project.

However, completing tutorials and researching can only get me so far. In this project intention stage I have made up my mind about a rough idea which will discuss an underlying theme I hope to explore throughout my short film.

The current world of technology is always constantly evolving. The traffic of internet users has more than quadrupled in the past decade, now surpassing over two billion users each year. And with an increase in internet users comes an increase in those, misusing the platform. In my video;

'I wish to capture a moment in the life of an internet hacker' and explore the idea that there is a world beyond our own;'

A world where the law is not heavily enforced. I will be pairing the video with one of **DJ Deadmau5'** most profound songs "**Professional Griefers**" featuring **Gerard Way** – the lyrics reflecting the idea of a broken world within the cyberspace.

In the audio visual, I am planning on combining the use of raw footage and green screen technologies to create a virtual world for the main character of the video. Through the skills previously learnt in known software (Adobe CC), and perhaps unknown software, I will manually craft by hand, art and visual effects, taking advantage of motion tracking and if possible, 3D applications to create my completed work.

So, where do I continue from here? I am already aware of the demanding nature of the multimedia course; stated in the course guidelines, and over the course of the project I do not plan on wasting any of the time I have set aside for the task. Whilst I am fairly new to animation and special effects, having only spent 9 months since beginning as a multimedia student, I will not use this lack of knowledge, in comparison to my peers, to deter me. Multimedia is something that I have had a strong passion for and if I use this passion as my main form of motivation, the creative ideas and dedication should follow, leaving me with the ability to reach the goals that I have set.

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Symbolises ongoing Evaluation

Back to Facebook 4:49 PM
Deadmau5
Home Typically replies in a few hours Manage



Deadmau5 ✓
8.9M people like this
Musician/DJ

4:50 PM

Hello Deadmau5!
My name is [29092737](#) and I am 17 and from Newcastle, Australia. I am currently in my final year of schooling, year 12. Being an aspiring VFX artist, I have enrolled in participating in the subject of Multimedia at school, and in my Higher School Certificate year, I am required to produce a major project demonstrating my ability in creating special effects and animations. I have been a follower of yours for a while now, and thought that your insightful track, 'Professional Griefers' would be perfect in accompanying my short film project.
Stated in the Australian Copyright Act, I am required to request permission for the use of copyrighted music in my film (despite the fact that I have no plan in distributing the film or using it to gain revenue). I know that you are very busy at the moment, with the promise of a new album in the coming months, however I would greatly appreciate a response even if it's on your behalf.
Kind Regards [29092737](#)

(Materials and Resources) Research

Intellectual Property Rights and Respecting Ingenuity

As part of the Australian Copyright Act 1986, it is important to respect the legally enforced rights of artists and creators.

The short film in which I aim to create, reflects highly upon the powerful sound and lyrics behind Joel Zimmerman's song "Professional Griefers" featuring Gerard Way. Due to not having a sufficient amount of time to produce and compose my own song, as well as having a lack of recording resources and equipment, I have chosen to contact Mr Zimmerman's (a.k.a Deadmau5) recording company in the hopes of discussing the permission and intention of use of his track.

I have not yet received a response from Mr Zimmerman and as I only intend to use his song for 'educational purposes', I have chosen to go ahead with the use of his song as it will save me time that I would have spent on song writing and allow me to concentrate more on the visual effects and editing of my short film.



'Inspiration'

Beginning the project, I found it difficult to uncover an idea that would showcase both my talent in the field of animating and visual effects, as well as keeping the video entertaining for the audience.

The images below are taken from a video game trailer for the game "**Watch_Dogs 2**" (**Ubisoft 2016**). Whilst the character animations may have been computer generated, I am very interested in creating a short film, using similar visual effects of fast paced flashing screens blended with icons of technology. Also, the effect of the character being in the shadows, adds to the mystery and curiosity felt by the audience.

The combination of both the actions of the trailer and the soundtrack have given the promo an 'exciting' feel, something I wish to capture in my project.



Camera Angles/Filming

Integral to persuading an audience to understand key moments within a visual is the angle in which it is shot; whether it be anywhere from extreme close up, focusing on an important item, or a longshot establishing location.

The live action trailer for the video game "**Destiny**" (**Bungie 2014**) (left and below) has inspired me to experiment with high, over the shoulder and long sweeping camera angles. Close up angles have been used on the small, amusing text written on the character's weapons, which gives an entertaining feel to the trailer.

I can't not mention the impressive visual effects and costumes used within this short visual also.

Hand Drawn Style Animation and 'Glitch' techniques

Cleverly introduced to the world by the **Gorillaz** band, was the concept of virtual band members being brought to life in a cartoon style. The use of cell by cell animation in the band's many music videos, placed on to tangible objects is something I wish to extend myself to in my short film, as it adds a sense of virtual realism to the world. Their more recent album also incorporates many glitch effects I would like to recreate and include in my major project.

Research (Materials and Resources)

Consulting an 'Expert'

5:26 PM Telstra 5:26 PM Thomas Miller > Messenger

Thomas Miller
18 mutual friends, including Emma Hopkins and William Reeves
Studied at The University of Newcastle, Australia

SUN 7:06 PM

Hello Thomas Miller! My name is and I am currently completing my Research section of my Multimedia portfolio. A friend of mine, Sean O'Connor told me you might be able to answer a few questions I have about the major project?

Thomas Miller accepted your request.

Yeah man ask away

4:05 PM

Sorry, been at school

Can you tell me some of the ways you effectively managed your time when completing the project?

Well I planned to do some project work throughout the Week on some nights while doing other subjects on the others. When it came close to having an assessment due I focused more on the project because in the end it is worth more than most of the other subjects assessment tasks so I did it on the weekends and more nights a week the closer it came to being due

Hahaha, I noticed in your 'Journey through the Dream World' you used a green screen. How did you go about using that well (I'm planning on doing similar!)

That's not a bad idea, might have to check out Kotara for that! Tell me about what were the main forms of software you used in your project and why?

I used after effects for almost everything - I used it to animate, chop up video, put sequences together, apply effects to video and much more because it had so many tools and features to play around with and its all in that software - no need to get Adobe animate because after effects has it all

I also used Adobe premier pro for my final editing and to apply subtitles to my making of video and overlays and video combining with transitions

Also Adobe media encoder - to convert almost any video and audio file into any other form

Also Adobe encore to create my DVD menu

And photoshop and illustrator to create my characters as individual layers

I see! I really liked your disc cover and was wondering how you did that!, 2 more questions I promise

How much did you spend on producing your Project and what items cost you the most to purchase?

As part of my own Research, I wanted to talk to a previous student about how he went about creating his own major project, and what types of materials and resources he used.

The student I spoke to, Thomas Miller, completed his Multimedia Major Project in 2016, titled 'A Journey Through the Dream World'. Thomas gave me some very important tips towards using Green Screen Technology within the film, how he created his own CD Art and case and how to juggle the demand of the major project.

As I want to create a Green Screen effect within my own short film, Thomas pointed out the most effective ways to use a camera with a green screen, and justified the types of software he used when using Key light (Chroma Key) effect. Achieving correct lighting appears to be vital in accomplishing the effect.

(The accompanying images are an example in his short film, using a green screen which I aim to achieve)

Thomas also used drawing and animation techniques within his project, declaring that Adobe photoshop and Illustrator are the best choices when using a drawing pad and sketching out drawings. He was able to place these drawings into the film through Adobe Premiere Pro; the editing software I plan to use when editing the short film.

This inspired me to test and use the Drawing pad provided by the school.

ink, my phone which I got while doing the project so I included it.... But besides that I made all my own props which were easy to make anyway and I didn't use much else - other things I already had

5:11 PM Sorry, just got caught up for a sec. I see, so I guess I'll keep it cheap!

Yeah if you want

I guess my last question is would you have any advice if you were to start the project again, to finish better (I guess) next time?

You could not have answers these any better! I guess, lastly is to ask you, you mind if I take a photo of your project itself (I'll get in class), in my portfolio.

In the holidays like the ones before the project I just printed out the research and other similar sections to suit my final design and make sure that all the sections flowed along onto one another

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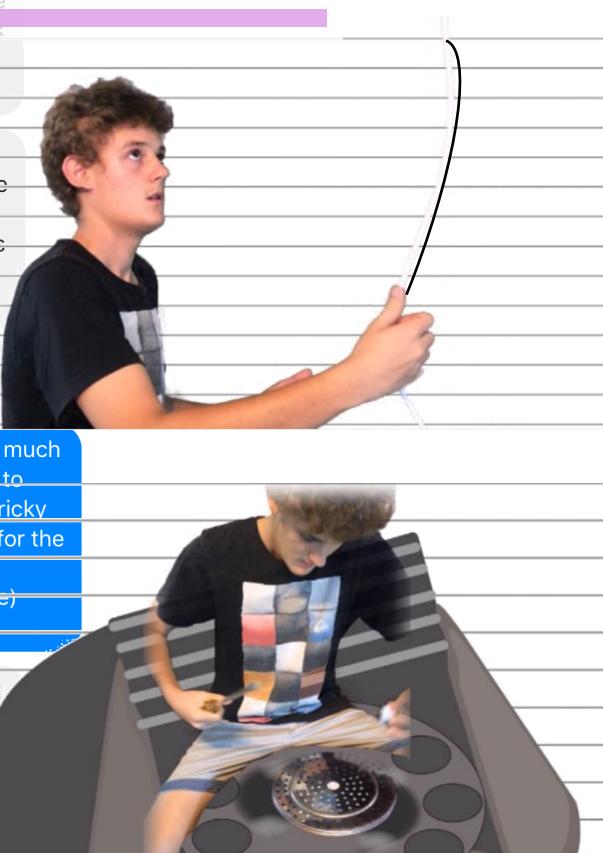
ink, my phone which I got while doing the project so I included it.... But besides that I made all my own props which were easy to make anyway and I didn't use much else - other things I already had

Plus do two or more other similar things in the research so if your using after effects also discuss why you chose that over two similar softwares

And write a short Speel about each one

Well! Thank you very much for taking the time to respond to these tricky questions! Thanks for the insight into your (stressful, I imagine) project!

Yes was very stressful at times when I had no idea what to do and yes these were hard questions but hope I answered to what you wanted

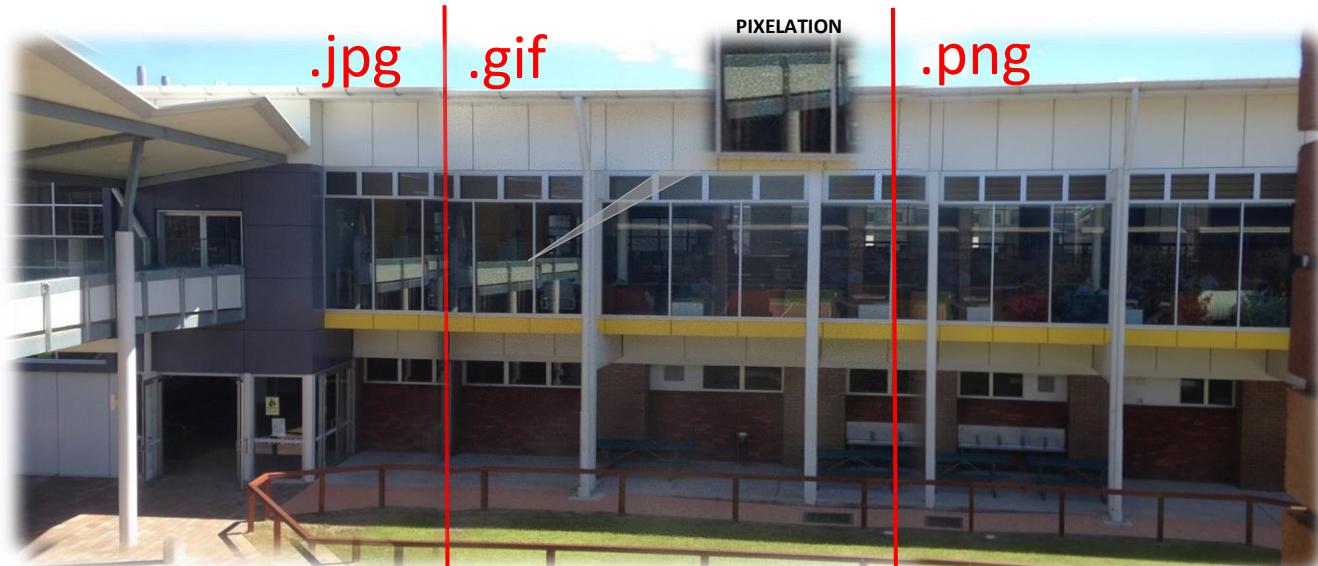


File Types

Still Images

As part of my Research (Materials and Resources), I have chosen to investigate and assess myself, the pros and cons of commonly used file types; to determine which image and video save formats would work best for my short film. The images below have each been saved respectively (Taken with an 8-megapixel Camera)

- I am looking to use an image file type which both improves compression size without taking away from the quality of the overall image.



JPEG (Joint Photographic Experts Group)

Test File size: 1.7MB
(1,782,579.2 bytes)

Probably the most commonly used file type for saving pictures, the JPEG file provides a lossy compression image, with pixelation occurring (in my test) after x250 magnification. Due to its high compatibility with most Operating Systems and software, the .jpg file type should be considered as it takes little storage space whilst still retaining a 'good' quality image. Supports up to 16.7 million colours.

GIF (Graphics Interchangeable format)

Test File size: 1.5MB
(1,572,864 bytes)

The Gif file format is a file format which can be highly compressed, due to its 256 colour range. This small colour palette is why the format is not commonly used for saving high quality, colour images, however allows for animation which is something I aim to use in the background of my short film. It is the second most commonly used file format, behind .jpg

PNG (Portable Network Graphics)

Test File size: 3.5MB
(3,670,016 bytes)

The PNG file format provides high quality pictures, much better than that of .jpg and .gif file formats. However, the file size is almost twice the size of the .jpg. This added size can impact on render time so I should choose carefully where I wish to maintain images in original quality e.g. a still logo or background image.

Video Compression and Raw Footage

- I aim to ultimately save the project on a standard sized compact disc (700mb), and in order to do so, will need to determine a video format that will provide both a high-quality standard of video (high resolution) and sound/audio.

AVI (Audio Video Interleaved)

Test File Size: 5.8MB

Perhaps the most common, amateur video format now (originally created in 1900's), the .avi is highly compatible amongst most video platforms and retains original image quality and sound. Whilst the AVI file may be a large file size, it allows faster render times than most other file formats. Out of the three test videos, the .AVI appears the best choice between compression size and video quality.



MPEG4/H.264

Test File Size: 5.2MB

The MPEG4 video format is most commonly used in the film industry, allowing high compression (to Blu-Ray disc) without a major loss of quality. Judging from the test video, MPEG4 may be a file format I may use in major scenes in the short film as it appears slightly better visually than the AVI file format. Opposite to the AVI, the MPEG4 format compresses, but takes much longer to render/export



MOV (Apple Format)

Test File Size: 1.04MB

MOV is Apple's cross compatible Mac and Windows Video Format. The .mov file type uses a compression algorithm developed by Apple, resulting in a loss of overall quality however allows Apple devices like phones to store many videos to the device. Perhaps if I require a quick shot I may have forgotten, I can quickly snap and send the video over email, thanks to the compression and edit into the film quickly.

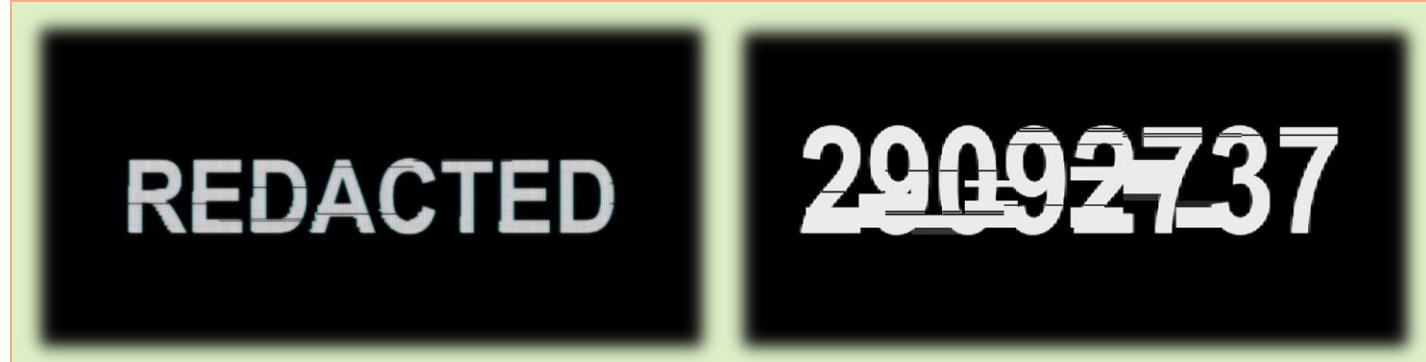


Which File Types? The JPEG and H.264 file formats appear to be most beneficial for my major project, allowing good compression with high quality to match. The other file format options should not be neglected, depending on if I prefer to maintain the highest quality video (AVI and PNG) at the cost of a longer rendering/export time and storage space availability.

Research (Technologies and Processes)

PMI – After Effects Tutorial ‘Redacted’ (Part 1 & 2)

Address: <https://www.youtube.com/watch?v=Wj26Wp2AH-U> (6 mins.) (Completed 16/10/16)



PLUS: + The tutorial provided a slow, in depth explanation on the different transitions and effects required in the Text effect.
+ The number values of almost all effects were easily flexible and could be changed to create any desired outcomes.

MINUS: - The tutorial did not go into specific detail about using ‘masks’ and how to cut the text in half. (Prerequisite knowledge of After Effects required).
- As many values were needed to be changed to create the final effect, it took much longer to complete the tutorial than the video’s twelve-minute runtime. (45mins)

IMPLICATIONS: / The tutorial provided me with sufficient knowledge on the card wipe, pixel and wave warp effects. I aim to apply these to transitions in After Effects in the future.

3D Motion Tracking Tutorial

Address: <https://www.youtube.com/watch?v=xXRQ6fqEKfE> (12mins) (Completed 21/10/16)



PLUS: + A very basic tutorial on 3D motion tracking text and images in After Effects.
+ Effects can be added to the text and it will not affect the Motion Track.

MINUS: - The tutorial did not explain how to make ‘3D’ text.
- This effect only works where there are clear points of reference, dark footage may not work.
- It is difficult to get the text to sit at the right angle in an environment.

IMPLICATIONS: / This tutorial gave an in-depth explanation on tracking a camera and 3D anchor points. I can use this effect when placing either text or an object into the background of any environment.

PMI – Text Behind Mask

Address: <https://www.youtube.com/watch?v=1MYwSDgqUeA> (13 mins.) (Completed 13/11/16)



PLUS: + The tutorial provided an in-depth explanation on setting up and creating masks. It provided me a good explanation of keyboard shortcuts and the masking tools used within the tutorial. Creating masks also allows for the ability to easily edit previous masking frames without it affecting any newly added frames.

MINUS: - The process of masking is very slow. It is a form of frame by frame editing, having to change multiple ‘masking’ points between frames, making the method very tedious.

IMPLICATIONS: I aim to use the effect of ‘masking’ in an establishing shot for my short film. Now that I have developed sufficient knowledge on how to create successful masks, I can attempt to combine the effect with motion tracking and 3D text.

Analysis of Techniques

Throughout the duration of Term 4, I completed a variety of YouTube tutorials, better preparing me for the production stages of the short film.

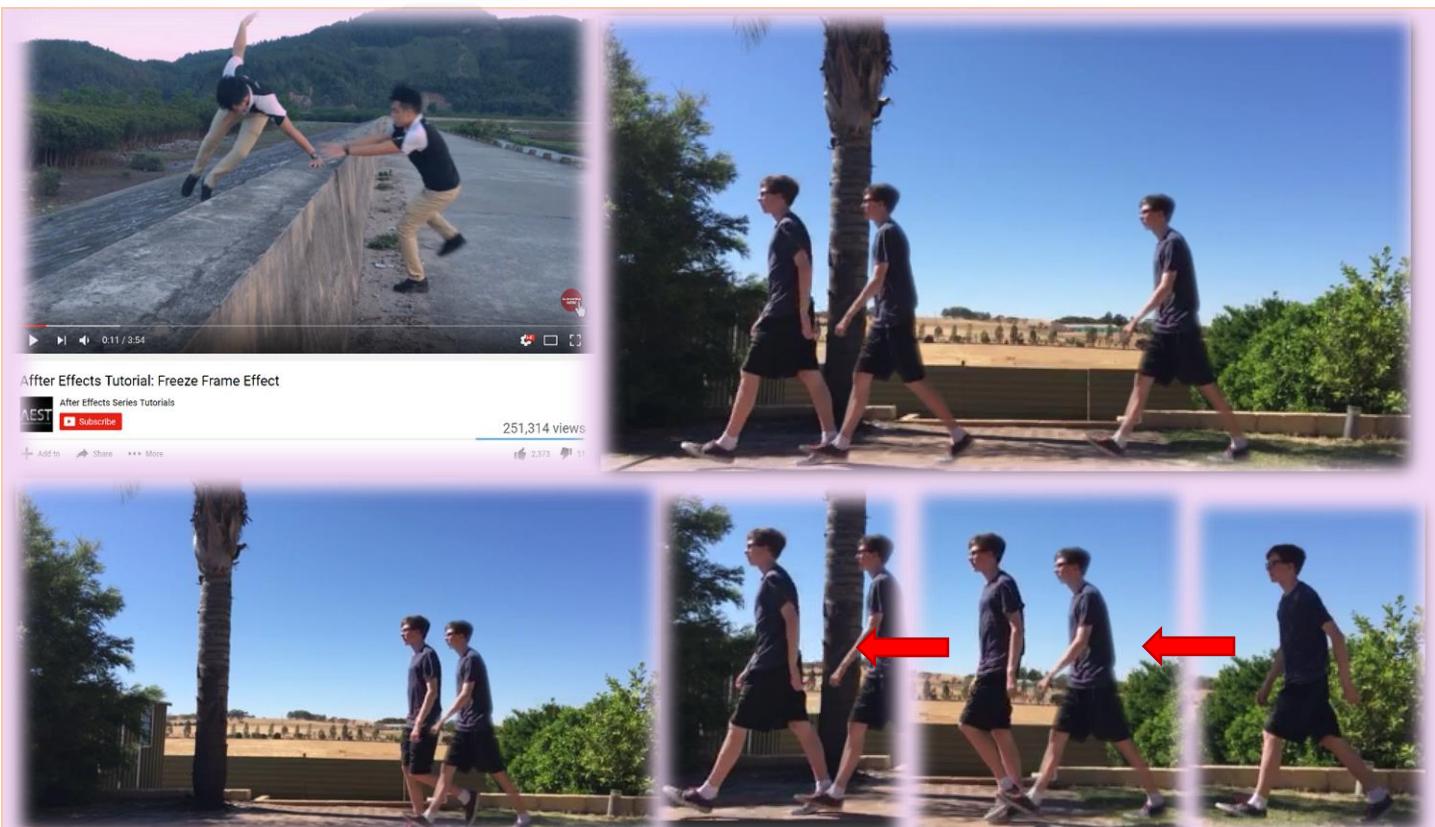
The above three tutorials, I have included, have given me the most insight into new tools, I had not previously used before in After Effects. I ultimately hope to combine these three effects in my video to showcase a high level of development on how far I have progressed over the duration of the project.



Technologies and Processes) Research

Freeze Frame Technique

Address: <https://www.youtube.com/watch?v=Jwr4RYgudD8> (4 mins.) (Completed 19/11/16)



PLUS: + A good tutorial extending my knowledge on the endless possibilities of masks.

+ Very effective for fast paced movement, leaving an 'action trail' behind.

MINUS: - The effect can only duplicate still images, further research into moving duplicates needed.

-The process, whilst easy, is time consuming as masks must be 'hand drawn' around the objects body of movement.

IMPLICATIONS: /I can apply this tutorial to my short film as it allows still duplications of myself.

/I would like to use this effect in part of a walking sequence in my short film.

Evaluation: The Freeze Frame tutorial has given me many ideas that I am going to try to incorporate into the short film. The effect, whilst traditionally walking into a silhouette of the character; can be reversed to leave a silhouette of the subject behind (as seen above).

The tutorial has provided me with an idea of how to use the Freeze Frame effect as well, more specifically on how to hold video in place, beneficial for scrolling text in credits.

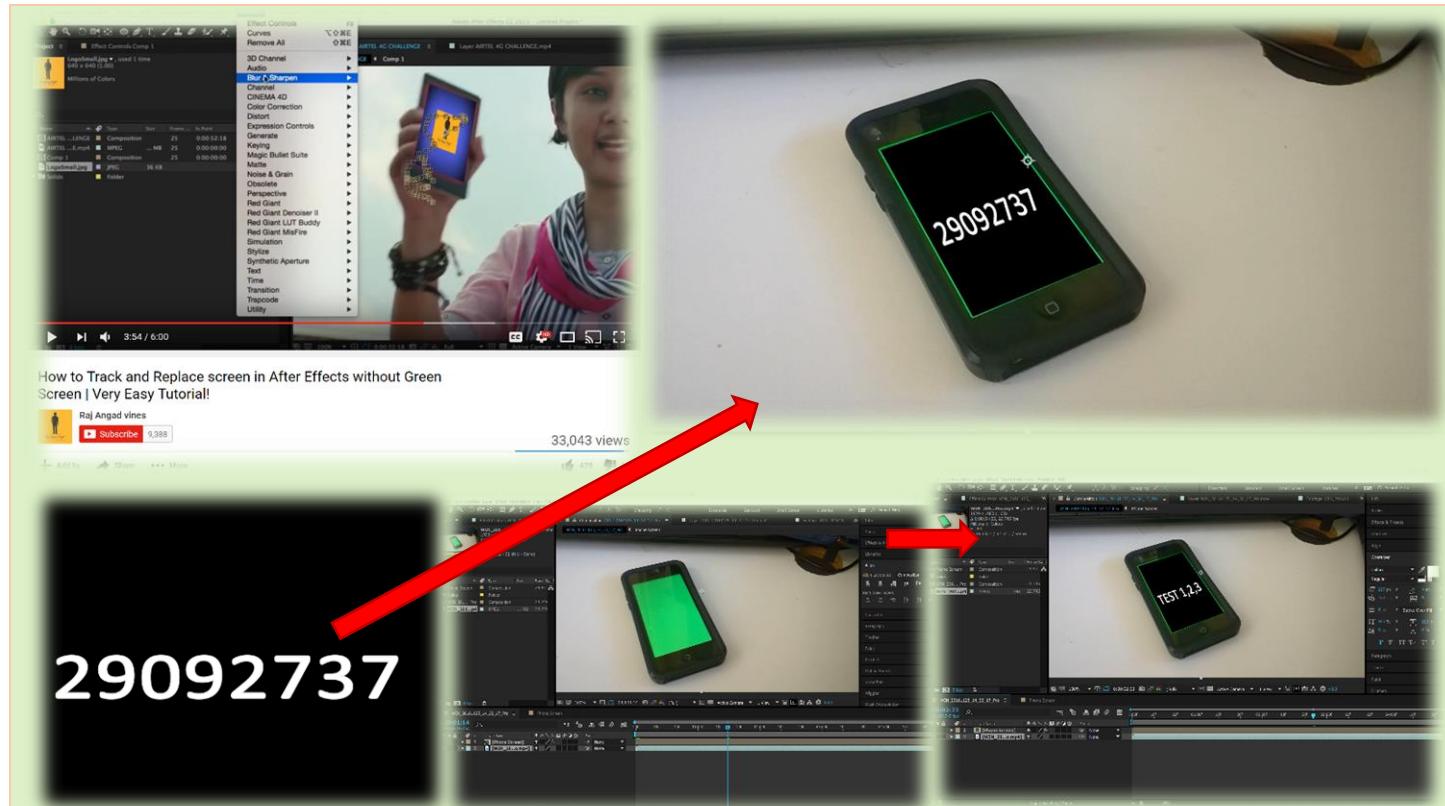
The tutorial also gives me another option on how to use masks and feathering effectively. It is interesting to note that masks can also be used to reveal layers as well as hide them.

In the short film, as the process of creating these still silhouettes is relatively quick and easy, I plan on creating a walking sequence featuring over 10+ of these individual freeze frames to create one long walk sequence.

When creating this effect, it is important to avoid stasis footage as the visual effect of the technique is lost when the character is hidden behind the still.

Replace Screen W/ or without Green Screen

Address: <https://www.youtube.com/watch?v=zDnkdw2Bnz4> (6 mins.) (Completed 24/11/16)



PLUS: + A very effective tutorial which appears to be able to be applied to any surface, not just a phone screen.

+ Good extensive explanation on four corner pin motion tracking

MINUS: - The final image projected on the phone must be carefully adjusted to avoid it from being 'stretched'

- Can only work when knowing the exact dimensions of the object you will be placing the green screen over

IMPLICATIONS: /More knowledge on applying motion tracking to composition in after effects

/ I can now apply masking, allowing objects to pass in front of the motion tracked screen without interrupting the image.

Evaluation: The Screen Replacement tutorial is going to be a very vital part to my short film, as most of it is going to take place behind a character using his computer screen. This effect allows for any image to be projected onto the screen, static or moving, allowing for some unique and diverse ideas I wish to apply. I am now aware of two different ways to track motion during after effects, those being camera track and four-point pin track.

I have left this test, un feathered to show what was on my screen before, (Green) and clearly display where the effect has been applied.

Because the effect works when the camera is panning around, I plan to create some over the shoulder shots, behind my character demonstrating how objects can pass in front of the screen without affecting the image. All that is left to do now is to create some of my own small artworks to place onto the phone.

Materials and Resources

Selection and Justification

Green Screen Technology



Justification for Green Screen versus Filming on Location

Whilst I would like to film my footage 'on location' in an actual version of my imagined environment, I am tied down because of budget to the use of a green screen.

As pointed out about the previous multimedia student I consulted, I can pick up a green sheet of fabric from my local linen store for much cheaper than hiring out a 'destination' and travelling to it.

Whilst the quality of the video would be greatly enhanced through filming on location, the use of a green screen will allow me to easily animate the background of the short film via Chroma Key. This will be much easier than placing animations on to raw footage.

If it does occur, and I was to forget a scene, I can quickly setup the green screen for easy re- capture.

Storage Options

Storage Type	Justification
SanDisk Ultra 32gb SD Card 	The SD card I will be using for both cameras utilised in the short film is the SanDisk 32gb SD. The large capacity of storage should mean I am able to shoot raw footage in high definition, which I can choose to compress at a later stage. As the SD card is capable of storing higher quality video resolutions up to 4K, I may be able to benefit from this if the DSLR camera can shoot at these higher definitions. This is largely why I have purchased and will use this SD card.
SanDisk Cruzer Switch 8gb 	My Primary form of backup for the project is a SanDisk 8gb USB. In comparison to an external hard drive, this USB is very small and lightweight. This is my chosen form of storage to take to school (other than computer hard drive) because of its form factor and its storage capacity suits the storage of the compressed components of the film i.e footage, Adobe project files etc. The USB also comes equipped with software to heavily reduce the possibility of data corruption.
OneDrive 	My secondary form of data storage is Microsoft OneDrive. OneDrive is provided by the school and I have regularly tested this cloud service with my previous multimedia applications. As OneDrive is provided by the school, and students receive a free allowance of 1 terabyte of space I will use the service, not to work from, but to backup all components of the my project into the cloud. As it is a cloud service, I can access my files and data from anywhere, over the internet; very handy when I went away during the duration of the project

Sound File Formats (Sound Effects)

File	Mp3	AAC
Justification	mp3 -Lossy Compression -Common Use	 -High Efficiency Advanced Audio Coding -Successor of Mp3
Bit Rate Avg.: 128kbps Mp3 is an audio encoding format which uses lossy data compression. This means that the .mp3 file format is designed to reduce the file size whilst still retaining 'medium' audio quality. Small, subtle sounds are sometimes lost. However, .mp3 is very beneficial when storing the file for editing. Because of .mp3's common use, it is widely compatible with the software programs I am using. I plan on using the mp3 save format for small sound FX.	Bit Rate Avg: 256kbps ACC (Advanced Audio Coding) also uses lossy compression but does not reduce file sizes by the same amount as .mp3. This means that the audio quality is much greater and the audio sounds less 'tinny'. As I am using a soundtrack for my short film, I plan on using the ACC file format to save the audio. As the file is slightly bigger than .mp3, it will be harder to manipulate but I hope it retains the deep bass sound in the track as well as the higher end notes. ACC is also compatible with Adobe programs.	

Alternative Storage Options

Storage Type	Seagate External HDD 1Tb 	i-Cloud 
Justification for Lack of Use	I have previously used this storage HDD for storing family photos and have found in the past that the hard drive is more suited to occasional use, over plugging in and disconnecting regularly; I have had data corruption come from this in the past. Also, the HDD's bulky size and weight make it not worth carrying around as most of my footage is compressed and only requires a few GB's of data.	Apple's cloud based storage software. Being an Apple iPhone user, I have tested and determined this storage service is not for me. This is mainly because the first 5gb of the cloud storage is free, before a monthly subscription fee. Also, it requires a separate login service than the schools based service, adding to the hassle of cross platform from what I am using (Microsoft) to Apple and vice versa.

Selection and Justification

Filmed Material

Justification for Wooden table versus Gloss White table

An early issue I came across when filming was green screen spill, merging with some of the props I was using. This is what was occurring with the original test footage I had used.

The glossy white table I had originally proposed for use in the project was creating this problem. When I went to key out the screen, much of the table disappeared which was unintended and I had to quickly find a solution. I decided to use a darker wooden table to solve this issue and this is what I used in the final film.

Through selection of the darker, wood material, I chose to only use darker materials throughout the rest of the filming component.

Right; the red circle indicates the green spill occurring on the white table. This is clearly not visible below on the wood table.



Filmed Material

Justification for Square Monitor versus Rectangular Monitor Screen

Something which most would probably not pick up on at first glance is the way in which the size of monitor screen effects the image in post-production. Before intensive filming, I determined that using a square monitor screen would make tracking and placing images in the correct ratio easier when creating compositions in After Effects. This is why my images are slightly skewed when placed onto the phone screens in the project due to their rectangular dimensions.



The unwelcomed symbol that I kept receiving from YouTube



Project Distribution

Justification for Website versus YouTube

An ongoing debate whilst completing the project was how I was going to make the project available on all types of platforms.

Originally, I had planned to upload my project to YouTube as YouTube allowed a good trade-off for quality and compression on an online format however through previous knowledge and affirmation in class theory, YouTube's strict copyright laws were brought to my attention. Seeing as though my project used copyrighted music, I thought of every possible way to avoid the copyright strike such as making the video private and adjusting the sound slightly without altering the video to much. None of the options worked.

As a work around, I decided to build my own website and upload it on there, the only issue being that files could not exceed 100MB in size. So after compressing the video to almost 3 times smaller than its regular size, I was able to place the video on the web. *Project quality may be noticeable between the compressed version and the CD version

Technologies and Processes

Selection and Justification

Documentation and Graphing Software

Tasks	Selected Technology	Justification for Use
<p>Documentation</p> <ul style="list-style-type: none"> ➢ Folio ➢ Display of Text and Images 	Microsoft Word 	<p>Microsoft Word is probably the most practical and commonly used form of documentation software currently available. It is because of this straightforward design, shared across all Office platforms that I plan on using Word for the folio process.</p> <p>Microsoft Word at its most basic form allows the easy edit and display of text and images. A major reason I am using Word is because of its ability to share content between other Office software's. For example, I have created a Gantt chart and column graph in Excel. These two graphs can be easily placed into Word because of its wide compatibility.</p>
<p>Tables and Graphs</p> <ul style="list-style-type: none"> ➢ Gantt Chart ➢ Finance Plan ➢ Column Graph ➢ Pie Chart ➢ Mathematical Equations 	Microsoft Excel 	<p>Excel is Microsoft's version of a mathematical based program, allowing the creation of various types of graphs and tables.</p> <p>A major aspect of the portfolio is the creation of a Gantt chart and Finance Plan. Within excel, I have set up formulas on my Gantt chart to calculate the number of days spent working on a task, what percentage of completion I am at and the ability to paint in my actual completion dates. Similarly, in my finance plan, I have set up equations to calculate the difference between my estimated and actual costs, as well as the ability to take finance data and convert it to a table as I complete the project (See finance plan)</p>

Alternative Documentation Software

Software	Justification for Use	Justification for Why both work
 Toon Boom Harmony 	<p>Harmony is Toon Boom's latest installment of Animation software. Whilst probably the best animation software on the market, I am locked out of using Toon Boom because of its expensive monthly costs (<\$45), and where the cheaper Adobe student package is a better alternative. Also, it appears Toon Boom is used more by high end professionals and as a consequence, has a lack of tutorials I can undergo to learn Toon Boom on YouTube by likeminded users.</p>	<p>TV Paint is a much more advanced version of animation software, much more focused upon the type of colours and brushes used within the software, than shortcuts like tweening. Its price will prevent me from testing the software</p>
 Google Docs	<p>Google Docs was another alternative to Microsoft Office available to me, providing the option to also draw up professional graphs and tables. However, the main reason I decided upon not using Docs is its inability of use when not connected to the internet. If I was without a secure internet connection, I would not be able to continue with my folio. Docs also requires an active google account.</p>	<p>Both the Wacom Drawing Pad and Surface Pro have pros and cons when it comes to 'drawing'. The Drawing Pad provides a very accurate simulation of what would be drawing with a pen and paper, however, as you are sketching onto a blank piece of metal, it is much harder to be accurate in places of fine detail. The drawing pad does provide 4 quick use buttons, allowing the easy option to erase, change keyframes etc.</p> <p>The Surface Pro comes with an out of the box stylus, more designed for taking quick notes than drawing. However, it does come with a pressure sensitive tip, adding to the drawing experience. The Surface pro does provide a much better option when looking at fine detail as you are drawing straight onto the object (Screen), however this requires detaching the keyboard and making the touch screen less functional, tedious when trying to navigate Adobe Animate's small tools and keyframes after each sketch.</p> <p>At this stage, a combination of both will be beneficial for the short film</p>

Special Effects and Editing Software

Technologies and Processes

Tasks	Selected Technology	Justification for Use
Special Effects <ul style="list-style-type: none"> ➤ Chroma Key ➤ Glitch Effect ➤ Masking ➤ Motion Tracking ➤ Slow-Motion ➤ Colour Correction 	Adobe After Effects 	<p>Adobe After Effects is the only VFX program I currently have access to, and have knowledge about using.</p> <p>I will be using After Effects to Chroma key (green screen technology), add reduced frame rate (slow-mo), motion track text into an environment and colour correct my footage.</p> <p>Through PMI's (See Research) I have chosen to use After Effects as my main source of special effects due to its ease of use and wide compatibility with other Adobe Programs.</p>
Editing <ul style="list-style-type: none"> ➤ Transitions ➤ Credits ➤ Joining Footage ➤ Addition of Sound Effects/Music 	Adobe Premiere Pro 	<p>Similarly, to After Effects, I have developed substantial knowledge around this video editor, thanks to my Y11 project.</p> <p>I hope to, within Premier Pro, join my clips of footage together with perhaps some transition's and credits.</p> <p>As my major project relies heavily on the music, I will be aligning my footage with the backbeat, within P.P.</p> <p>Through prototyping, modelling and testing Premier Pro, I have chosen to use this over other programs due to its integration with the rest of the Adobe Suite.</p>

Other Available Software

Software	I-Movie	Final Cut Pro	Sony Vegas Pro
Justification for Lack of Use	<p>I-Movie is a very basic form of an editing software providing very quick, but high quality edits. I have previously tested the software before and feel it will not suit my involved editing requirements for the major project. Perhaps if I run into a minor editing mistake after rendering the final short film, I can touch the mistake up with I-Movie, and use it as a fall-back option.</p> <p>My main reason for lack of using I-Movie is limited access to the OSX platform.</p> <p>Similarly, Final Cut Pro is another OSX exclusive software and performs slightly better than I-Movie. My lack of access to an Apple computer will prevent me from testing this software.</p>		
Justification	<p>Where I believe Sony Vegas Pro may outperform After Effects and Premiere Pro, the license cost for the software is my reason preventing me from using the program as my main editing tool (>\$450)</p> <p>Also, Sony Vegas is a much more involved, technical software to use and my small use of the program could hinder my final product.</p>		

Selection and Justification

Computers Used Within the Project

Computer	<i>Microsoft Surface Pro 4 (Home)</i> 	<i>Dell OptiPlex All in One Desktop (School)</i> 
Justification	<p>When beginning the Multimedia course, I was given the option to upgrade to a new PC. Keeping the hefty requirements of certain software's in mind, I decided to choose the slightly upper market version of the Surface Pro 4, including:</p> <ul style="list-style-type: none"> -intel Core i5 & 8gb of RAM which allows having multiple files open at once. - and 256gb of Storage, for large Adobe project file sizes. <p>Also, provided with the tablet is the ability to use a Wacom designed stylus with the touch screen. I am able to draw sketches straight onto online platforms, without the need for scanning.</p>	<p>The Desktops provided within the classroom are branded Dell 'OptiPlex'. Installed on the computer by the school is a wide variety of paid software products including the adobe suite, which is available for use when in class, allowing prototyping and testing.</p>

Cameras Used Within the Project

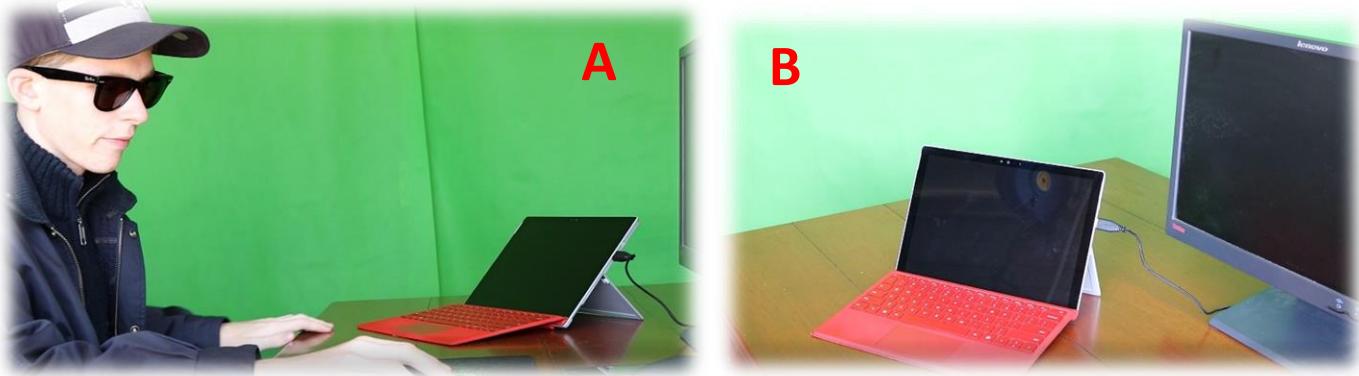
Camera	<i>Canon DSLR (80D)</i> 	<i>Samsung Point and Shoot</i> 
Justification	<p>For the filming component of my task, I purchased a Canon DSLR, the 80D.</p> <p>I bought this camera because it matched the criteria of specification needed for the short film. It is able to shoot in HD (1920 x 1080) at 60fps for slow motion video as well as manually adjustable focus. I will also be able to take advantage of this camera in the pre production stages, making use of its time lapse capability to log my sketches and drawings.</p>	<p>The digital camera that I currently have access to is the Samsung WB50F.</p> <p>The Samsung WB50F camera does not match the DSLR in video quality, however it beats it by functionality of being able to stream captured footage to your WiFi device. The point and shoot is 12 megapixels, has a soft flash and provides 12x optical zoom.</p> <p>I will use this camera as a fall-back option if I have returned the DSLR and forgotten a scene.</p>

Prototyping, Modelling and Testing

Green Screen (Chroma Keying)

As I have decided to produce a 'live-action' film rather than a video based on pure animation, I must invest time and effort into using a green screen in the background in most, if not all of my clips. To create an effective background replacement effect, there were some important steps I attempted to follow to maximise keying and limit post production i.e the repair of 'darkened' or 'unusable' footage.

Filming



When filming using a green screen, it is very important to attain an even light across the surface of the screen. I will use these two early video clips as an example, to demonstrate the effect of light when keying. Clearly visible, Image 'A' has an even green across the whole background of the footage, ideal for achieving a professional keying effect. Clip 'B' however, had lighting focused on one place on the screen, giving it a 'washed out' colour.

Keying using 'Keylight' (After Effects)

After applying the Keylight plugin's keying and spill suppressor effects in Adobe After Effects, it becomes very clear the effect that lighting has on the green screen.



Image 'A' has clearly replaced the green background with black, also giving very clean edges with no green spill. The footage from image 'B' is almost unusable, not fully replacing the background, producing a heavy grain and visible spill on the edges of the keyboard.

Dual Chroma Key

As the major project is very much about showcasing a wide variety of skills, I decided to extend my own knowledge around the use of one green screen into two, or multiple. As I wanted to make almost all parts of my short film exciting and interactive with the main character, I screen the table that he is sitting at, as well as the backdrop.

Through a very tedious process, I developed a way which provided the ability for the best keying, without distorting the colours of the overall original footage by much.

I started by duplicating the footage into two layers. This allowed me to clearly Chroma key out both the blue and green colours separately.

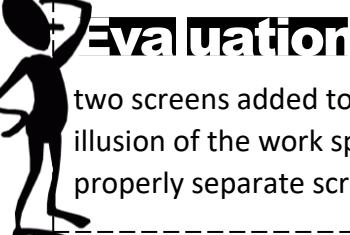
Then I masked out between the two colours,

which allowed me to apply effects to one screen without affecting the other.



Above; Separating into two layers.
Right; Masking the Blue Screen

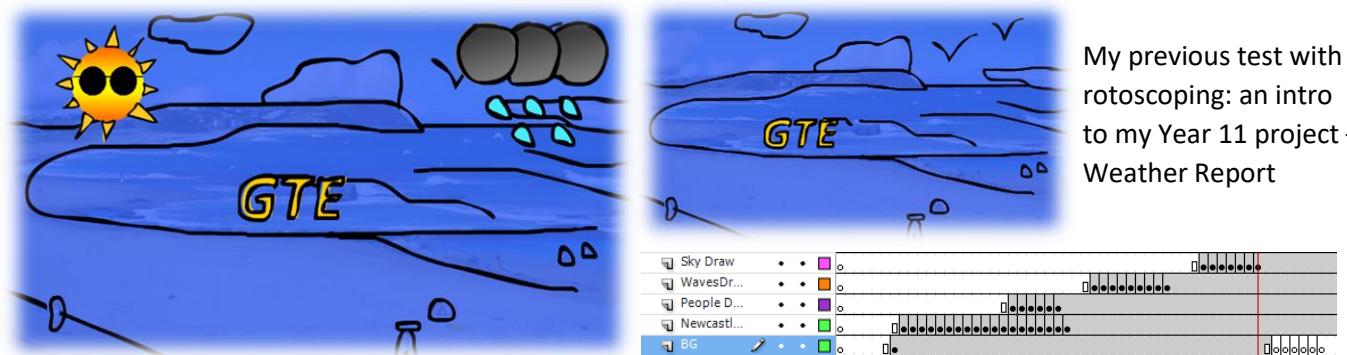
Finally, I joined and synced the two clips and applied my desired effect. The outcome can be seen below.



Evaluation Using a green screen vastly increased the challenge of my major project but utilising two screens added to the difficulty. Using Dual chroma key effects throughout the film added to the illusion of the work space the main character interacts with, but required much time and energy to properly separate screens, without affecting the original footage colours.

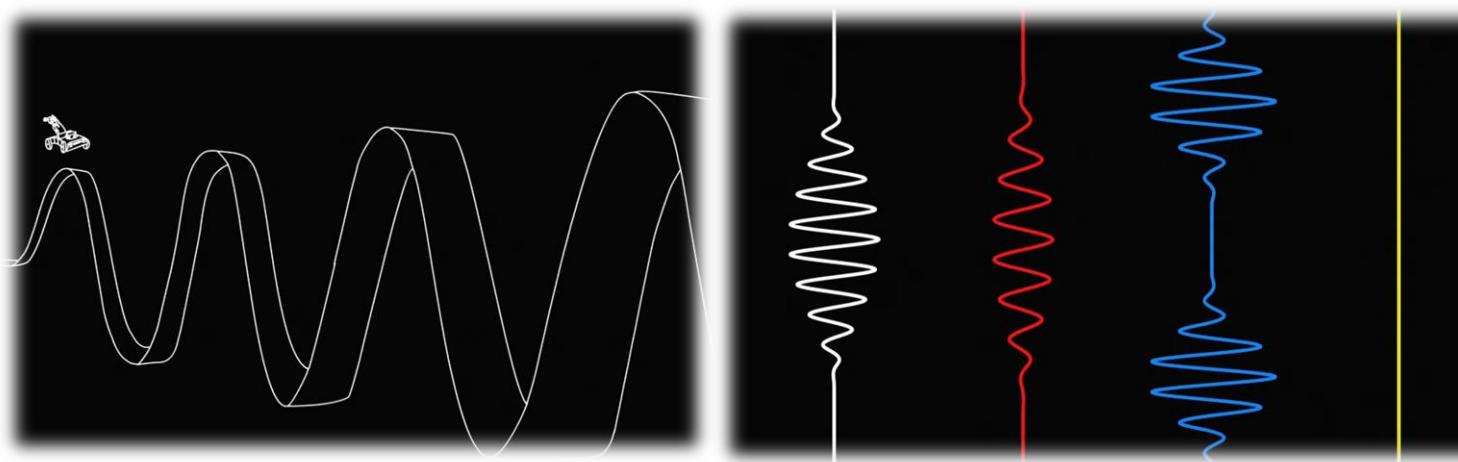
Past Experience with Rotoscoping

Within the Year 11 course, I was tasked to produce a local Weather Report. For the intro of my Weather Report, I decided to attempt a Rotoscoped animation sequence. Troubled with the amount of time, and the many hundred cell by cell frames required to be drawn, the final product, whilst was still impressive, could be re-drawn to a much higher standard, at a much smoother frame rate by doubling the amount of hand drawn frames.



Inspiration

In the Major Project, I have decided to extend my own idea, and transform it, based from something I have seen in the **Arctic Monkeys** music video for “**Do I wanna know**” (2013). The producers of the music clip have taken the vocals from the singers and recorded them onto a device which gives sound wave feedback. They have then ‘rotoscoped’ the sound waves and placed them into the clip, in sync with the artist’s vocals and accompanying instruments.



(Above) The white sound wave representing the lead vocals of the track, changing to the singer’s voice dependent upon the pitch. (Right) The white sound wave representing the lead vocals again, with accompanying three coloured sound waves representing the drum, lead guitar and bass guitar played in the song.

The vibrant colours placed onto the black background is something I wish to capture in my short film.

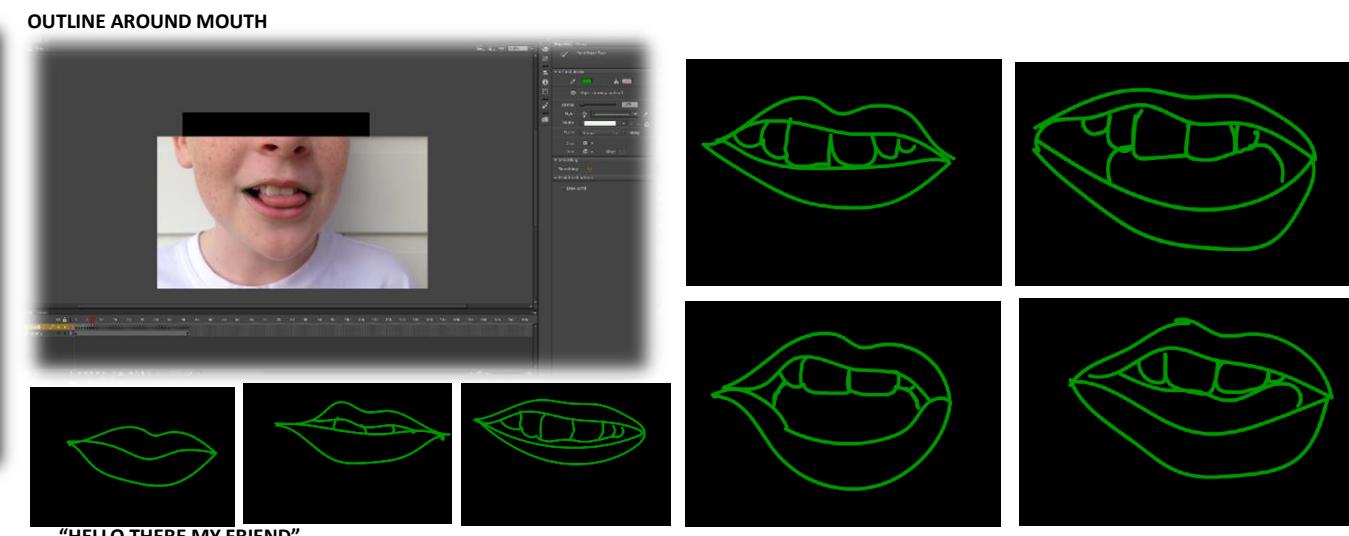
Prototyping, Modelling and Testing

Rotoscoping

As part of my ‘testing’ I decided upon experimenting with the drawing pads provided within class. I had previously used the basic pen feature provided on my Surface Pro 4, due to the high demand of the pad’s during class time. The model of the drawing pad is the ‘**Wacom Bamboo Tablet**’, a basic model providing the function of using a professional stylus upon the surface of the table to simulate ‘drawing’ straight into a software program.



After plugging in the device and becoming acquainted with its features, I decided to open Adobe Animate, (previously Adobe flash), and test the tablet with a few drawings and rotoscope the movement of lips to a song lyric, something I plan on doing in my short film. Below is what I was able to produce;



Evaluation The final product, whilst impressive concluded similar results to my previous rotoscope. I spent about an hour drawing 100 individual frames for a video clip lasting a mere five seconds!

Dependant on the amount of time I allocated to spend on the early production stages of the project, I determined to rotoscope larger parts of the short film. The rotoscoping sequence I feel adds a lot of character to the film, and this is why I have decided to explore and test this type of animation.

Storyboard

Main Plotline

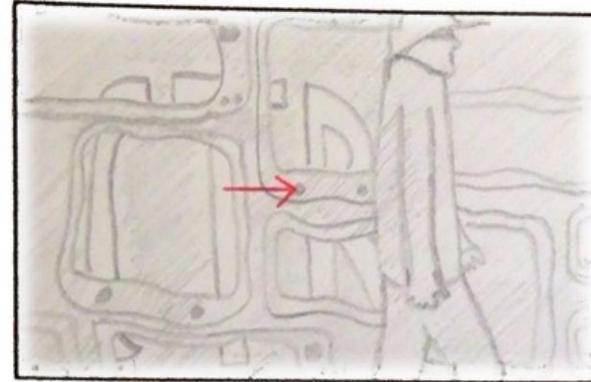
As projected in the Statement of Intent;
“...I wish to capture a moment in the life of an internet ‘hacker’ and explore the idea that there is a world beyond our own...”, I have drafted a Storyboard that reflects this theme and still allows myself to showcase a wide range of learnt animation techniques and skills.

The main story behind my project begins, introducing the main character walking quickly by, displaying the project title; “CTRL///” (1). This is followed by a series of scenes showing the character interacting with a workstation (3-7) consisting of a series of themed props including phones, computer monitor, tablet, keyboard and speaker just to name a few. In these scenes the character appears to be blocked out from logging into the fictional computer program, whilst the accompanying soundtrack builds to the hook.

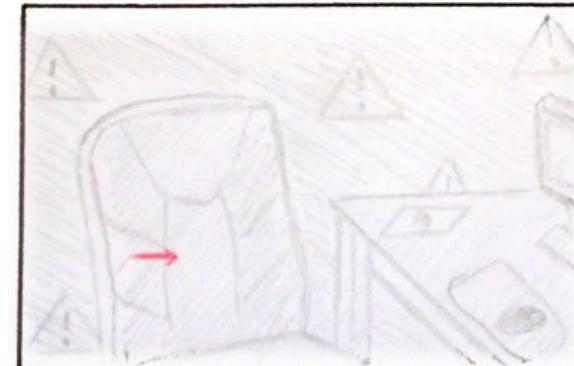
When the music comes to the chorus (8), the character is granted access to the computer program and the background of the scenes become progressively more animated.

The proceeding scenes show the character’s gaining control over other innocent user’s accounts, obtaining their personal info (10-13), Bank details e.t.c, all while sitting at this small workstation. As the music builds again to the chorus, there is a time-lapse over the local area (14), capturing various people’s responses to finding that they have been hacked.

The short film closes at the height of the music; the main character appears to have received a message on his phone, reading of an incoming computer threat detected. The film ends with the main character looking back onto a bright light, impeding on his darkened station, signalling the end of his time disrupting the world of unbound law (17-18). The music fades and a brief message about cyber safety is displayed.



1) Main character walks L-R, revealing project title.
fx Frame by Frame Masking



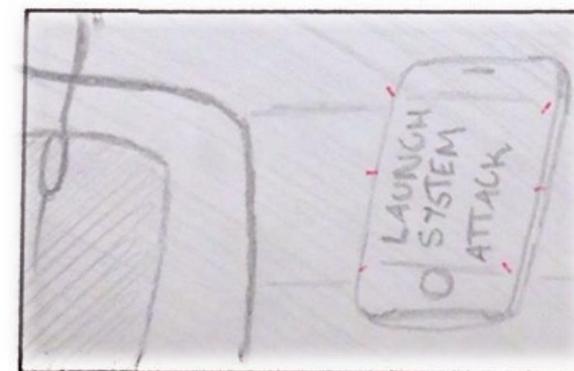
2) Character takes seat at darkened workstation (GreenScreen).
fx Chroma Key, GIF's, Screen Replace



3) Character logs in using facial recognition (Hologram).
fx Screen Replace, Photoshop GIF



4) Close up on character's glasses, reflects comp. screen.
fx F/F Masking, GIF's



5) Character presses phone launching a computer attack.
fx Screen Replace, Animated Text



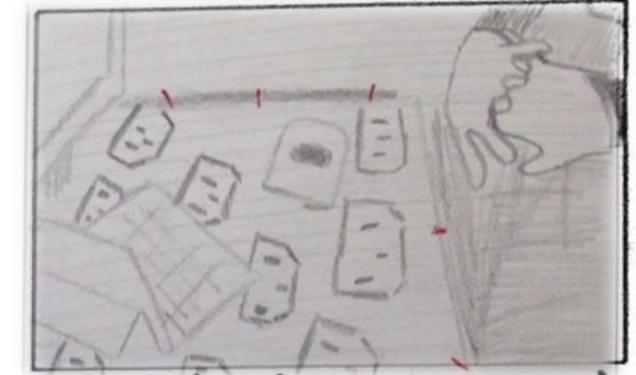
6) Character reacts positively that his attack has been successful.
fx GreenScreen, Animated BG



7) Computer Screen 'Welcomes' character, Warning GIF's displayed.
fx GreenScreen, GIF's, Chroma Key



8) Character celebrates, animation of the video becomes more pronounced
fx Chroma Key, Spiral, BG, SlowMo



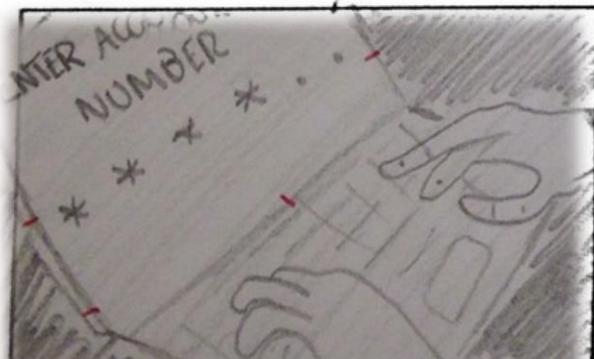
9) Character types on keyboard
fx Dual Chroma Key, Animated GIF's, Masking, Screen Replace

Scenes and Inspiration

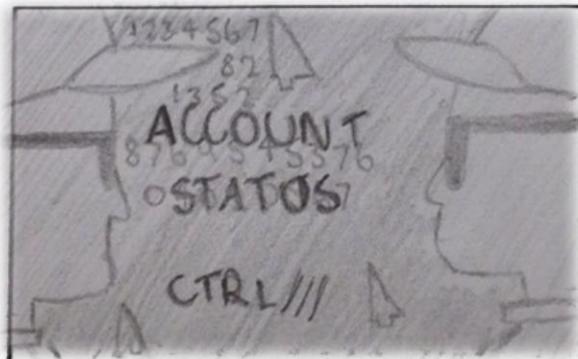
Whilst most of the scenes from the project I formulated from my own imagination, there were a couple of scenes in which I drew inspiration from abroad.

The opening scene (1) for my project was heavily influenced by past project examples. There was a consistent theme of titles appearing using frame by frame masks and I feel I have continued this idea here. Also, the hologram scene (3) was similar to what was presented in the early Star Wars films, and the time-lapse scene (14) with text bubbles appearing, was a re-creation from what I have currently seen being displayed on demo Apple computers.

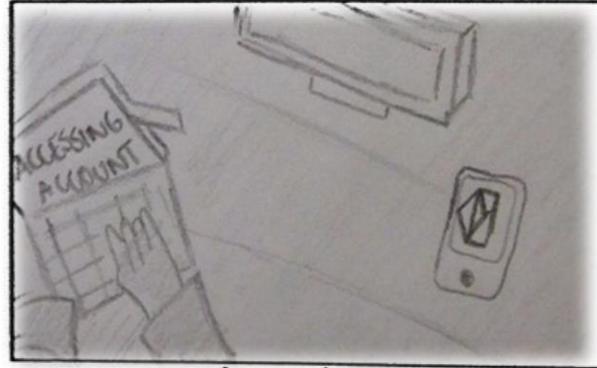
Perhaps the most notable object worn by my constructed figure is his sunglasses, and I took this idea from Marvel's Spiderman. Whilst the glasses hide the main characters' identity, much like the Spiderman character's mask, it was my intention for the audience to feel as though my character, whilst human underneath the clothing, was possibly hiding some quality, explaining his talent in computer hacking. This mystery is kept throughout the film.



10) Character enters Account No.
fx Screen Replace, Composition
Chroma Key, Masking



11) Duplicated character appears
in front of 'Computer Screen'
fx Chroma, Lamps., GIF's, Masks



12) Character begins tampering
with all elements on desk
fx Screen Replace, GIF's, Chroma



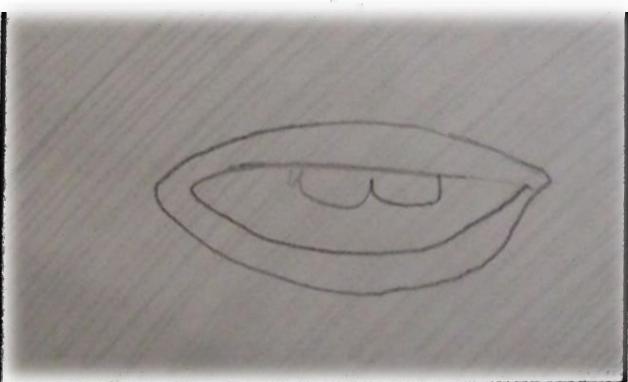
13) Character's actions appear on
Screen behind him. fx Chroma,
Animated, GIF's, Composition + Settings



14) Timelapse over local area.
Text bubbles of people's thoughts
fx, T-lapse, Screen Elements + Settings



15) Character appears above city
text + Total Control.
fx, Animated Text, Green Screen



16) Prototype, Spokee, nothing
works to move. fx Prototype
opposite charged placed on frame.



17) Shot of character's phone
reading an incoming threat.
fx, Motion track, Screen Replace



18) Final shot as music fades,
character turns to meet justice.
fx, Green Screen, Mask, Panning, etc.



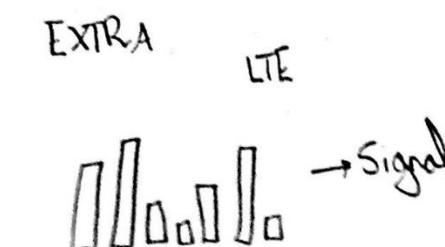
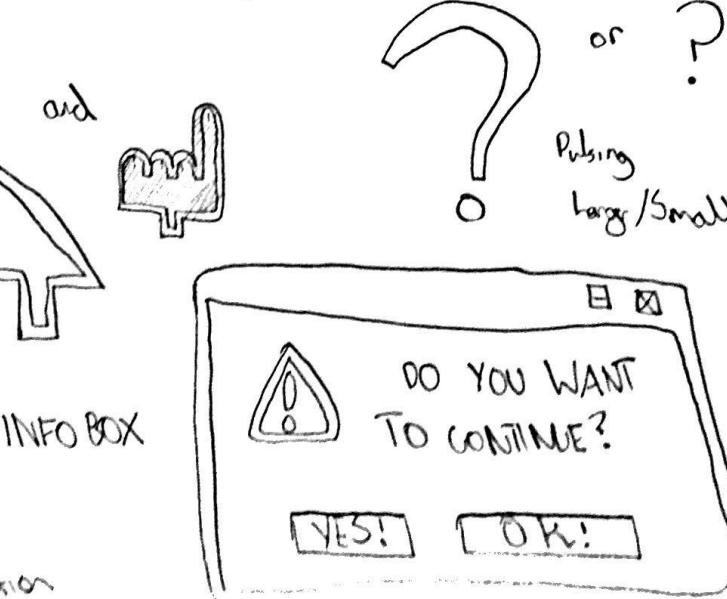
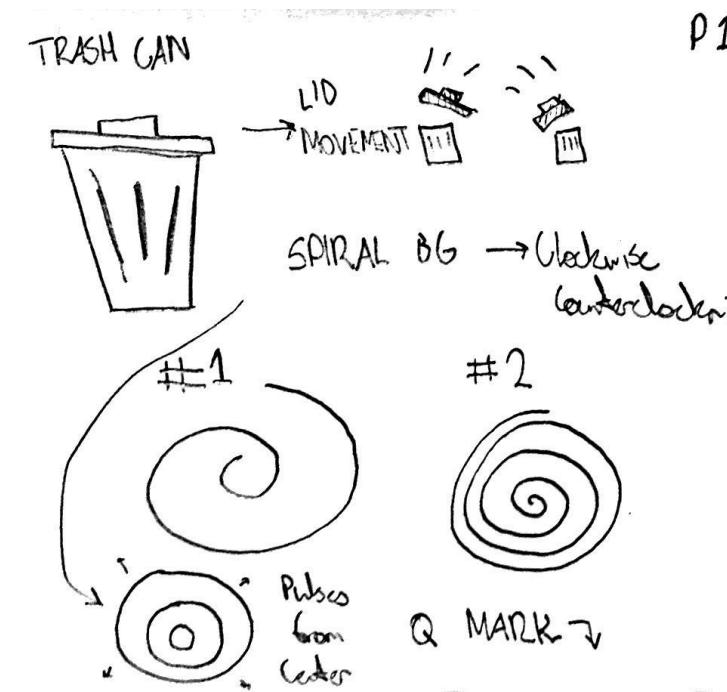
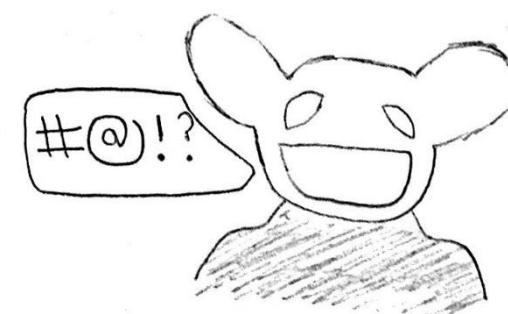
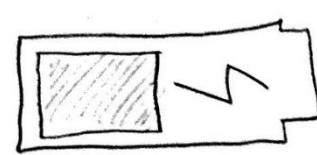
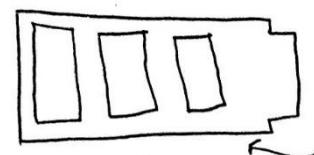
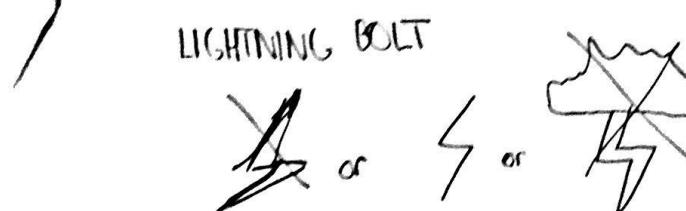
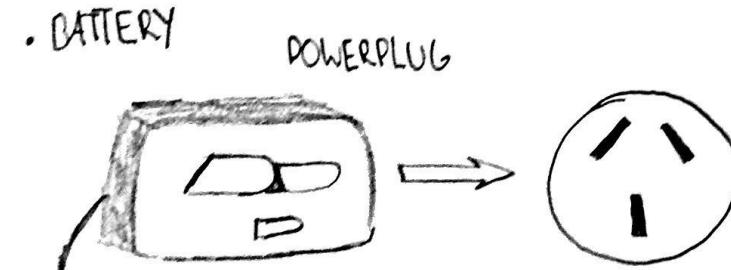
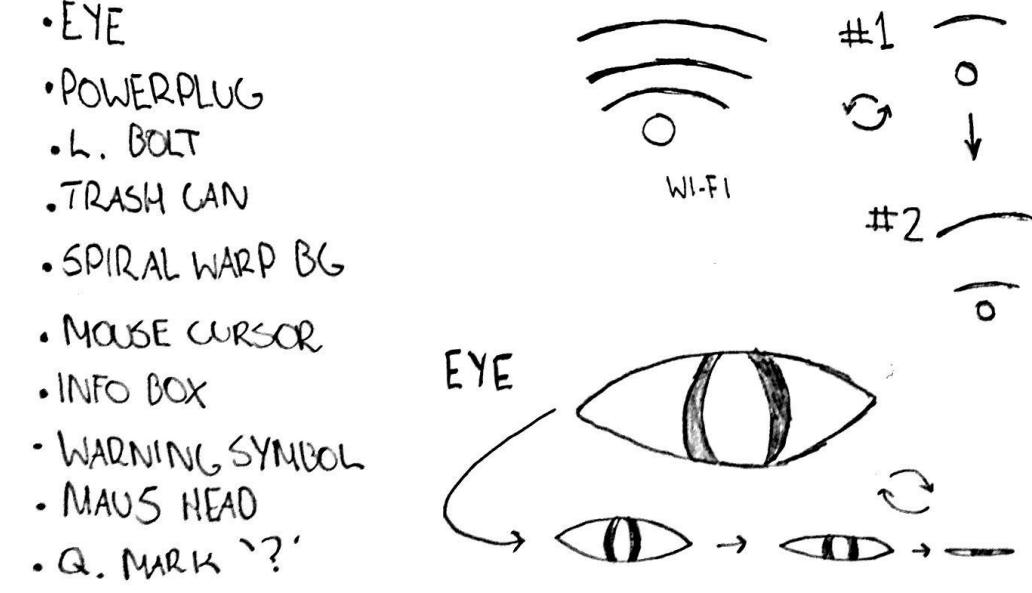
Effects and Transitioning

Primarily my short film consists of motion tracking, screen replacement and green screen effects. Due to the limitations of green screen in the background of the film (single wall rather than surround setup), I have decided to clearly keep my footage 'still' and use a tripod at all times. This not only ensures that my camera will not capture unwanted background and drift off from the green screen, but will also assist in the motion tracking effects used in most scenes. As the character is picking up and interacting with phone screens in the video, having this reduced sense of camera motion will aid in the quality and appearance of the motion tracking and masking throughout the film. However I do feel as though this 'stillness' of the film loses a sense of the action within the video, so within the final edit, I have added subtle panning and sliding transitioning effects to make it look as though the film was shot using a camera stabilizer. For a more in depth explanation of the effects used in the film, please look to the production section of the folio.

Sketching and Idea Generation

M.M. MAJOR PROJECT

- WI-FI
- EYE
- POWERPLUG
- L. BOLT
- TRASH CAN
- SPIRAL WARP BG
- MOUSE CURSOR
- INFO BOX
- WARNING SYMBOL
- MAUS HEAD
- Q. MARK '?'
- BATTERY



Camera

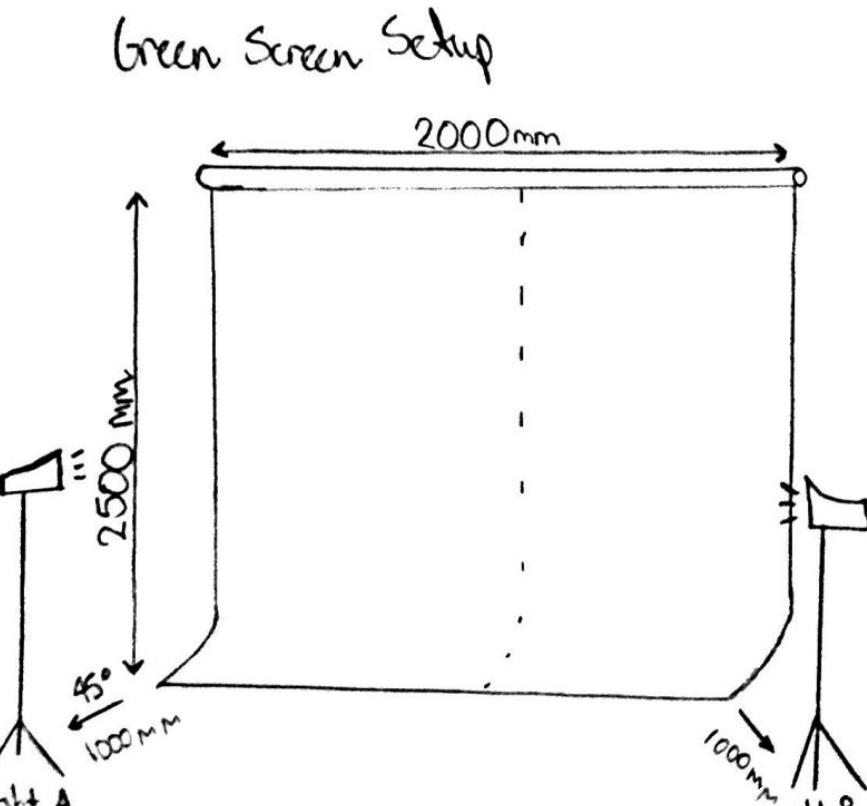
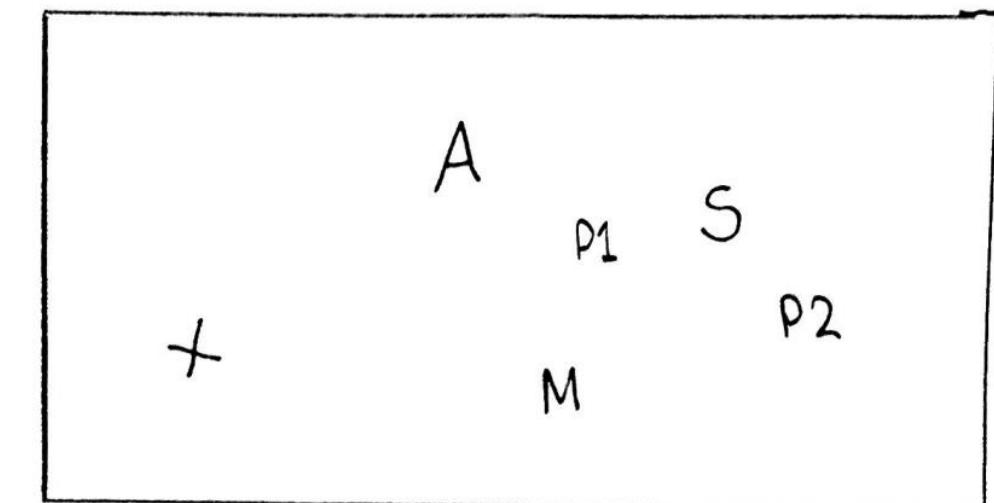


Table Layout



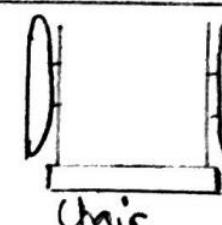
x = Surface Pro

A = Monitor

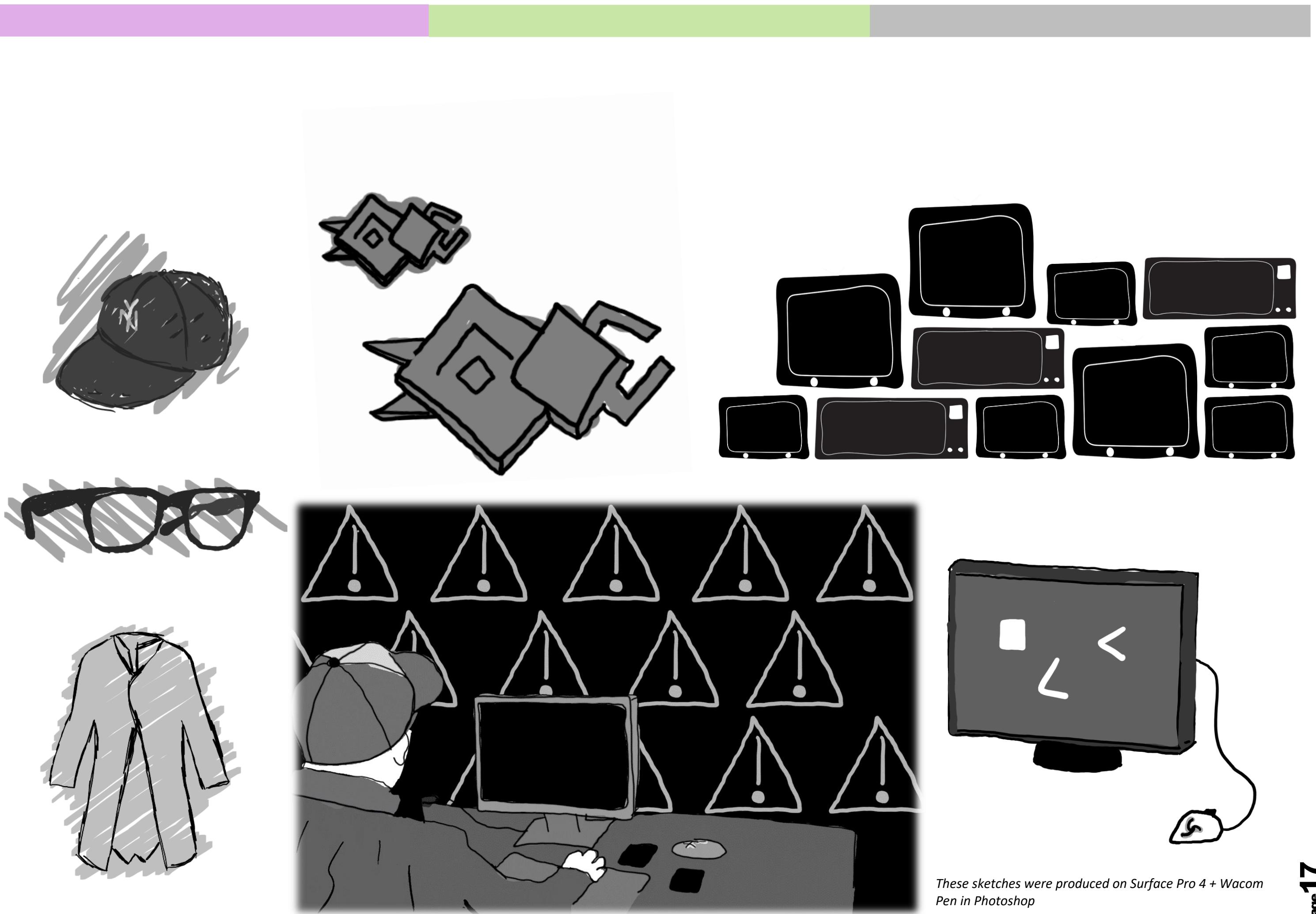
S = Speaker

M = Mouse + Pad

P1 + P2 = Phone placement



Chair



These sketches were produced on Surface Pro 4 + Wacom Pen in Photoshop

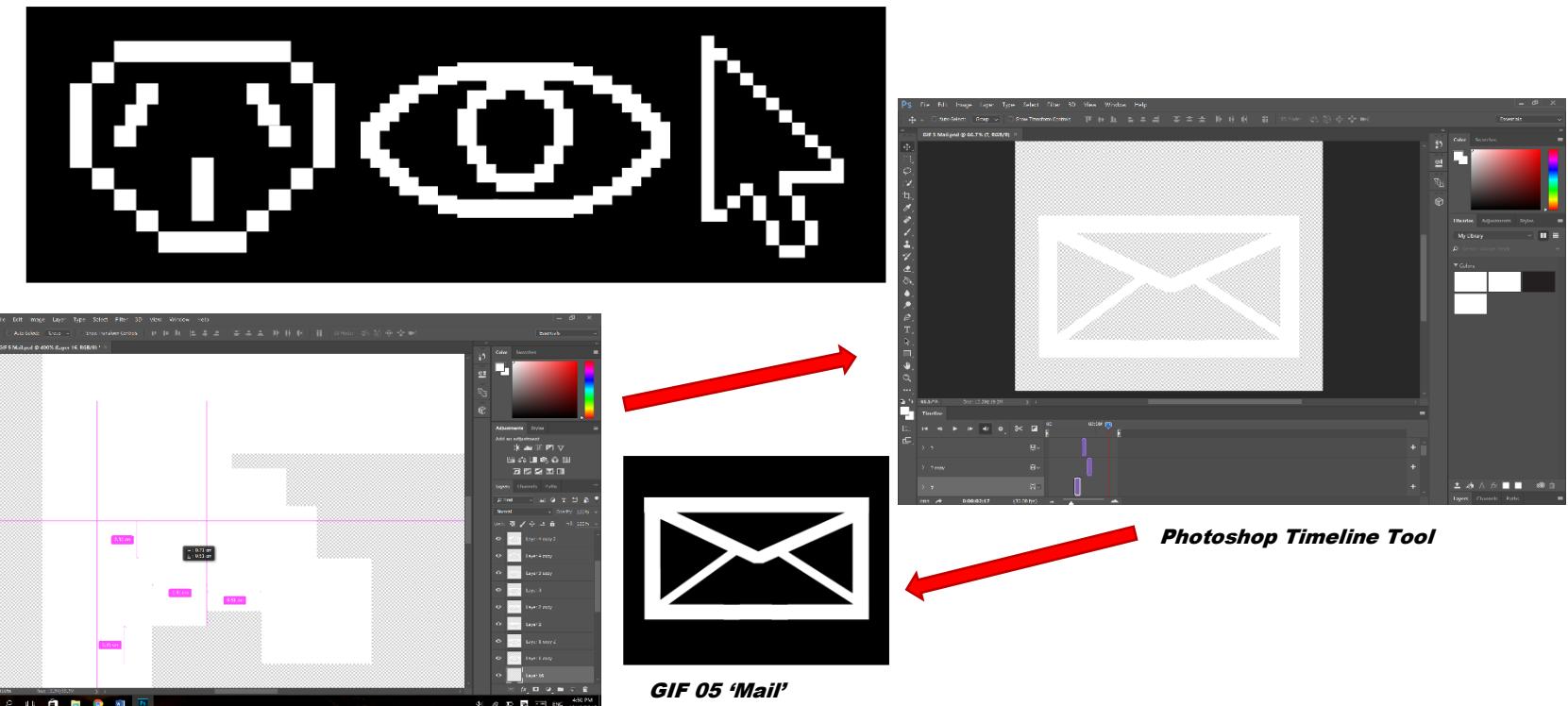
Production Process

Creation of Screen Elements (Photoshop + Timeline)

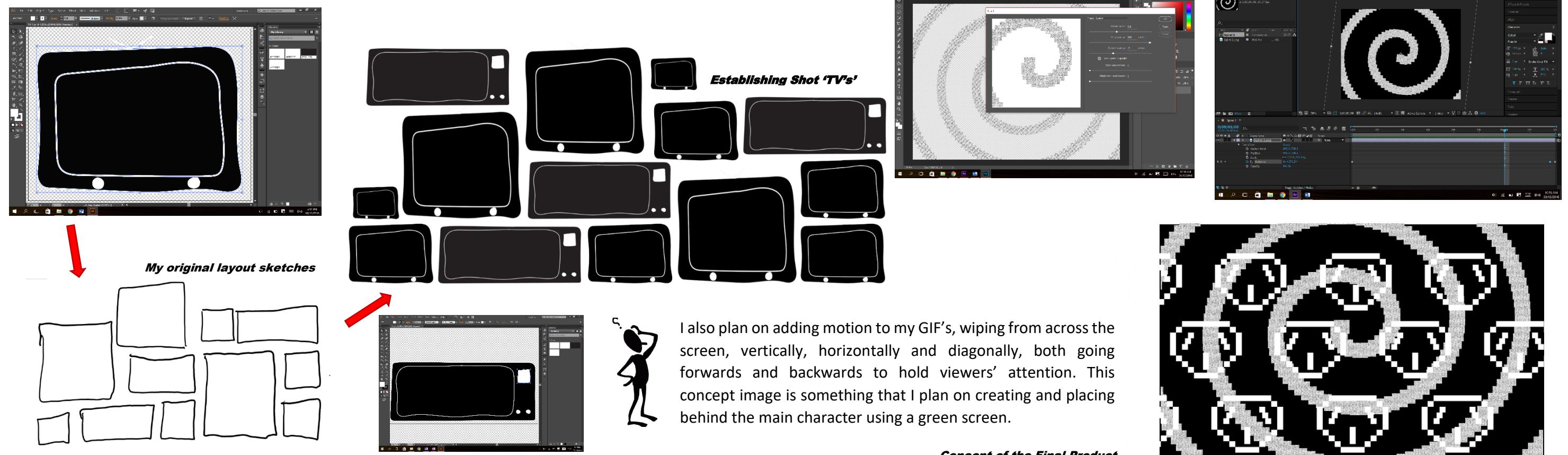
Commencing the production of the short film, I sketched out some screen elements and created them as GIF's in photoshop. As the direction of my short film was heading towards a theme of 'technology' I began by choosing about ten commonly used symbols that came to mind when using computers, and recreated them in a pixel style, much like they would look like when viewed on an PC monitor. (Left) is an example of the process I followed when making the images; I duplicated a 1cm x 1cm square and placed them to give a 'blocky' effect. I took advantage of Photoshop's timeline ability to create GIF's, noting to use the colour white due to the file formats limitations to 256 colour palette.

Moving ahead with the creation of the screen elements, I started using the pen provided with the Surface Pro to create freehand images in photoshop and rotoscoping like I had anticipated in my prototyping, modelling and testing.

The TV's below will be used in my main establishing shot, displaying the film title. I created these in Illustrator, using tools such as the pen, paintbrush and fill bucket to give a unique look to such a basic object. I then resized them and placed them in an order I feel, best made use of the screen space without looking to overcrowded.



To keep the short film from looking static and without movement, I used the pattern fill tool in photoshop to create a spiral and then imported it into After Effects. I then edited the rotation gaining the result of a background image, slowly 'spiralling' around. I chose to create this moving image to hopefully keep the interest of the audience, whilst adding to the technological theme by using a 'computer static' filter.



I also plan on adding motion to my GIF's, wiping from across the screen, vertically, horizontally and diagonally, both going forwards and backwards to hold viewers' attention. This concept image is something that I plan on creating and placing behind the main character using a green screen.



Rotoscoping

Aware of how busy my HSC year was likely to be, I decided to give myself a head start on the **rotoscoping process** during the Christmas break. I was mindful of how labour intensive the frame by frame drawing process was but I found myself in one of those moments where I was unsure if ‘the risk was greater than the reward’. My rotoscoping sequence was my attempt to ‘set myself apart’ from the other students in the course. To try something different which has hopefully opened my eyes into hand drawn animation.

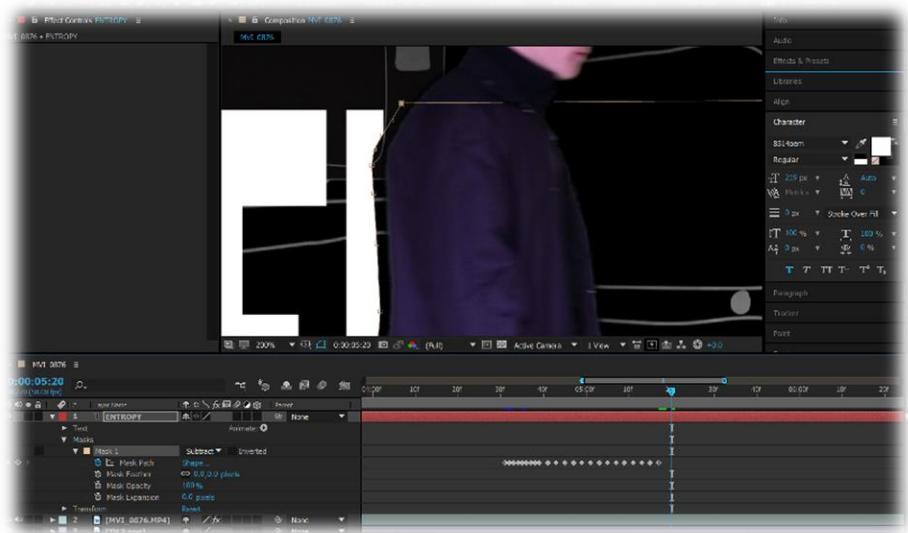
Ultimately, I hoped to provide something unique which engaged the audience in both the visuals and sounds of my short film.

Test/ Opening Shot

Having (finally) collected most of the materials I needed to start filming the video, I decided to shoot an early shot which I planned to make my title screen to the short film. Only having recently bought a **camera and green screen**, this allowed me to determine which settings I needed to adjust on the camera for the best quality picture.

I then ‘dusted’ off my skills in masking, and **masked frame by frame** the title of the film, emerging firstly behind my main character, and again only appearing on the TV sets I **Chroma Keyed** on the green screen. This opening title sequence was very intricate and cost me a large amount of my time on prep, but if there was anything I could take away from previous student examples, it was to set the scene of the film with an interesting introduction and alluring, mysterious title.

Using Masks to make the title appear behind the Subject.



Masking around the TV sets, only allowing the film title to appear on the screens.



Filming the Opening, making sure to Adjust the Uneven Lighting on the Screen.



Moving the Clips into After Effects in Sequence. The clips move down the timeline

Production Process

Ordering Clips/Chroma Key

My next step in the production phase involved the careful placement of my footage in order, and I chose to do this using the After Effects timeline. I then **‘keyed’ out each individual shot as every scene that I filmed either consisted of one or more screens that needed the green screen to be replaced**. Look to the Prototyping section of the folio for more detail on how I did this.



2 Examples of Screen Replacement using Keylight in After Effects. Before/After



Production Process

After 'keying out' each scene of the project, I began the intensive editing process in After Effects, editing the major parts in each scene. (the smaller refinements I left to complete in Premiere Pro). Accompanying is an in-depth breakdown of the scenes I feel I spent the most amount of time and care editing. **I hope to give some insight into the many layers of editing techniques I have used in the short film, discussing how I went about certain scenes**, and hopefully doing justice to the amount of time and effort I spent in working on the project. Please be aware that included in every scene in my project are already applied Chroma key effects and time remapping and positioning effects, controlling the footage speed and edited camera motion.



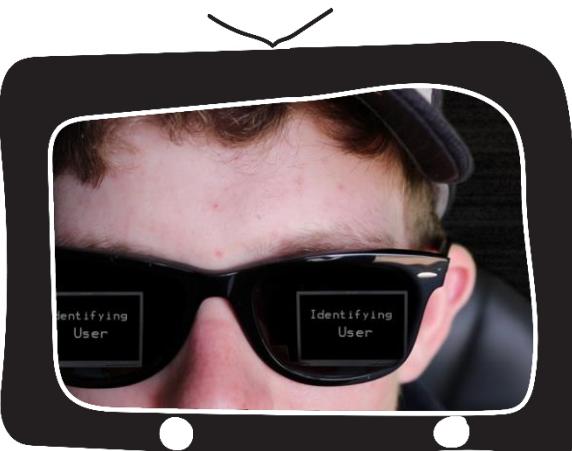
After applying the '**keylight**' effect in After Effects to this scene, I had to tweak the settings of Adobe's '**key-cleaner**' **effect** as the Chroma keying had a difficult time distinguishing between the screen and physical computer props. I also created an animated background for this scene, pairing '**fractal noise**' with a black and white solid to simulate TV static. The final step to this scene was '**motion tracking**' using the '**four corner pin**' method to track frame by frame an animated composition onto the tablets screen. Within this **composition**, I created the computer's face which appears in the accompanying image.



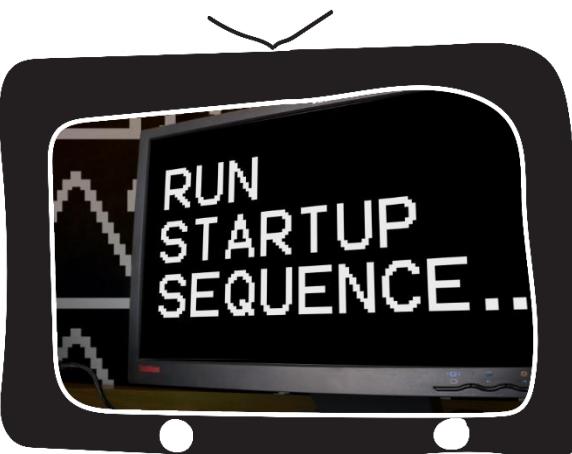
In this scene, I took advantage again of After Effect's '**four corner pin motion tracking**' to superimpose an animated composition onto the phone's static screen. This scene in particular was quite difficult as I had to **mask frame by frame** the main character's hand appearing over the animated comp. I also animated feedback into the composition, making the 'LOGIN' text pulse as the character touched it, almost as it may appear in real life. I achieved this by altering the texts '**scale**' settings.



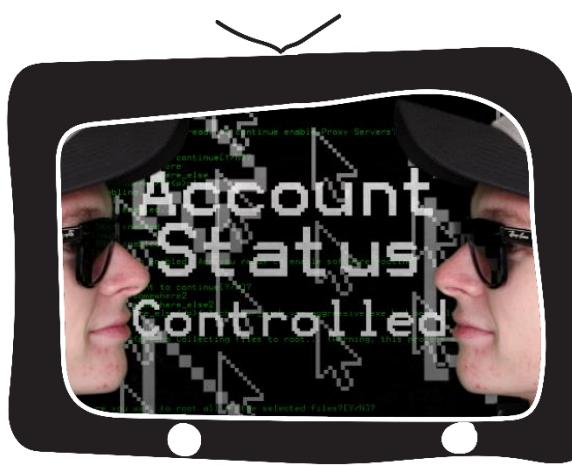
I began this scene, taking **eight individual stills** of myself in front of a green screen, and then imported these into Photoshop. Within photoshop I removed the green background, leaving the character's face and placed the eight frames in sequence using Photoshop's **timeline features**. After importing the footage into After Effects, I adjusted the **saturation, glow and colour values** of the face to give it a classic hologram look, and added **wave warp and card wipe effects** to animate and make the hologram 'stutter'. I based this scene off of the holograms seen in the early Star Wars films.



This scene is likely the most difficult scene of my short film in frame by frame animating as there was no room for cutting corners or automating the process. I began by **setting up a mask** around the characters (left) glasses lens. However, as the character moved, this mask had to be tracked to the movement and I found this not possible with the dark colours of the glasses and the lenses moving off screen. After a long period of intricate framing of the mask, I placed in a composition, setting the mask to '**add**' (only allowing the image to appear within the mask bounds). Within the composition I animated more text and reduced the comp's **opacity**, creating the illusion of the monitor reflecting from the characters glasses.



This scene uses a **combination of two After Effects compositions** to animate a once 'boring' camera shot. In the background of the image, I created a composition, panning over my **animated screen element GIF's**. I achieved this movement by duplicating and changing the '**position**' of the GIF's, producing an almost motion tween effect between two set times. In the foreground, I utilised the **perspective corner pin effect** to place a composition screen onto the computer monitor. Within this comp, I made my own 'start up screen' to the computer program, making good use of After Effects **timelining capabilities**, adding glitch effects to the text.



This scene is the most complex in terms of layered effects and appears in the main chorus of the accompanying soundtrack. Explaining the physical qualities, I duplicated the main character's face using the learnt skill from the **Freeze Frame tutorial**, and adapted it into a moving example, syncing the movement between the two heads. The first layer in the background, the '**ACCOUNT STATUS**' text, has been edited to appear 'glitchy' almost as if from a hacker's computer. I achieved the **text glitch effect throughout the whole film** by applying Adobe's '**Wave Warp**' effect (Slices the text in half) and the '**character offset**' effects (Randomises text). The following two layers were of my **animated screen GIF's of a 'cursor'** and I motion tweened the two and altered the compositions **scale**. The final layer is of text copied from Microsoft's original computer start up code, controlling a mask which made text appear sporadically like it did on traditional bootup screens.



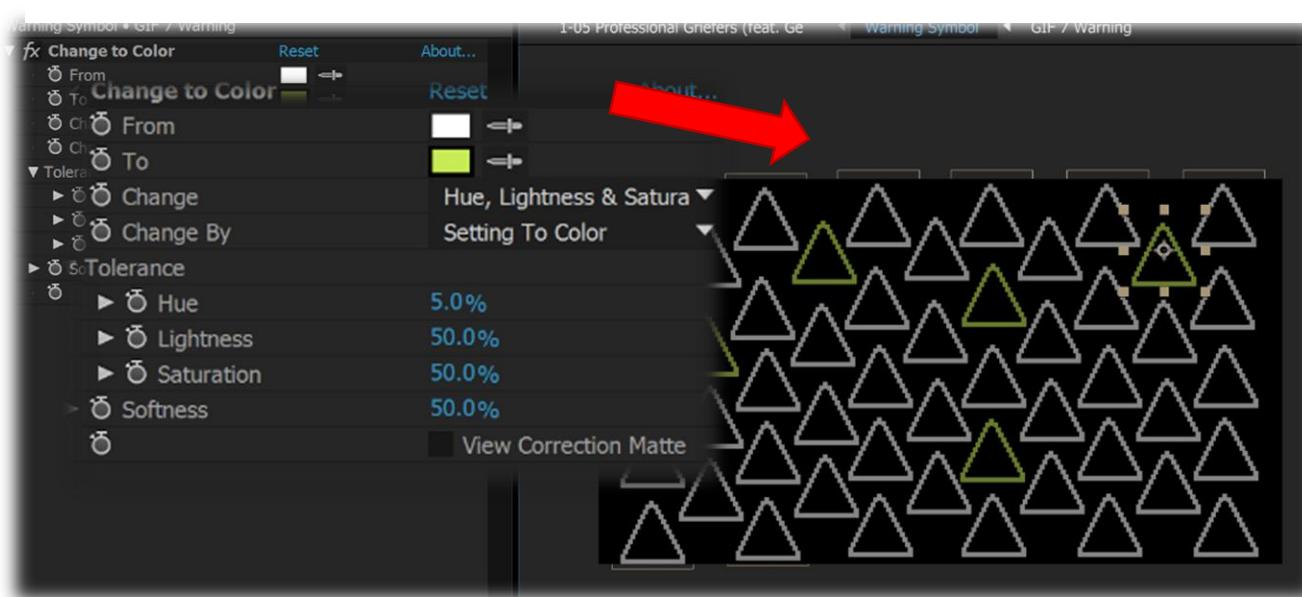
Aside from the use of previously mentioned **green screen** and **keying techniques**, this scene required a **time-lapse**. To achieve the time-lapse, I set up my camera for 35 minutes, taking photos at an interval of every 2 seconds which resulted in a **25 second lapse**. Importing this into After Effects, I expanded on my idea in the storyboard and made 'text messages' from people appear over the busy city reacting to the ongoing 'hack'. To **display these messages**, I screenshotted some message bubbles and manipulated them in **Photoshop**. I then **masked** each message, having them appear in sync to the projects track.

Production Process

Altering Final Colour Values

Throughout the entirety of the project, I made most screen elements and effects in a clear B&W colour. This was to take advantage of After Effect's '**Change to Colour**' and **colour adjustment** effects.

Within After Effects, I could select previously White elements and match them to the theme colours of the Project (Green, Blue, Pink)



I also completed some minor **colour grading**, adjusting mainly footage **saturation** and **tint** to give the film a darker colour tone, reflecting and intensifying the mood of the film.



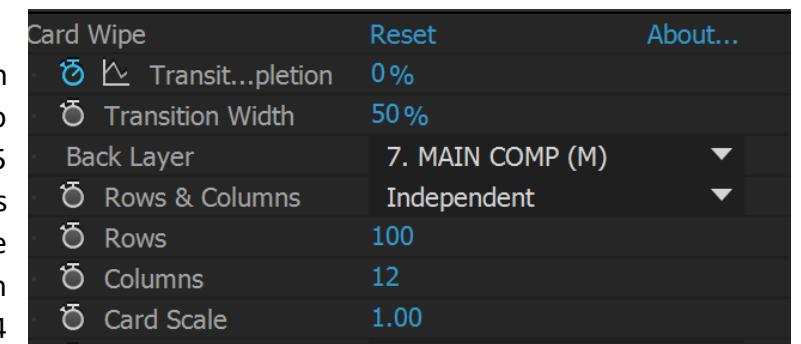
RGB Split Effect –

After compiling all of my scenes, I duplicated the whole project footage into **three layers consisting of three different channels**; **R(ed), G(reen) and B(lue)**. When the wanted effect was to occur, I hid the regular 'coloured' layer and displayed the 'split' layers, as seen to the right, adjusting positions slightly off center to achieve the effect.



Card Wipe Effect –

Another overlay I used was the **Card Wipe effect**. I chose at random intervals in the video, when to place this effect and is basically a quick 'wipe' over the scene displaying blacked out 'cards', as the effect suggests. This was something I picked up on from my inspiration (Gorillaz) and was another attempt at recreating a 'glitched' computer or tv screen.



Rendering –

After concluding a 76+ hour total render time when rendering the video as a whole, I split the project up into one minute intervals to reduce the time. Each day for 5 consecutive days I rendered each segment (taking 3 hours each render) and stitched the clips together in premiere pro. Aside from a few inconspicuous audio issues, I am quite happy with how the render turned out, being 94 megabytes in the H.264 format.

Distribution (CD Printing & Website)

Distributing the major project, I decided to make the project video and behind the scenes video available on many platforms to ensure the task could be viewed on multiple devices.:

- At school, I utilised the **CD printer** to print my own custom graphic onto a standard compact disc. Whilst this helped to identify the project and linked into the projects theme, it also demonstrated another skill which was required during the project.
- I also **coded a simple website** using html and CSS to allow for the project to be viewed perhaps on a mobile device which is not compatible with a CD. This was also a backup in case the CD did not work as intended. *Special thanks to my friend for helping me host the site. *Look to the front of folio for website address*
- Finally, a standard USB which could hold both the project video and folio components without much issue about space (The CD and Website formats required a highly compressed version)



Right: The main page of the website and one of the CD's printed for the project.



Project Runsheet

Time	Video Content (Action)	Music	Graphics	Special Effects
0.01	Hacker Definition -McAfee		Text	Masks
0.16	Computer Character appears, walking L-R	Build Up (Intro)	Hand drawn TV's, "CTRL" Text	Chroma Key, TV Static Effect, Frame by Frame Masking
0.25	Computer Character takes place behind desk and opens laptop	Pulsing Beat	"Time" Text, Computer Face Graphic	Chroma Key, Perspective Corner Pinning, Frame by Frame Masking
0.32	Computer Character touches phone, initiating login sequence	""	"Login" Text, 'Wireless' Animated GIF, 'Eye' Animated GIF	Chroma Key, Motion Tracking, Frame By Frame Masking , Text 'Glitch' Effects
0.38	Character places CD into Computer	""	Printed Graphic onto CD	Chroma Key
0.40	Character's face is scanned by the computer	"I like the sound of the broken pieces, I like the lights that assign where she sits"	Face' Animated GIF, "Identifying User" Text	Chroma Key, TV Static effect, F. by F. Mask, Motion Tracking, Glow FX, Glitch Effects
0.47	Close Up on Characters face with reflection of computer monitor off glasses	"We got machines but the kids got Jesus"	Computer Monitor Image, "Identifying User" Text,	Chroma Key, TV static effect, Frame By Frame Masking of Glasses, Opacity of Reflection
0.51	The reflected computer monitor, now in frame, displays a locked symbol	"We like to move like we both don't need this"	"User Identity Not Found" Text, 'Locked' Animated GIF	Chroma Key, TV static effect, Perspective Corner Pin
0.55	Panning across desk at devices	"God cant hear you, they will fight you"	"Configuring System Attack" Text,	Frame by Frame Motion Tracking, Text 'Glitch Effects
0.58	Zoom out of monitor providing feedback to the character about the attack	"Watch them build a friend just like you"	"Starting system reboot" Text, 'Eye' Animated GIF, 'Warning' Animated GIF	Chroma Key, TV static effect Motion Tracking, Animated movement of GIF's,
1.02	Shot of character's face blocked by monitor screen	"Morning sickness, XYZ, teenage girls with ESP"	'Eye' Animated GIF, '3..2.1' Text	Chroma Key, Text Offset effects
1.09	Rotoscoped Mouth singing lyrics	"Give me the sound, to see"	Rotoscoped Mouth	Rotoscoping
1.13	Computer grants access/welcomes character	"Another world outside that's full of all the broken things"	"Run Startup Sequence" Text, Animated GIFS, CTRL image	Panning, Corner Pin Motion Tracking, RGB Split
1.20	Character fist pumping air	"That I made"	Spiral BG GIF,	Time Remapping (Slow Mo)
1.24	Character goes to type on keyboard	"Just give me a life, to plea"	Socket' Animated GIF, "Welcome User" Text	Corner Pin Motion Tracking, Dual Chroma Key, Position fx
1.28	Character begins entering account number into comp.	"Another world outside that's full of"	"Account" and "*" Text	Corner Pin Motion Tracking, Dual Chroma Key, Masking
1.32	Character nods head along to his success in system access	"All the awful things that I made"	Command Prompt Text, Rotoscope "CTRL///" Text	Masking, Chroma Key, Position and Scale fx, Distortion fx
1.39	Speaker 'pumps' to beat	Four Beats'	'Wifi' Animated GIF	RGB Split, Scale fx
1.41	Overhead shot of character typing at computer	"We like to dance but the dead go faster"	Loading Bar, "Data Collection" Text, 'Eye' GIF	Corner Pin Motion Tracking, 'Bars' glitch fx
1.45	Character in foreground shadowed by monitor actions	"Turn up the slam and a bar code blaster"	Animated GIFS, Text, Duplication Effect	Masking, Chroma Key, Position and Scale fx, Distortion fx
1.49	Phone displays email, Character interacts with phone	"We want the cash or the drugs your after"	Mail' Animated GIF, "Notification" Text	Motion Tracking (Wifi GIF), Chroma Key on table
1.53	Panning across desk at monitors	"Rise up control for the mix tape master"	Spiral BG GIF, 'Socket' Animated GIF, Text	Dual Chroma Key, Corner Pin Motion Tracking
1.57	Shot of character's face blocked by monitor screen	"Self correction, mass dissection"	Warning' Animated GIF	Chroma Key, RGB Split
2.00	Character typing into keyboard	"Death squad brats are in detention"	Socket' Animated GIF	Chroma Key, Masking, Screen Offset fx

Time	Video Content (Action)	Music	Graphics	Special Effects
2.04	Computer attacks listed on monitor	"Morning sickness, XYZ, boys with bombs in NMA"	Cursor' and 'Bug' Animated GIF, Text	Masking, Corner Pin Motion Tracking, position fx
2.11	Shot (almost) zooming through monitor at character	"Compliancy, special castings Photographs that I'm erasing"	Cursor' and 'Bug' Animated GIF, CTRL image and face	Position, duplication and distortion fx, Motion Tracking
2.26	Character viewing world globe from behind monitor	"Self-infraction, mass destruction Programmed for the final function Lab Rat King, rescue team"	World Globe Graphic, CTRL image, "Newcastle" text	CC Globe fx, position and scale fx, Perspective corner pin fx, Masking, Motion Tracking
2.37	Character releases 'bug'	"Save me from the next life"	Bug' Animated GIF	Masking, Position fx
2.41	Time lapse over newcastle, people responding to hack	"Just give me a life to ple... All the awful things that I made"	Message bubbles, 'Phone' Animated Text, Graphics	Masking, Perspective Corner Pin, Position and scale fx
3.00	Character nodding to beat	"Another world outside that's full of all the awful things..."	Rotoscoped Mouth, Text in Glasses	Motion Tracking, Masking
3.11	Computer's turn red	"And we've got the eyes to see"	"Incoming Attack" Text	Change to Colour fx, Chroma
3.19	Noooo' Facial Expression	"All the awful things..."	Distortion fx	Saturation = Red
3.23	Character angrily smashes computer as accounts lost	"That I made"	"Accounts Controlled" text, Monitor Face, Socket GIF	Saturation = Red, Distortion fx, Chroma Key,
3.27	Character holds phone		"Police en route" Text	Motion Tracking
3.28	Credits - Displayed on Computer Monitor	Beat building...	Text, 'Signal', 'Bug' and 'Wifi' Animated GIF's	Masks, Parallel Corner Pin
3.40	Message on Cyber Safety	Beat building...	Text	Masks
3.51	Character glowing in Red and Blue (Police), viewed on Monitor	Beat closing...		Glow fx, Time Remapping (Slow Mo), Chrom Key, Parallel Corner Pin
4.03	Student Number, fade out			Random text fx

The above is the project **Runsheet** I used when creating the project. From research into professionally used methods of film making, I determined that the creation and use of a project run sheet would be very beneficial in keeping each scene separate and clearly outlined which helped both during the filming and editing stages.

Explaining the headings - The 'Time' subheading refers to the starting timestamp of the scene. The 'Video Content' outlines the action the character is undertaking in the scene and if appropriate, the camera angle. 'Music' refers to the lyrics spoken in the particular scene. 'Graphics' outlines the image and text components needed for the scene and finally 'Special Effects' outlines in post-production, what effects are required to be used to complete the scene.

By using a project run sheet, the possibility for recapturing of footage was largely reduced as the scenes that were needed to be filmed were clearly listed and minimal remembrance was needed to connect scenes to their effects as it was clearly listed.

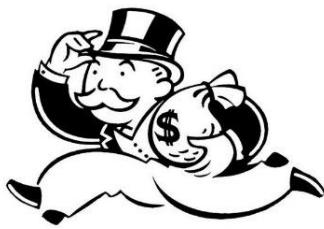
— The Red lines indicates the addition of the change to colour effect applied to all GIF's after that point

Finance Plan

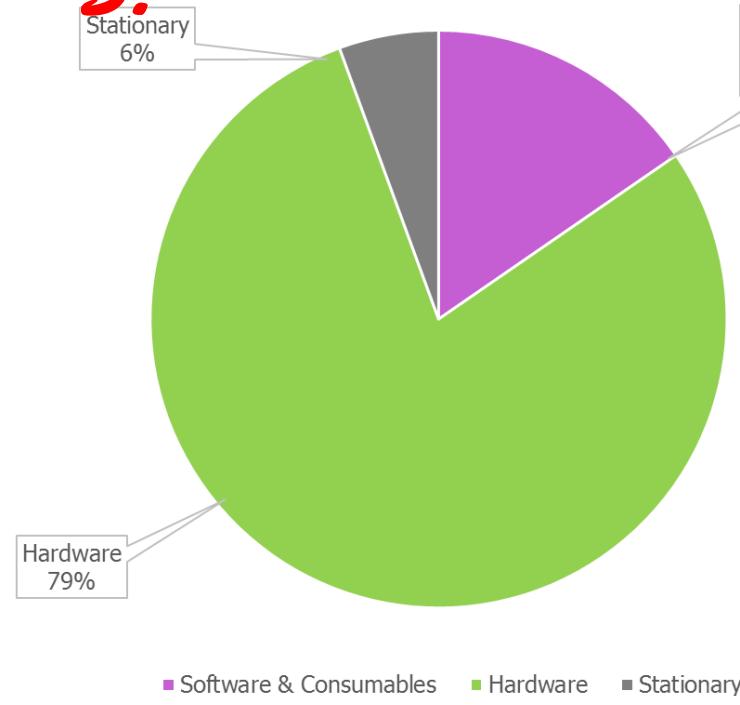
1. main categories 2. subcategories

Main
Software & Consumables
Hardware
Stationary

Software & Consumables	Hardware	Stationary
MS Office license	MS Surface Pro 4	A4 Paper
Adobe create cloud license	Dell Optiplex Desktop	A3 Paper
NBN Broadband	Canon DSLR Camera	A3 Presentation folder
Mobile phone calls	Samsung WBS50F Camera	Pens & Pencils
Power (energy)	Sandisk USB 16gb	Green Screen
	Razer Death Adder Mouse	Printing costs (prof.)
	Wacom Drawing Tablet	Printing costs (home)
	Epson 200 Printer	
	Seagate Hard Drive	



5. Project Expenditure Pie Chart



Month	Category	Actual Cost
Oct	Software & Cons.	\$ 34.00
	Hardware	\$ -
	Stationary	\$ -
Nov	Software & Cons.	\$ 34.00
	Hardware	\$ -
	Stationary	\$ -
Dec	Software & Cons.	\$ 34.00
	Hardware	\$ 1,250.00
	Stationary	\$ 20.00
Jan	Software & Cons.	\$ 34.00
	Hardware	\$ -
	Stationary	\$ 10.00
Feb	Software & Cons.	\$ 17.00
	Hardware	\$ -
	Stationary	\$ 35.00
Mar	Software & Cons.	\$ 17.00
	Hardware	\$ -
	Stationary	\$ -
Apr	Software & Cons.	\$ 17.00
	Hardware	\$ -
	Stationary	\$ -
May	Software & Cons.	\$ 17.00
	Hardware	\$ 50.00
	Stationary	\$ -
Jun	Software & Cons.	\$ 17.00
	Hardware	\$ -
	Stationary	\$ -
Jul	Software & Cons.	\$ 17.00
	Hardware	\$ -
	Stationary	\$ 27.50
Aug	Software & Cons.	\$ 17.00
	Hardware	\$ -
	Stationary	\$ -

Evaluation

The accompanying are a series of tables and graphs taken from the Projects' finance plan created in Microsoft excel. Rotating clockwise, tables 1 and 2 list all items used in the project and are broken up into the three main categories; Software and consumables, Hardware and Stationary. Table 3 is a detailed analysis of each item, providing the date the item was purchased, estimated and actual costs and an explanation as to why the cost was correct/changed. Graph 4 is a Bar graph, visualising the costs of the materials into months throughout the duration of the project. Finally chart 5 is a pie chart, distinguishing how the project funds were broken down into the main categories as a percentage.

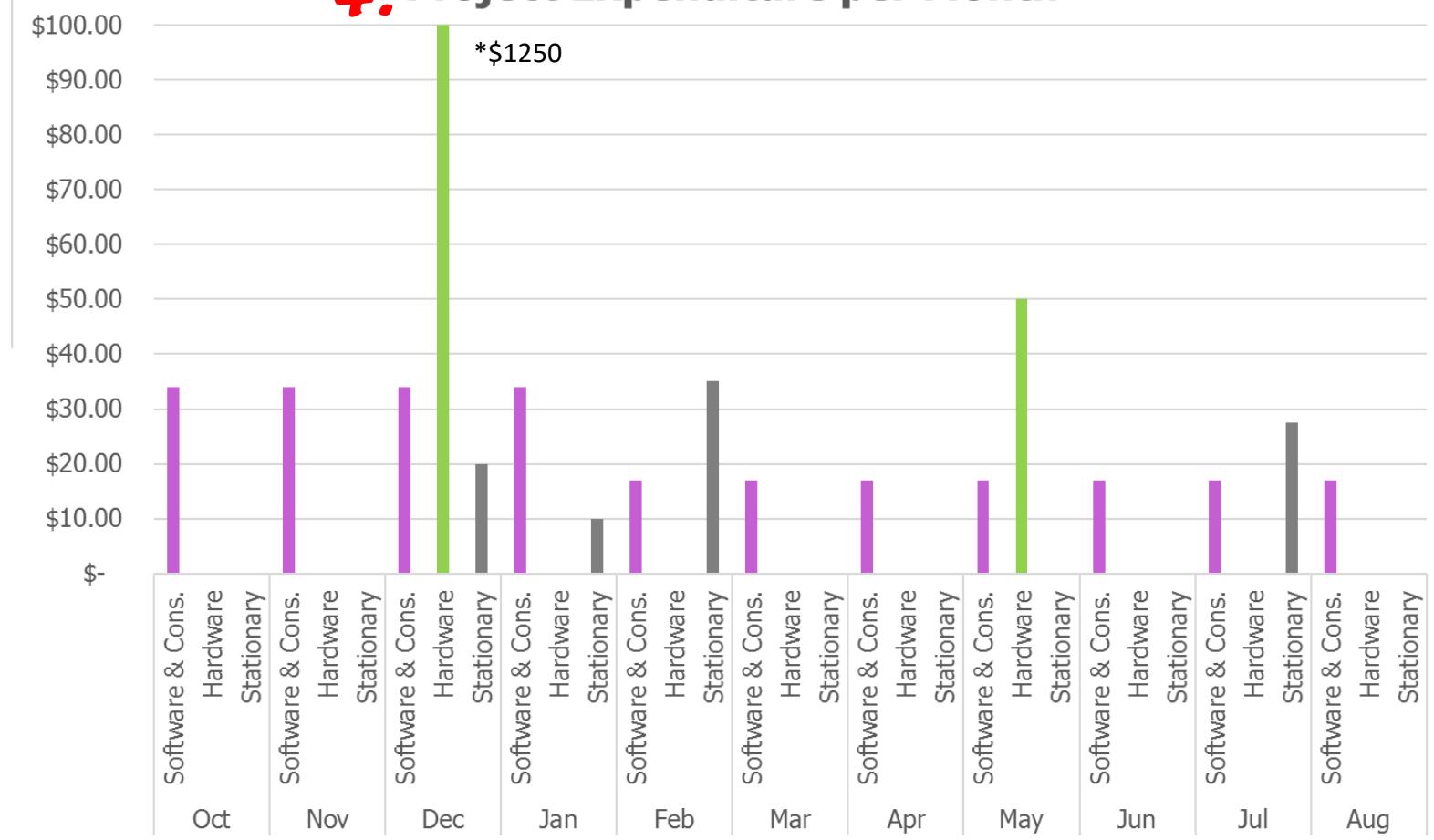
As seen, my estimated project funds exceeded \$6000 but the final amount paid for the project was \$1587.50 (\$337 total not including the camera), see chart 3 for details as to why the estimated cost fluctuated. This was largely because needed items where readily available for use.

3. expense log

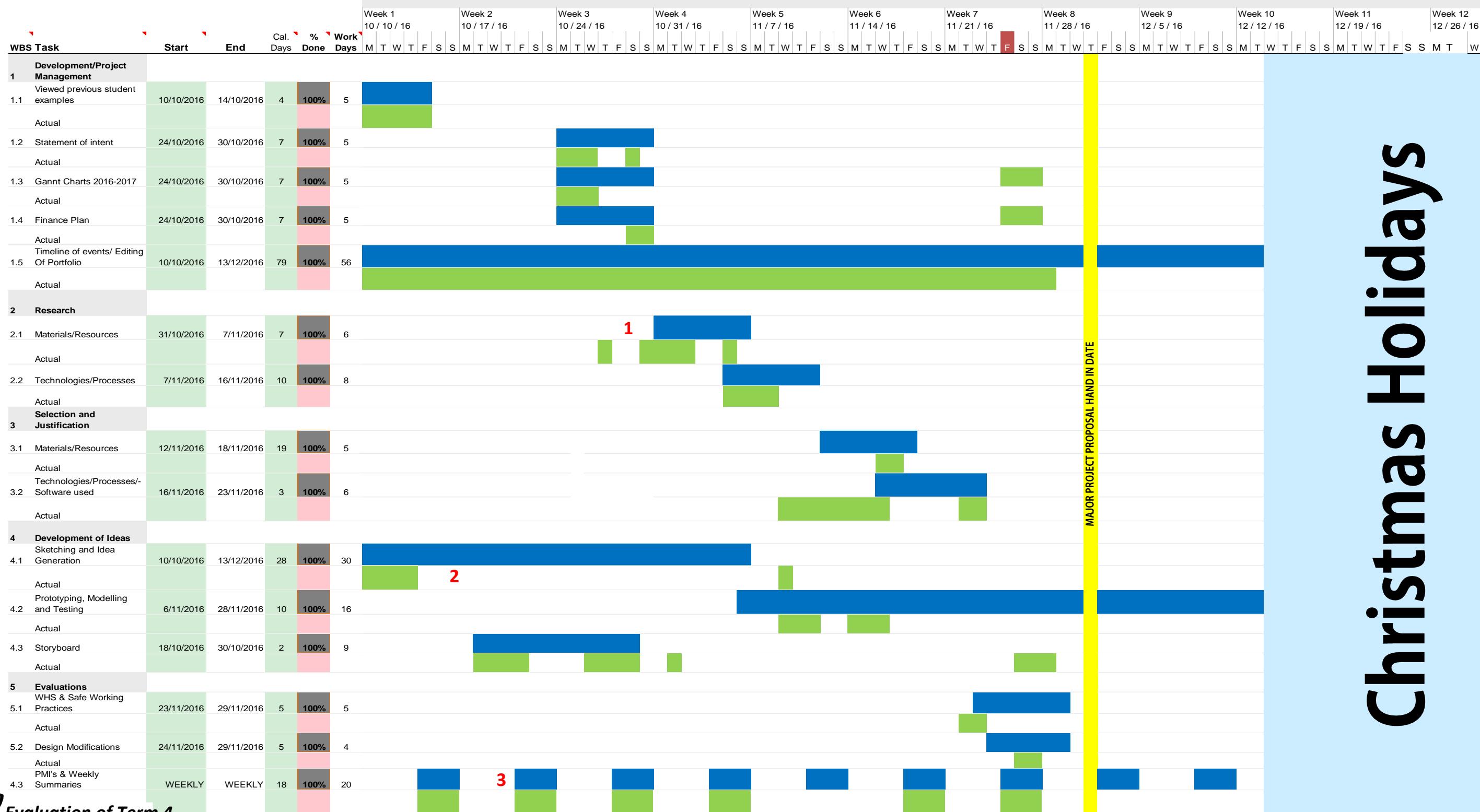
date	category	subcategory	Est. Cost	Actual Cost	description
10/10/2016	Software & Consumables	MS Office license	70.00	169.00	2 year subscription more expensive
10/10/2016	Software & Consumables	Adobe Creative Cloud license	204.00	68.00	Charged p/Month, School ended up paying for service
10/10/2016	Software & Consumables	NBN Broadband	99.00	0.00	Charged p/Month, paid by parents
10/10/2016	Software & Consumables	Mobile phone calls	30.00	0.00	Used to consult Media Companys, paid by parents
10/10/2016	Software & Consumables	Power (energy)	10.00	0.00	Cost to power Hardware. p/Month, paid by parents
4/01/2016	Hardware	MS Surface Pro 4	1999.00	0.00	Bought outside bounds of project
10/02/2016	Hardware	Dell Optiplex Desktop	1735.00	0.00	Provided By School
15/12/2016	Hardware	Canon DSLR Camera (80D)	800.00	1250.00	More expensive for better features (higher framerate)
10/09/2015	Hardware	Samsung WBS50F Camera	400.00	0.00	Bought outside bounds of project
15/12/2016	Hardware	Sandisk USB 16gb	12.00	8.00	Cheaper than projected cost
8/04/2015	Hardware	Razer Death Adder Mouse	59.00	0.00	Bought outside bounds of project
2/05/2017	Hardware	Wacom Drawing Tablet	287.00	0.00	Provided By School
3/05/2017	Hardware	Epson 200 Printer	150.00	0.00	Bought outside bounds of project
13/05/2017	Hardware	Seagate Hard Drive	80.00	50.00	Product on Special
15/01/2017	Stationary	A4 Paper	25.00	5.00	Cost Per Pack
15/01/2017	Stationary	A3 Paper	25.00	5.00	Cost per Pack
15/07/2017	Stationary	A3 Presentation folder	11.00	22.00	Cost for two folders
20/02/2017	Stationary	Green Screen	60.00	35.00	Cheaper materials bought
22/12/2016	Stationary	Pens & Pencils	20.00	20.00	Correct estimated price
16/07/2017	Stationary	Printing costs (prof.)	30.00	0.00	Printed through father's workplace
16/07/2017	Stationary	Printing costs (home)	25.00	5.50	Includes Printing Materials

Total 6051.00 1587.50

4. Project Expenditure per Month



Project Timeline



Evaluating my Gantt chart over the course of the Term 4 proposal, I have followed, and completed most modules of the task quite closely to my proposed dates. I started out following the Gantt Chart until about Week 3, Research and Selection and Justification (1). These parts in the task, tended to ‘overlap’ and when I thought I was completing research, I was realistically completing justification. I had also underestimated the time taken to complete some of the research and have learnt that my time management should be improved upon in the following terms. Originally, in Weeks 1 to 4 (2), I planned to complete a large number of concept sketches, as seen in previous years major works. I found however, due to a lack of being able to

I started the project as well as not having concreted a solid idea in my mind, I should complete these drawings at a later date. I have included these drawings as a storyboard for this part so far. Also, as I have not had home access to a green screen, I was unable to prototype and test this aspect of my film. This will be a major part of the project and included at a later stage. Other than these small inconveniences, as well as taking time off, I successfully completed a PMI each week (3) and completed a major part of each section of the folio for the hand in task. Proceeding this hand in task, I started to reallocate my time as I was preparing for exams in other subjects (Weeks 1-10) (4) and planned to make up for this lack of work within the Christmas Break (See Gantt Chart Term 1 2017).

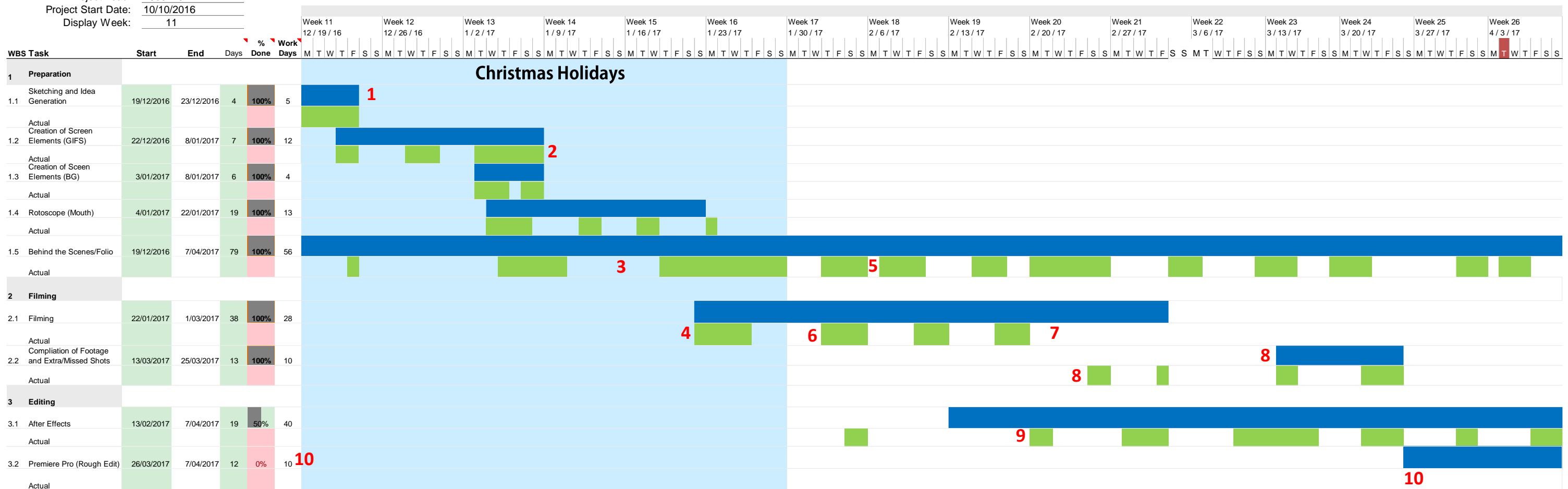


Project Timeline

Multimedia Major Project TERM 1

St Francis Xaviers

Project Lead: 29092737
Project Start Date: 10/10/2016
Display Week: 11



Evaluation of Term 1

Since the project's proposal task, I made many significant changes to the outcome of the project. Within the Christmas break, a new idea came to me which I felt conveyed my message much more than the previous concept. In between the main stages shown on the chart, I revised certain smaller parts of the folio.

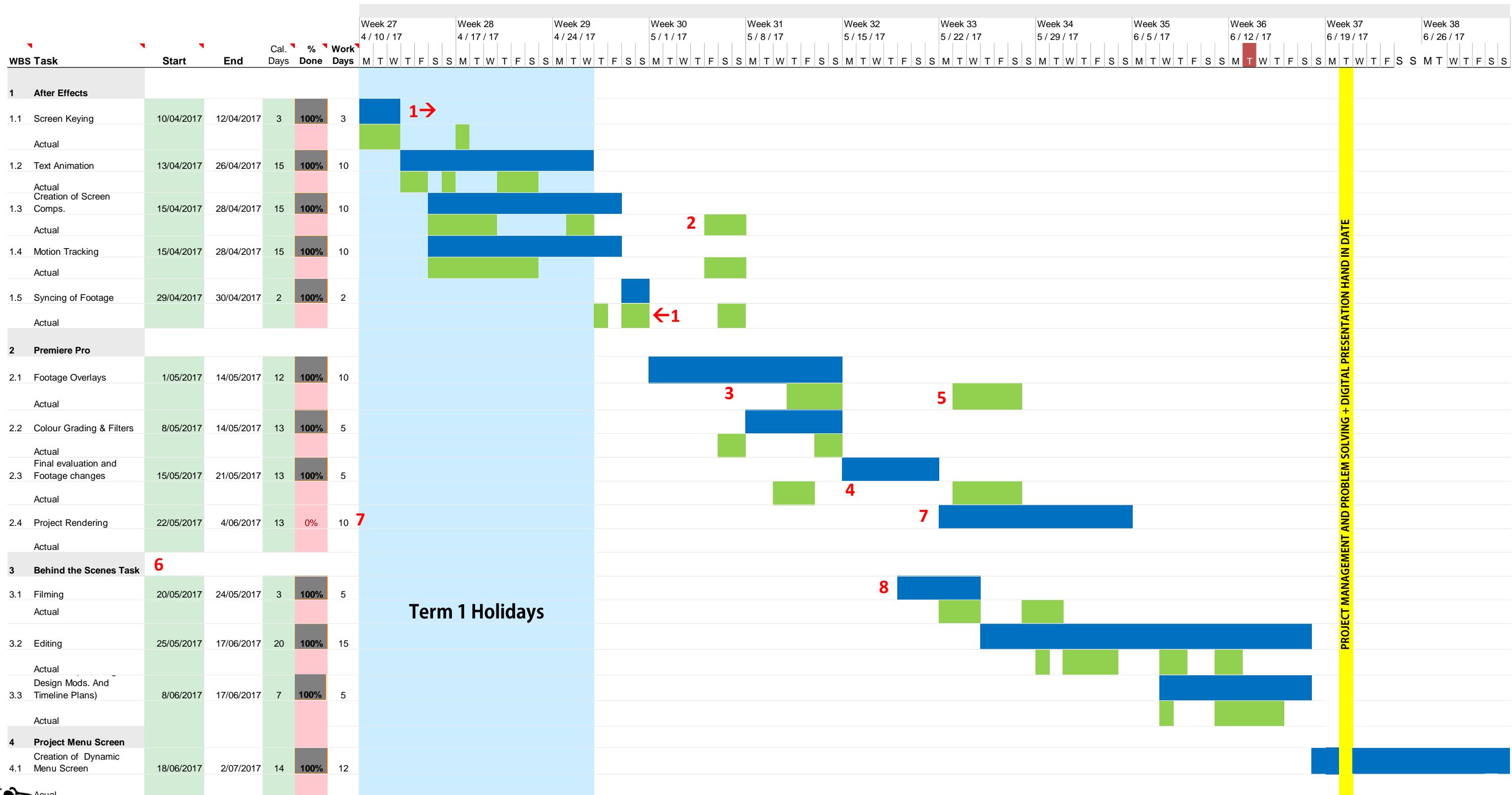
I began the second stage of the project with a complete re-design of the storyboarding sequence and spent time sketching up the screen elements I wished to create and use in my short film (Week 11) (1). Using my sketches as a reference, I created 7+ individual animated GIF's in Adobe Photoshop. Creating most of my proposed elements within this period (Week 13) (2), I had the time to rotoscope a larger portion of my short film (As seen in Prototyping). During week 15 (3), I was away on holiday and whilst I was productive most of the break, it put me slightly behind, leaving me with only one week before I went back to school. I had hoped and was unable to have filmed within the break.

In Week 16 (4), I purchased materials to construct both blue and green screens, allowing me to setup a few test shots. As planned the bulk of the filming came much later in Week 18, continuing further refinement in the portfolio (5) and adding to my collection of animated GIF's in the interim.

Each weekend of Weeks 17 – 19 (6), I setup my scene for filming. The first week I found problematic as I set the screens up inside and the lighting was not bright enough to key my footage. As the components of my scene were quite bulky and heavy to move around (wooden table and chair), I believe I overestimated the amount of time needed for filming and this can be seen as I left the Gantt Chart blank in Weeks 20- 21 (7).

As a consequence to finishing the filming early, I was able to start placing my footage (in weeks 20 rather than 23) in sequence using After Effects, beginning the editing process (8). I have not expanded upon the specific parts of the editing within this term's Gantt chart as I was editing in between balancing mid-course exams. The editing largely consisted of ad-hoc periods (As seen in Weeks 20-25) (9) of placing footage and keying of screens, setting myself up for the intensive editing process I anticipate undertaking during the next term (See Gantt Chart Term 2 2017). I decided to split the short film up into three major parts and intended to have finished the first part by the end of the term (By Week 26), as my general school workload became more demanding, my proposed initial edit of the film in Premiere Pro did not commence and I have had to account for this to happen at a later stage (Weeks 25-26) (10).

Project Timeline



Evaluation of Term 2

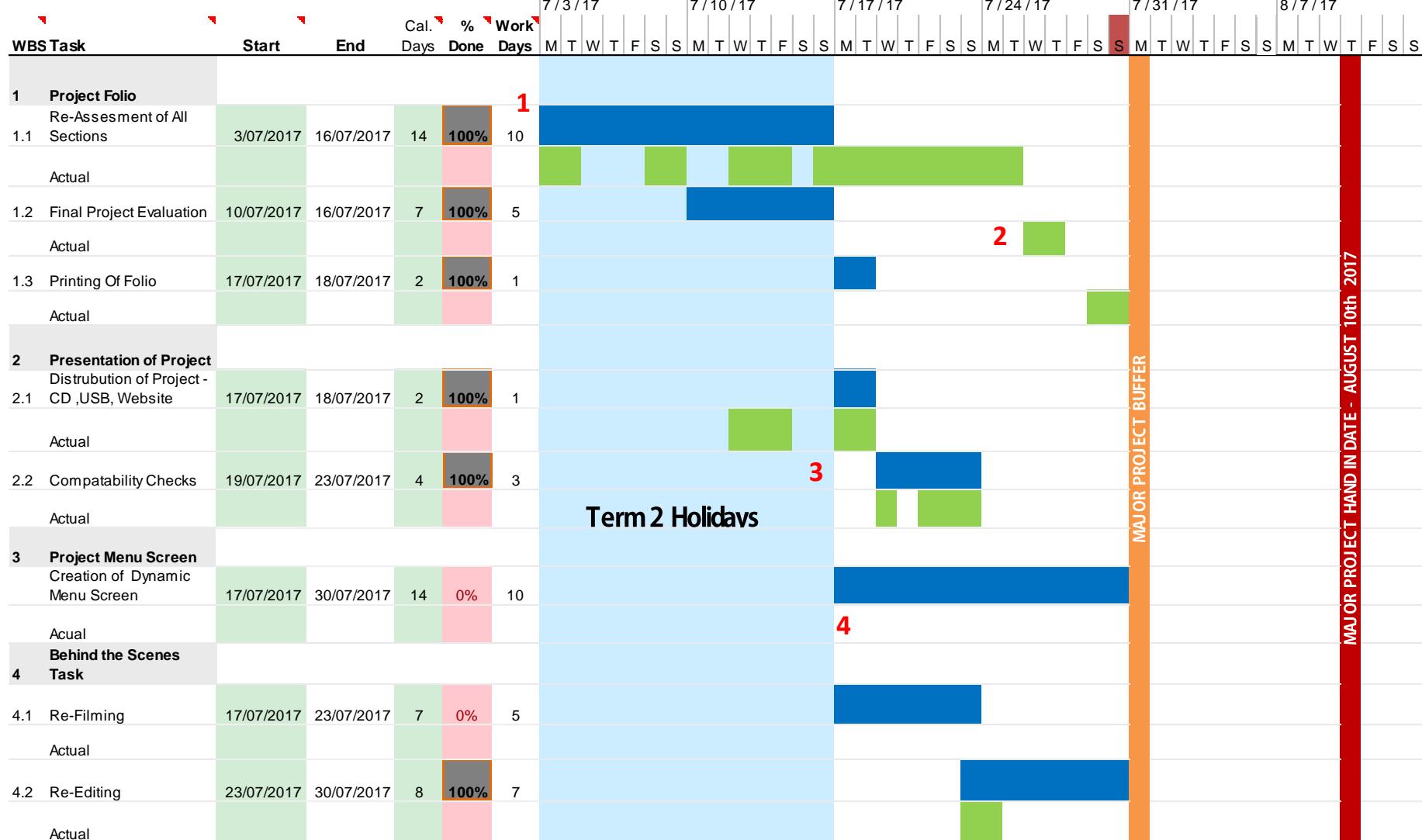
Term 2 was the most productive period of time in terms of the editing process. Within the first month of the term (Weeks 27-30) I spent an hour each day, at school and at home, progressively working on adding effects to the project (1). This included the keying out of the blue and green screens, the creation of many compositions, adding text, animating text and backgrounds, motion tracking phone and computer screens before finally syncing the project to the accompanying track (An outline can be seen in Production Process). The production of effects ran for a week longer than projected (Weeks 30) (2), and pushed back some of the time planned to colour grade and add footage overlays in Premiere Pro (Weeks 31-32) (3).

In Week 32, the school retreat occurred pushing my progression back even further (4) and I had to complete some of the colour grading and footage overlays outside of the time I had allocated (Weeks 31, to 32) (5). Returning from retreat, we were presented with another assessment task (6) which took priority, and is the reason as to why I was prevented from rendering the project in Week 33-34 (7). This additional assessment task, whilst beneficial for the final project, did affect my estimated finishing date of the project video (June long weekend) necessitating me to set aside the project to work on the video presentation elements (Behind the Scenes Weeks 34-36) (8). As of Week 36, I have completed majority of the Major Project, but will still be required to spend some time evaluating it in the coming holidays (See Gantt Chart Term 3 2017)

Project Timeline

Multimedia Major Project TERM 3

Project Lead: 29092737
Project Start Date: 10/10/2016
Display Week: 39



Evaluation of Term 3

Having completed most of the project by this point, there was not much left to do in the way of ‘tasks’ for the final Gantt Chart. I started out, (1) re-evaluating each section of the folio, fixing grammatical errors, spelling mistakes, and completing unfinished questions. This took much longer than projected (2) and I began writing the final project evaluation much later than expected. This did not push me past my project buffer though. Within checking each section of the folio, I began creating the project’s accompanying website and CD components (3) and checked the compatibility of each on both PC and smartphone to ensure both worked for the marker.

Sadly, due to withdrawn version support, I was unable to complete a CD menu screen for the project (4). Adobe ‘Encore’, the CD menu making program was discontinued before I even began undertaking the project and the only way to use it was to illegally acquire the software which I was unable to do. Whilst I’m saddened that I was unable to demonstrate another skill, this problem was out of my own hands and was not due to my own causes.

Finally (5), receiving feedback from the last task, I amended my ‘Behind the Scenes’ project video. It turned out the project could be altered without the need to refilm, and only required some minor editing.

I completed the project just within my desired project buffer and was able to print out the folio and attach it to a website with minimal issues.

The Major Project was officially completed in Week 42, the 30th of July.

Date	Details	Elapsed Time & Location	Date	Details	Elapsed Time & Location
30/05/2017	Filming BTS Task	1 Hour 30 mins/ Home	3/06/2017	Edit of BTS	3 Hours/ Home
6/06/2017	Edit of BTS	2 Hours/ School	7-8/6/17	Render of BTS	9 Hours/ School, Home
9/06/2017	Sub Folio – Gantt Charts	1 Hour/ School	11/06/2017	BTS – Parts Fix	1 Hour/ Home
12/06/2017	Design Mods + Script	2 Hours/ School	13/06/2017	Timeline Dates	1 Hour/ School
14/06/2017	Design Mods	1 Hour School	16/06/2017	Design Mod Evaluations	1.5 Hours/ School
16/06/2017	Final Render of BTS	9 Hours/ Home	19-25/7/17	CD Print and CD Menu Research	1 Hour/School
2/07/2017	Coding of Website	2 Hours/ School & Home	5-10/07/2017	Final Render of Project Video	5 Hours/Home (each day)
1-10/7/17	Edit of Folio	2 Hours /School & Home	13/07/2017	Re-assesment of finance plan	1 Hour/ School
17-18/7/17	Hosting and distribution of website	1 Hour/ Home	19-23/7/17	Compatibility Checks	30mins/Home
27/07/2017	Final Evaluation	2 Hours/ School & Home			

Project Dates

Above is an accurate timeline of the most important dates of task completion throughout the duration of the project. This lists the date the task was completed, a brief description of the task and how many hours were spent either in school or home hours.

The table is split into four colours corresponding to the four phases undertaken during the project. Orange was the Proposal Period, Blue; the Production Stage, Yellow; the ‘Behind the Scenes’ task and Green; where external items were completed (folio folder, CD, website etc.)

Week v Summaries

Week 3 - Ending 30/10/16

I feel this week is where the project really began to pick up pace. I completed during Week 3 the long response, Statement of Intent, the first of four Gantt Charts, a PMI on Masking and even got the chance to start on some research; materials and processes. I have completed two of the three tasks on the Gantt Chart this week, the third being creating Gantt Charts for terms 1 through 3 for 2017. Now that I have the template for my first chart, I can follow the same formula for the accompanying, just plotting the dates where I feel fit. Also, I had started my research early and hope this may give me some time later to fix up the other Gantt Charts.

Week 4 - Ending 6/11/16

This week, I have followed the Gantt chart loosely; All of my Research aspects have blurred together with selection and Justification. However, progress nonetheless. I finished my uncompleted Finance Plan from Week 3 at the cost of completing an in-depth PMI. The internet was down during class time on Thursday, but had planned for disruptions like this to occur and was able to catch up in my spare time. I look to completing all Research and Justification aspects of my task in Week 5, to allow me to complete my WHS analysis, and prepare for handing in the folio in three weeks' time.

Week 5 - Ending 13/11/16

Another Week of solid progression, tying up some unfinished aspects within Research. Next week, I plan on moving on with completing selection and Justification and if possible, some Prototyping, modelling and Testing. I am going away for five days next week, and whilst I will have access to a computer and internet, I hope to complete what is marked in the Gantt Chart.

Week 6 - Ending 20/11/16

A slower week this week. I have had to go away to Western Australia for my grandparent's birthday and 'apparently' NBN has yet to be installed over there. This has made viewing of resources such as PMI's and images difficult. This has not stopped me from completing some of the folio based aspects of the task completing some WHS safety practices and my selection and justification for now; allowing me to focus on some sketching and idea generation I have missed and prototyping modelling and testing. I am going on a multimedia excursion later next week to ABC studios in Sydney and hope that this will be beneficial for both me and the project video.

Week 7 - Ending 27/11/16

A busy week catching up as a returned from being away. We went to ABC studios on Wednesday and was very thankful for the interesting experience. When visiting one of the six studios, I noted some of the things the 'lighting director' explained to us on achieving a proper green screen effect.

Although the screens they used were often dirty or consisting of small bumps or scratches, the director told us that the key to eliminating these small details was to even out the amount of lighting on the set. He told us to use a minimum of three lights when filming a green screen to remove any shadows.



Left; ABCNews24 studio and the green screen they used in the past to record the weather forecast.

Right; On the set of ABC's 'Giggle and Hoot' set. In the background the green screen, and projected onto the TV (above) what the screen looks like with the scenery effect applied.



Later in the week, I completed a screen replacement PMI, very important for my technology based short film and tied up a few incomplete sections, including Gantt Chart, Finance Plan and other small editing details. The Proposal task is due on Thursday next week.



Week 8 - Proposal Due Date 1st December (WHERE TO NEXT?)

I completed the project proposal Monday the 28th as I wanted to have a slight buffer in case anything went wrong and needed to be edited or re-printed.

Over the past 8 weeks, I have completed a bulk of the portfolio completing most, if not all of the, finance plan, Gantt chart, in progression finance plan, early statement of intent, a storyboard and relevant research.

From here I plan on expanding my selection and justification aspects of the folio, improve upon my storyboard, add more prototyping modelling and testing now that I am in the production stages of the short film, add WHS of cameras and filming, an added year to the finance plan, and records of how I made most aspects of the short film.

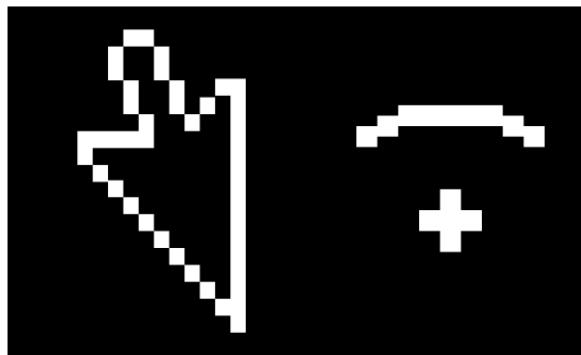
Concluding the major project proposal, I have spent many gruelling afters school hours and weekends chipping away at the task and I hope I have achieved an appropriate amount of folio information and research within the allocated time period. I also hope to have presented the folio in a manner that is both visually pleasing (I have attempted to use a theme colour), yet very insightful into the many aspects of my preparation for the yet to be produced short film.

Week 9 - Ending 4/12/16

A quieter week this week as I gave myself a long-earned break from the constant after school hours of working on the project proposal. I began creating some of my own 'GIFs' which I plan on animating and placing in the background of my short film and will continue to create these screen elements until about Week 11. Once the Christmas holidays start, I plan on picking back up my pace of the project and begin filming.

Christmas Holidays – Ending 31/1/17

Evaluating the time spent over the Christmas Break, I spent a large majority of the time, working on the screen elements that will be used in the project. I created over 10 GIF's to be used to replace the background of my short film, rotoscoped a large sequence of the mouth signing the lyrics of the song, purchased a green screen setup + camera and added to the project portfolio.



Left; Animated GIF's created in photoshop.

Below; Rotoscoping my brother's mouth

Bottom; Preparing the Green Screen setup + Test Shot



All this prep work completed in the holidays should allow me to begin filming early, first week back to school.

Weeks Ending 5&12/2/17

I began filming the first major segments of the project over these two weeks. I have picked up on errors in my footage and will continue to film for the next two weeks, as proposed on the Gantt Chart.

Week Ending 19/2/17

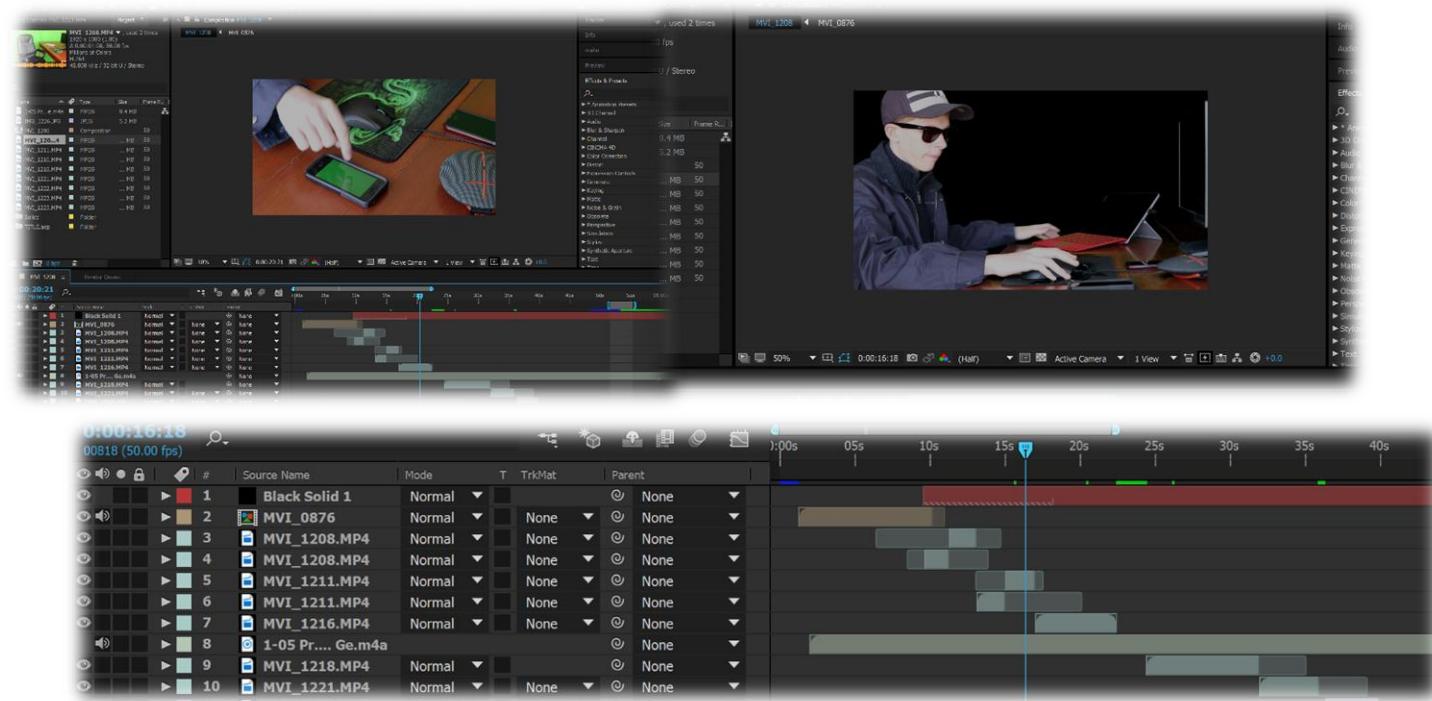
All of the filming for the majority of the major project is now completed (See Section; Behind the Scenes). Beginning next week, I will assess and compile footage, ready to be imported into After Effects for editing.

Week Ending 26/2/17

I have taken all of the footage taken from my camera and 'backed up' onto my computer, USB and OneDrive. I spent a large amount of time this week fixing blank gaps and grammar in the portfolio which should allow me to begin intensive editing on the project in the coming weeks. Mindful of Mid-Course HSC exams, most of the work I will complete until March 13th will be completed in designated class hours. Evaluating my position on the Gantt chart, this should not put me behind

Week Ending 5/3/17

I found some time this week to start placing my raw footage into sequence in After Effects. I plan to complete the edit in 3 parts. This will not only help After Effects load RAM previews faster, but will allow me to render smaller parts of the video, instead of waiting for the whole file. Aside from placing the clips into After Effects, I have synchronised transitions to the sound of the backing track, and removed the green screen from most of the clips. This will allow me to place effects easily into the background later date.



Placing the Clips into After Effects in Sequence - The clips move down the timeline

Weeks Ending 26/3/17

My preceding weeks have been largely focused upon school mid-course exams and I have been unable to invest regular amounts of time into editing the major project, in this period. I have done sporadic pieces of editing in After Effects in between school exams. Most of this has been documented and can be referenced in the 'Behind the Scenes' section of the portfolio.

Weeks Ending 23/4/17 (Term 1 Holidays)

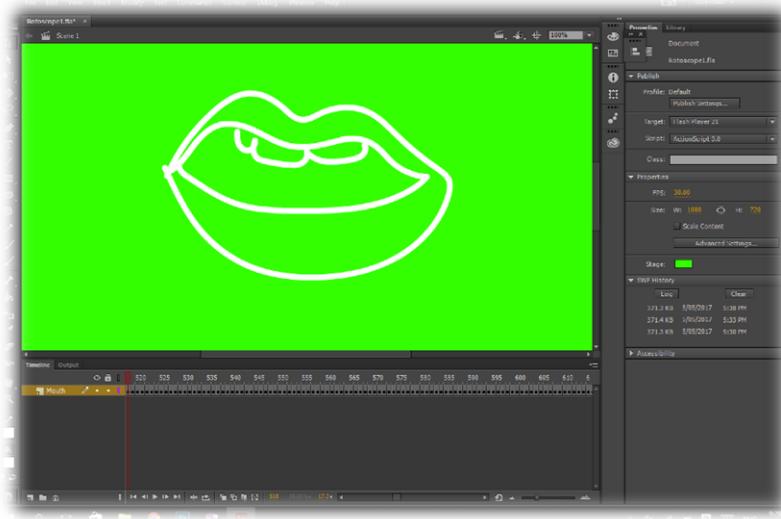
During the break, I re-focused my time back upon the project and spent majority of the period finishing the first two project edits within Adobe After Effects. Having most of the footage finalised, I plan on beginning the next step once, returning back to school, placing the After Effects file next into Premiere Pro where I can properly sync the film with the accompanying soundtrack, perform visual adjustments etc. At this point in time, I am happy with where I stand, completion wise with the project.

Weekly Summaries

Week Ending 7/5/17

I spent a large amount of my time finishing the rotoscoped 'mouth' sequence in my project. It consisted of 900+ overall, individual frames, making this the longest part of the project I have spent time on. I then added this sequence and synced it to my footage.

Next week, I plan to complete some screen elements I was unable to create at the beginning of the project, as these are very vital to the overall storyline of the film.



Final Rotoscope – As Adobe Animate only exports with a stage colour, I changed its value to green, making it easy to key out the unwanted background.

Week Ending 14/5/17

For half of this week, I updated the project documentation, and spent the other half working on the hologram effect, I skipped earlier in the project. I achieved this effect by importing and resizing 8 individual framed photos of myself in front of a green screen and utilised Photoshop's timeline ability to animate stills into sequence. This made the head appear as if it was slowly spinning around clockwise. I then placed the sequence into After Effects and colour graded the footage to give a blue, glowing effect, commonly seen on a perceived hologram. Finally I made the effect display out of the main characters phone.

I plan on finishing this effect off next week, and add similar 'glitching' effects as overlays to the final footage.



Hologram Effect – The original image (before) being placed into Photoshop in sequence. I adjusted the image's saturation, glow and applied a wave warp effect to achieve the desired hologram look.



Weeks Ending 28/5/17 (Retreat Week)

During weeks 32 and 33 of the ongoing project, occurred the school retreat. Aside from participating in the three day 'break', the school provided time both in and out of classtime to work on major projects. Within this time I completed majority of the edit of my major project finishing edits 1-3, and beginning work on the 'final edit' within After Effects and ultimately Premiere Pro.

As I shot most of my project on an anchored tripod, I altered the film's position and scaling values to add movement to the scenes as well as have added effect overlays.

This week was much needed, providing me with a solid amount of time to sit down and focus purely upon the project. At this point, I consider the editing process of the short film as completed, where my final steps for this component will be the rendering and reviewing process which should be finalized in the coming weeks.

EDIT 1	21/05/2017 10:40 AM	Adobe After Effects P...	4,626 KB
EDIT 2	12/05/2017 9:49 PM	Adobe After Effects P...	6,249 KB
EDIT 3	25/05/2017 2:09 PM	Adobe After Effects P...	6,833 KB
EDIT FINAL	28/05/2017 3:38 PM	Adobe After Effects P...	28,866 KB

The Editing Process –

Accompanying are the four main files of the projects editing, breaking the scenes into three main parts, followed by a final edit.

Weeks Ending 4/6/17

Receiving the notification for the 'digital presentation' assessment, I filmed this component and began editing within this week. I utilised an old microphone I found to complete the necessary voiceover and imported it into After Effects to increase the sound quality and utilised key light (Chroma Key) effects.

The Major Project has been left aside this week, and requires one final scene for render. This cannot be completed thanks to the school's part in ordering printer ink. I have edited 4 out of the 6 minutes required in the digital presentation and will continue this into next week.

Weeks Ending 18/6/17

Within the past two weeks, I spent a large amount of time preparing the Project Management, Design Mods and Problem Solving task + Video Presentation.

The final 'Behind the Scenes' video concluded perfectly on the six minute maximum time allotment and the folio has played a large part in my completion of the Gantt Chart sections required in the final Project.

Also, after rendering my 'Behind the Scenes' video almost 4 times, I feel much more confident now in this process and should help when I go to render the final major project. As from previous research, the H.264 format is the most practical for this form of video. I plan on beginning the render of my final project within next week, after the submission of the assessment task.



Weeks Ending 25-2/7/17

Concluding the final two weeks of Term 2 at school, the printer ink for the CD printer finally arrived allowing me to add the final scene and finish the editing of the major project video. This prevented me from progressing anywhere with the video side of the task for about four weeks! However, as rendering was the only step required after editing the video, this did not impact too largely on the other plans of the project as rendering could be undertaken anytime.

Also, as projected in the Gantt chart, I have spent time researching the creation of a dynamic menu screen for the project's CD. I have been unable to create this yet due to Adobe software issues and am worried that I may not be able to complete this aspect. I have begun creating a website in place of this in the meantime.

Looking into this terms holidays, its the final chance for me to re-assess all sections of the project folio and hopefully allow me the chance to render the project. I have seen estimated render times of the project being up to 76 hours (3+ days) and the holiday break should let me leave my computer untouched for this period of time.



```
/* line 1, /Users/alexanderedwards/Desktop/thomas/main.scss */
* {
  box-sizing: border-box;
}

/* line 5, /Users/alexanderedwards/Desktop/thomas/main.scss */
body, html {
  margin: 0;
  padding: 0;
  background-color: black;
  background-image: url(BG.png);
  background-position: top;
  background-repeat: no-repeat;
  background-attachment: fixed;
}

@keyframes zoomIn {
  0% {
    margin-top: 12rem;
    margin-bottom: -12rem;
    opacity: 0;
  }
  100% {
    margin-top: 0rem;
    margin-bottom: 0;
    opacity: 1;
  }
}

/* line 30, /Users/alexanderedwards/Desktop/thomas/main.scss */
main {
  width: 900px;
  margin: auto;
  background-color: #000000;
  color: white;
  min-height: 100%;
}
/* line 36, /Users/alexanderedwards/Desktop/thomas/main.scss */
main h1 {
  margin: 0;
  width: 900px;
  text-align: justify;
  font-family: 'Roboto Mono';
```

Weeks Ending 16-/7/17 (Term 2 Holidays)

During the Holidays, I reflected what I had proposed on the Gantt Chart and re-evaluated much of my folio and documentation including; research and justification, finance plan, weekly summaries, WHS and Design Mod sections.

Alongside completion of these parts I have also Started the rendering process. Making the change to only edit in After Effects has had a large impact on rendering times, estimating 76+ hours to render in full in Adobe Media Encoder. So, to avoid this very long render time (over 3 days) I decided to break the render down into parts, rendering 1 minute at a time of 4 minute 30 second clip. These minutes take around 3 hours to render.

Returning to school, I plan to stitch the rendered clips together in Premiere Pro which will finish the video aspect of the task and undertake a final project evaluation, ready to print the folio in week 42.

Weeks Ending 16/7/17 (Term 2 Holidays)

During the Holidays, I reflected what I had proposed on the Gantt Chart and re-evaluated much of my folio and documentation including; research and justification, finance plan, weekly summaries, WHS and Design Mod sections.

Alongside completion of these parts I have also Started the rendering process. Making the change to only edit in After Effects has had a large impact on rendering times, estimating 76+ hours to render in full in Adobe Media Encoder. So, to avoid this very long render time (over 3 days) I decided to break the render down into parts, rendering 1 minute at a time of 4 minute 30 second clip. These minutes take around 3 hours to render.

Returning to school, I plan to stitch the rendered clips together in Premiere Pro which will finish the video aspect of the task and undertake a final project evaluation, ready to print the folio in week 42.

Weeks Ending 30/6/17 (Final Weekly Summary)

Within the past weeks of being at school I have tied up many of the 'loose ends' of the project requirements.

I completed the final evaluation of the project, hoping to have assessed most of the important stages and finishing; finally printed the folio off and placed into an A3 folder. I have also been preparing the other parts of the project such as the folder and CD elements, getting them ready for submission.

I have also read and ticked off all requirements in the project marking requirements, making sure the folio is within the 40 page limit and the project video within the 10 minute maximum.

The final job to do is to attach my student barcodes, hand it in and get the project marked.



Design Modifications

#1 – Direction to use Green Screen Footage vs On Location (Week 2, 17/10/16)

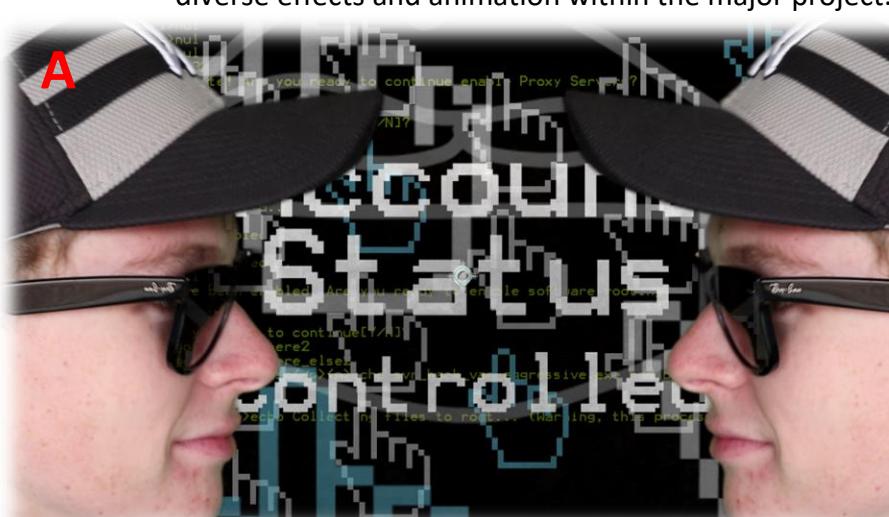
This was probably the biggest design change to the project as it set in motion many of the other design changes that occurred.

Very early into the production of the project I made the decision to film my major project in a controlled environment inside rather than to film on location. Originally, my major project was going to take place within a gaol cell, but encountered numerous problems including;

- 1) Having difficulty visiting the location of the gaol
- 2) Being unable to move my main props. (table) to the location for use
- 3) Having lack of funds to 'hire out' a gaol cell for the filming period.

So with these complications in mind, I decided to invest in a Green Screen and learn how to use chroma key effects. This proved to be much more convenient to the latter as it was much cheaper to purchase green fabric and I could film my project whenever I desired, in the comfort of my own home, making it very easy to re-shoot footage if necessary. Plus, within the first couple of weeks of the project, very heavy rain made me question if the weather would have an impact on filming on location.

But, the main reason I decided to use a green screen setup was so that I could maximise the amount of special effects used within the project. It would be very hard to animate the background of a video without chroma keying effects available. The only negative involved in using the green screen is the cost (which ended up being around \$50) and the careful setup of lighting features to ensure the keying effects worked.



Before and After Using Green Screen Effects.

The use of the Green Screen allowed for many more diverse effects and animation within the major project.



The Green Screen Setup I used within the Project

#2 – Rotoscoping Changes (Attempting to Rotoscope 3000 individual Frames) (Weeks 13, 2/1/17)

Beginning the project, I knew I wanted to produce some very ambitious scenes. However, the rotoscoping turned out to be too ambitious. Early on within the project (Weeks 15-16) I realised that rotoscoping every lyric to my chosen track was far too much of a chore and was having a large impact on the production of other parts of my project.

Completing the rotoscope, it would take around 1 hour to hand draw, 100 frame by frame stills of my brother's mouth, and going from this formula, would take over 30+ hours to complete the rotoscoping sequence in its entirety. This was when I made the design change to only rotoscope the chorus to the Project's track, as the sequence could be repeated multiple times, like the chorus, and save me from doing more unnecessary work. Reducing the number of rotoscoped frames down to 1000, (which was still quite a task) it became a much easier process and allowed me to move on earlier to editing the rest of the project.



Adobe Animate Timeline –
Taken towards the end of my rotoscope sequence. Evidence of completing 900+ frames!

#3 – Design Change (Font Choice) Weeks 20, 20/2/17

Whilst only a seemingly small modification, I decided to change early on, the font used within the major project. Originally, I was going to use B&W, 'Arial Black' typeface with a condensed spacing for the Project's video, but after reviewing the footage, did not appear to fit with the theme I was attempting to create. In place of the font I chose to use 'Terminal' typeface which suited much better for the project, but was somewhat more difficult to read than Arial. So, I came to the conclusion to use a combination of both, where Terminal is visible in my short film, and Arial used in folio headings.

Aa - Arial Black (Condensed)

Terminal
abcdefghijklmnopqrstuvwxyz
0123456789

Design Modifications

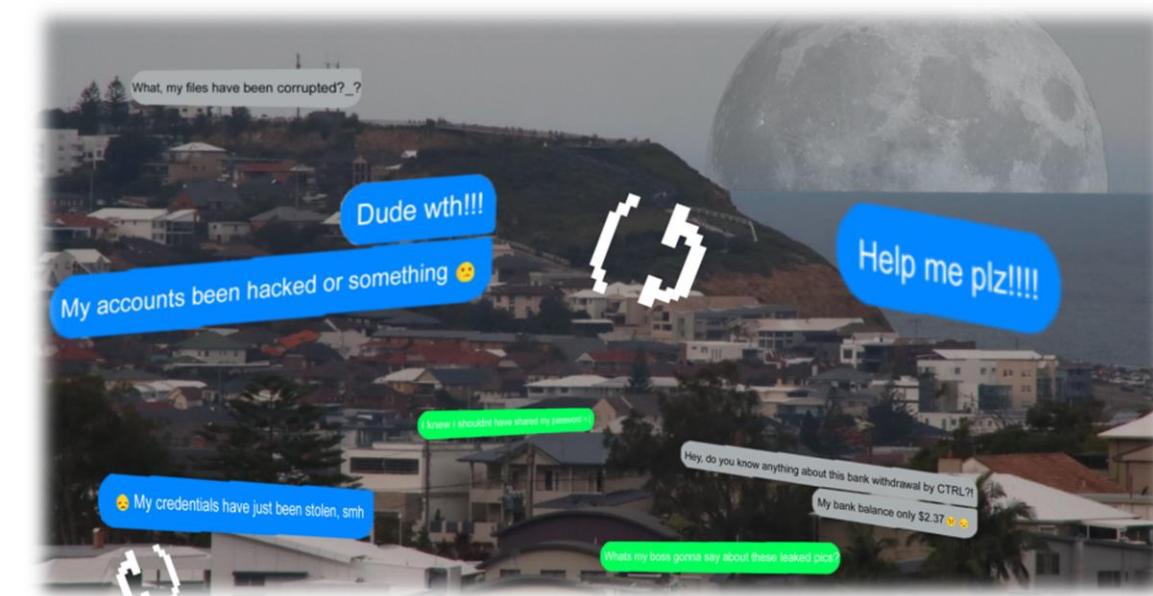
#4 – Choice to use After Effects as Primary Editing Tool (over Premiere Pro) (Week 24, 27/3/17)

In about Weeks 24-25, I wanted to move my clips edited in After Effects, and place them into sequence order in Premiere Pro. Since the beginning of the project, this was my plan as from previous research, I found that rendering from Premiere Pro took significantly less time rendering time than After Effects.

So, in about Weeks 24-25, I went to move my clips but found that Premiere Pro did not support many the complex effects I had added in After Effects. I was faced with a serious problem, which would mean I would have to either render and compress each scene in After Effects individually, which would take a inordinate amount of time in order to be used in Premiere Pro OR use After Effects as my primary editing tool. I went with the latter as I was already quite familiar with the After Effects workspace, and it was much easier to use the same program throughout the entirety of the project.

However, this does not mean that I avoided the use of Premiere Pro entirely, as it has been advantageous in some parts over After Effects, including the manipulation of the project audio.

**Whilst I have not rendered my Project yet, I have already planned for a large amount of rendering time which I have set aside before the project hand in date.*



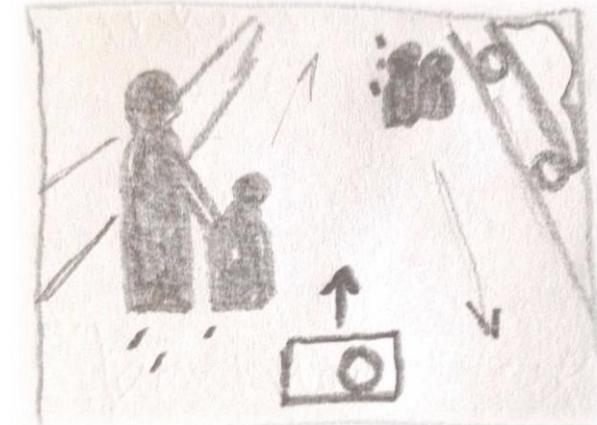
#5 – Timelapse Trouble (Change of Location for Timelapse) (Week 26, 3/4/17)

(As spoken about in the video presentation) I had one scene left to film, and this was a Timelapse over a busy part of the local area. Originally, I wanted to setup the camera in a public walkway for the span of a couple of hours. This was much easier said than done as after making a visit out to the foreshore area, I was ‘kindly’ told that I was not allowed to film in the area and was asked to leave.

In replacement of this shot I had hoped to capture and link in to my story, I played with the idea of shooting a Timelapse over the town, which would give almost the same effect as before, now focusing on houses instead of people. This proved to be much easier as I could undertake this Timelapse (which usually takes long periods of time) closer to home.

Then modifying my original design, I had multiple text messages appear over the busy city.

**See the video presentation for a much more detailed description of this design mod.*



14) Timelapse over local area.
Text bubbles of people's thoughts
Sot-T-lepsc, Screen Elements + Settings

The Final Product – The combination of both my Timelapse scene and message bubbles as it appears in the project.



Evaluation Matrix of Key Decisions

Decision	Week	Outcome
Green Screen vs On Location	Week 2, 17/10/16	Positive , boosting production time and project special effects.
Decision	Week	Outcome
Rotoscoping Changes	Weeks 13, 2/1/17	Positive , being less of a hindrance on project time management

Decision	Week	Outcome
Font Choice	Weeks 20, 20/2/17	TBD, Current feedback is positive
Decision	Week	Outcome
After Effects vs Premiere Pro	Week 24, 27/3/17	Negative , Render time was much larger than expected
Decision	Week	Outcome
Time-lapse Change	Week 26, 3/4/17	Positive , Allowed for longer, more detailed timelapse

WHS Practices

Potential Risks and or Hazards: Repetitive Strain Injury (RSI) in Back and Neck (3 + !!)

Ways to Decrease Risk: Ergonomic Chair (4 - !!)

RSI's in these parts of the body are the most common in the workplace when sitting behind a desk. To avoid a strain injury in my back, I am frequently using an ergonomic chair when using my computer for extended periods of time. The chair also provides a headrest for the back of my head, providing me with extra support. An RSI is an example of a long-term illness and is very important to undertake the correct measures now, to avoid any injury's from occurring in the future.

Arm Rests can impede on keyboard operation and must be avoided to ensure correct typing posture.

Potential Risks and or Hazards: RSI in Legs (3 + !!)

Ways to Decrease Risk: Allow for leg clearance and angle of 90° (4 - !!)

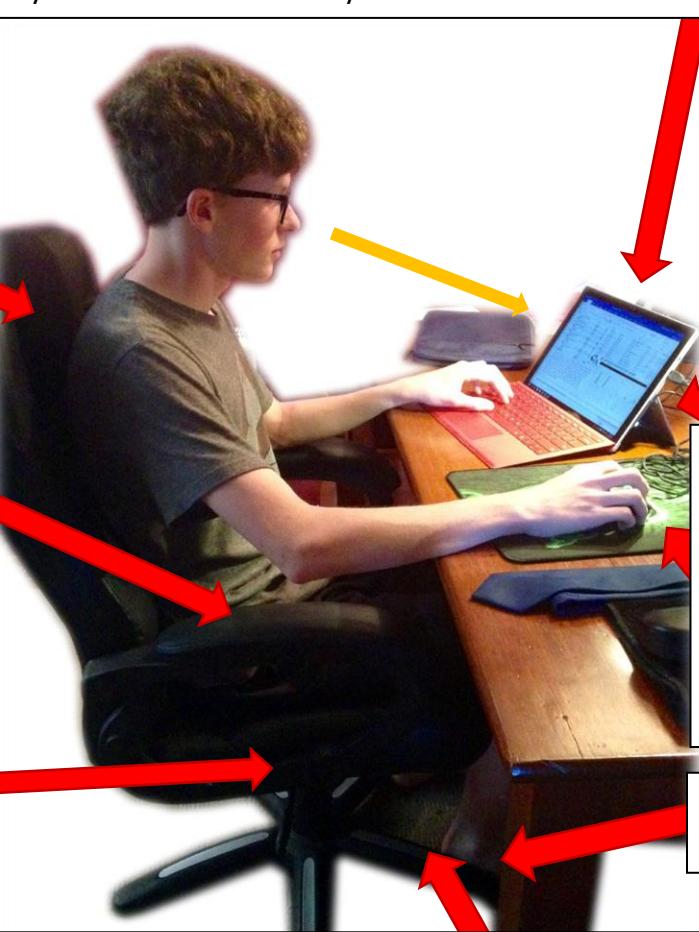
The chair also allows for the adjustment of the seat height, providing me with the ability to place feet at a 90-degree angle to my legs, on the ground. Beneath the desk should also allow for free leg movement without obstruction. To improve upon this, I could also purchase a leg rest.

	++ very likely could happen any time	+ likely could happen sometime	- unlikely could happen but very rarely	-- very unlikely could happen, but probably never will
⊕ Kill or cause permanent disability or ill health	1	1	2	3
!!! Long term illness or serious injury	1	2	3	4
!! Medical attention and several days off work	2	3	4	5
! First aid needed	3	4	5	6

Potential Risks and or Hazards: Eyesight Issues, RSI in Neck (1 😞 +)

Ways to Decrease Risk: Adjust Seat height with Monitor height. (4 - !!)

The Surface Pro 4's small size has deprived the tablet from any form of adjustability when it comes to aligning head and monitor height. A good WHS habit is to have line of vision on a 38° angle to the computer monitor. To overcome this, I have had to carefully adjust the seat height, not to throw out leg and arm height to correct this safety issue. Similarly, to a secondary keyboard, I have been plugging my device into a secondary monitor which has its own adjustable mount.



Potential Risks and or Hazards: Carpel Tunnel in Hands (3 + !!)

Ways to Decrease Risk: Use of Ergonomic Keyboard (4 - !!)

Unfortunately, the computer keyboard that I am using that comes equipped with the Surface Pro is not ergonomically sound. Your hands should curve over the keyboard, providing extra support to the wrists but that is something Microsoft have had to sacrifice for a portable computer. To overcome this poor working habit, I have regularly plugged in a secondary keyboard when at home to circumvent this issue.

Potential Risks and or Hazards: Carpel Tunnel in Hands (3 + !!)

Ways to Decrease Risk: Use of Ergonomic Mouse (4 - !!)

The computer mouse I am using (Razer Death Adder 2013) has been specifically designed for the use of right handed computer operators. I have taken advantage of the mouses curvature shape and assistive buttons on the side to provide me with the correct posture of my hand.

5 Star Base Support allows for 360° movement to properly align seat with desk.



Potential Risks and or Hazards: Bad Posture (3 - !!!)

Ways to Decrease Risk: Adjust Seat Angle and Camera Height (4 - !!)

The chair I am using allows for the adjustment of the seat sitting angle, permitting me to align the back of the seat with the curvature of my back, providing me with a better sitting posture.

Also, the camera tripod I was able to use, whilst very tall, did not quite provide the best camera angle height to shoot footage. After circumventing the issue by making use of the camera's swivelling screen to prevent myself from craning my back at the camera, I soon realised the tripod height could be adjusted. This allowed me to stand upright whilst continuing to view and capture footage.

Above are examples of the most important WHS safety practices I put into use whilst undertaking the project. Whilst most of my practices comply with current regulations, there were some actions which needed to be changed and I evaluate them above.

Also, I have rated each practice against the Hazpak Assessment Matrix as to how bad WHS practices can affect in the long-term (see numbers)

Brightly Lit Workspace, to avoid diminishing of eyesight due to computer screen brightness.

Presentation Skills and Techniques

Skills used during the Project

Listed are all the skills used, whether it be video or folio related, in the project...

Microsoft Word 2016

- **Text Manipulation**- Bold, Italics, Underline, Colour, Size, Spacing, Condensing, Font type, Alignment
- **Grammar**
- **Bullets** - Both Points and Numbers
- **Paragraphs** – Indents
- **Images Manipulation** – Size, Positioning, Styles, Layout
- **Document Manipulation** – Saving, Converting to PDF
- **Graphing** – Tables, Pie Charts

Adobe Photoshop CC

- **Magic Wand Tool** – Selecting, deselecting objects to manipulate images.
- **Opacity**
- **Text Manipulation**- Bold, Italics, Underline, Colour, Size, Spacing, Condensing, Font type, Alignment
- **Timeline** – To create animated screen icons and GIF's
- **Brush Tool** – Creating TV icons
- **Gradient Tool** – Creating Gradients for images
- **Manipulating Colours** – Colours, filters (used for image of the world globe).

Wacom Drawing Pad

- Used to **Draw** Rotoscoping sequence
- Assist in Photoshop images

Microsoft Excel 2016

- **Gantt Charts** – Excel Formulas for calculated days, filling cells, manipulating text and colours
- **Financial Plan** – Excel Formulas for total costs, Creation of Tables and Bar Graphs from data, Creation of Pie Charts from data

Adobe Animate CC

- **Rotoscoping Sequencing**
- **Frame by Frame (Animation)**
- **Motion Tweening**

Adobe Illustrator CC

- **Pen Tool** – Used to create TV icons
- **3D paint bucket Tool** – used to colour TV icons

Adobe Premiere Pro CC

- **Colour grading** – making footage slightly darker/bluer than previously filmed
- **Editing** Slight changes to final video
- **Audio Manipulation** change audio levels slightly

Other Software

- **Adobe Media Encoder** – Used to render all aspects of the project
- **OBS** (Open Broadcaster Software) used for screen recording

Presentation Components

- **Burning** project to Compact Disc
- **Designing and Printing Graphic** to CD
- **Website** (coded using HTML and CSS)
- **Printing Folio** in A3, double sided in colour. Placed into a folder **USB** for most compatible Project copy

Hardware

(See Research Selection and Justification Section)



Assessment and Evaluation

Idea

Perhaps the most important topic to evaluate was the shifted original idea I had in mind for the project.

Prior to undergoing the development stages, I had planned for my 'short film' to still touch on the topic of hacking, but take place in a gaol cell incorporating more dialogue driven scenes. Due to transport constraints, I scraped the idea for the setting and decided to go with Green Screen based effects to simulate an environment. From criticism on my acting skills I also decided to replace dialogue with a backing track which added to the project's story. This is how my project idea evolved and became something much different than originally intended. Evaluating these design choices these modifications were very beneficial in the long term, especially when trying to maximise the amount of visual effects by using a Green Screen.

Time Management (Video)

Judging from my time management in past Multimedia projects, I was very conscious around completing tasks on projected days and using the Gantt Chart as a tool.

In terms of the video; by beginning work on my animated screen elements and rotoscoped sequence in Term 4 2016 and the Christmas holidays, long before I had even started filming the video provided me with a helpful advantage come the later stages of the project. In this Christmas break time, I had hoped to film most of my short film but due to the lack of resources (Camera, Tripod and Green Screen) I was unable to make a start in capturing footage. Thanks to spending my time elsewhere whilst waiting on these items to be purchased, little time was wasted and I was well on schedule with the project.

About two weeks into Term 1 2017 (two weeks after my projected time of completion) I began filming. Whilst this may appear as lost time in comparison to my Gantt Chart, by spending copious amounts of time researching on camera angles, techniques and the best settings to use to capture footage, I eliminated any possibility for the need to refilm any scene. Having had rushed the filming component, I may have ended up with wasted time spent re- capturing unusable footage. This period disallowed me from repeating the process.

After the filming period, I dedicated myself about 6+ hours each week (3hrs midweek, 3hrs on a weekend) to editing the project. By slowly editing the video piece by piece I hoped to avoid having to edit in extended amounts of time in the very late stages of the project (days before the hand in date) and avoid rushing any part of the film. I did not want to diminish the final quality of the project due to simple time constraints which could be managed before they become a real issue.

After about 12 weeks of intensive editing, I can successfully say I finished with almost a Term to spare. But just as I finished editing out the video, we received a new task which required a Behind the Scenes film to be produced. This heavily delayed my final render of the project and my own computer's performance did not help either. It was in the final weeks of Term 2 that I was able to

start rendering. To think if I had not started my project so early, I may have not been able to render my project at all!

Rendering lasted about a week. I first attempted to render out the whole 4 minute project however after an estimated 76 hour+ time of render (almost 3 days) I unfortunately had to devise another method to speed up this process. I knew that my Surface Pro's performance capabilities were not that favourable when compared to other PC's but I had not foreseen that it was going to be so slow. I first tried to render the project through the school but due to lack of help and access in altering school PC settings, was unable to complete the render. I then tried to acquire help from a friend but that was also taking too long. The hand in date was fast approaching and I needed some way to render. After about a wasted 3 weeks (in terms of the video component) I decided to break the video down into 1 minute chunks, rendering over 5 consecutive days taking about 5 hours per render and eventually spliced the clips together in Premiere Pro. The video was complete.

Evaluating my time; I am glad, looking back that I started creating the video so early on. In comparison to my peers in the later stages of the project, seeing that they were struggling with finishing their own edits and rendering times affirms my decision to start the video component early.

Time Management (Folio)

In comparison to my periodic editing for the video, my folio's completion was much more sporadic.

As seen on the Gantt Chart; the first task required by the school expected us to complete or have completed a draft for all sections of the folio by the due date within Term 4 2016. Past that date, I left much of the folio untouched until the final Term of the Project's due date (Term 2 2017). In hindsight, I believe that a much more progressive approach may have been more beneficial, however having had juggled both the video and folio elements simultaneously, new challenges may have eventuated.

Coming to the final weeks before the Project's submission I had completed the editing process of the video and began taking a periodic approach to finishing the folio. I had already started most sections thanks to the first assessment task and most sections only needed some basic additions and a review.

I can easily say I invested almost the same amount time editing the video as I did in the folio but ensured that the video editing took priority as this was worth more marks in the major project marking guidelines.

Skills Learnt

My main intention of the major project was to learn and showcase as many skills as was possible given the project's bounds. (See Presentation Skills and Techniques section for detailed list of used skills).

Evaluating the number of skills used within the project; I managed to use a wide variety. In terms of the most notable skills, I attempted within the video; rotoscoping, chroma keying, motion tracking, time remapping, perspective corner pinning, frame by frame masking and adding character offsets and wave warp effects, just to name a few.

Assessment and Evaluation

I would like to think I hit the brief in terms of the amount of skills required for the video element.

Outside of the video, I have applied a lot of my own knowledge as well as a combination of new material to create a ‘professional folio’ and website, as well as create my own artworks, develop a high level of communication with my peers, talk to previous students and spend many hours researching.

Finishing up the Project, I can point out a lot of things I would do differently next time around, including simple things like saving the project content and compositing it in After Effects. By undergoing a long term project like this, I have been able to further develop and learn new skills which would be very useful, if I am to pursue a career in the media industry.

Hardware Constraints

One of the biggest problems I faced throughout the duration of the project was the limitations of my own computer. As majority of the film was completed outside of the computer labs within school hours or outside of school altogether, the only tool available to create the project was my Microsoft Surface Pro 4 tablet (addressed in the finance plan).

Due to financial constraints, I do not own a high end personal desktop computer and was left to edit and render the entirety of the project on an i5 processor and 8 gigs of ram. This was more than enough for the first few months but after the tablet began dealing with 14,000+ words and multiple images in a Word document and motion tracking in After Effects, the smooth continuity of my project began to drop. I often spent minutes between editing waiting for my tablet to cool down or return to the normal refresh rate.

I have included this evaluation because I needed to address the lack of 3D elements in my project. 3D was something I had intended for as stated in my statement of intent and after completing some tutorials in Blender, I had realised the inability to really create any 3D elements whilst being able to use my computer fluently. If I am able to upgrade to a better computer in the future, I hope to learn how to build 3D character models and incorporate 3D animation into upcoming projects.

Financial Plan

For the duration of the project, I had originally concluded a \$300 budget, looking at previous student examples, which would allow room for the software costs, green screen materials and printing and folder costs etc. But this was soon overlooked when I was unable to obtain a camera with slow-mo. capabilities (60fps). This became a necessity for the project as without a camera, the project would lack many visual elements I had proposed in my Storyboard and soon became a necessary cost included in the finance.

Adding the camera; the total cost for the project was just shy of \$1,500 but disregarding the camera costs, the project just exceeded my projected \$300 goal, costing a total of \$337. How’s that for budgeting?

Assessment and Evaluation of Final Project

Comparing my final product against the originally intended project statement, the outcomes satisfied most of the areas I set out to achieve. Within the project I was able to combine a wide range of medias, include editing of raw footage, add frame by frame animation, create cinematic techniques and use green screen technologies to produce, what I would like to think, a short film of high quality.

I was able to keep a log of all of the events I completed and included screen recording in the ‘Behind the Scenes’ video. I used Gantt Charts to manage the project and completed well over 70 hours worth of work within school hours. I balanced my time effectively both in and out of school and judged project completion dates accordingly. I underwent a large amount of research which helped with the overall control of the project, knowing well before the types of issues that could arise when using a specific software or hardware. I completed many weekly tutorials, drafted a storyboard. Re-drafted a storyboard and evolved my idea into something which became very topical in the year of 2017.

In the audio visual, I combined the use of raw footage and green screen technologies to create a virtual world for the main character of the video. Through both known and unknown software I manually crafted by hand, art and visual effects all within the project’s bounds.

Overall, I think the interesting topic and my motivation to complete the project was what kept me on track. I know that my work is far from the next James Bond but I hope it provided a theatrically interesting experience for my audience. From being fairly new to animation before undertaking the project, I feel it has developed my skills in both using software and operating hardware components as well as help me use new presentation skills and techniques, practice capturing footage and even learn how to better communicate amongst my peers.

‘Above all else, I hope that you are able to see my complete passion and efforts I have put into my project, and hope it has provided an insight into the importance of digital security.’

IT Multimedia

Major Project¹⁷

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