# EDITING VIDEO

Film, Theatre & Best Practices

# WHO AM I?

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- Filmmaker and Theatre Technician at Star Theatres.

- I have a Bachelor of Creative Arts (Screen) from Flinders University.

- I work full time at Star Theatres and freelance film.

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# AREAS COVERED

- Making short films in class

- Shooting live performances

- Recording sound

- What you'll need

- Best practices

- Other tips

# PREFACE

- The sky is the limit when it comes to film.

- This presentation focuses on best practices for schools.

- Focusing on filming in class as projects and filming live performances.

- There are hundreds of options when it comes to these areas.

- There is always more to learn.

- The "best" practice changes every year with new technology.

# FILMING SOMETHING

Where do I start?

# SHOOTING A FILM

- Can be done on many different devices:

  - Phones

  - "Handycams" (consumer level video cameras)

  - DSLRs (digital still cameras)

  - Professional Cameras

It doesn't matter where your footage comes from, most editing programs can handle the formats of recent cameras.

# CLASSROOM FILMS

- Recording films in class is going to be best on "Handycams", "DSLRs" and "Phones".
- They're simple to use and quick.

# FILMING LIVE PERFORMANCES

- "Handycams" and "Professional Cameras" are best for this.

- DSLRs normally have limited recording time until they automatically stop. This is due to a legality that allows them to still be called "still" cameras and not "film" cameras.

- Phones have limited features and internal space.

# QUICK FILM TIPS - FOCUS

- Auto-focus has come a long way and isn't really a problem for a class project.

- However if you're filming something like a performance for marking, it can be quite important.

- Turning on manual focus on your device is highly encouraged, particularly if it's a wide shot of a live performance.

- Theatrical lights going on and off can trick auto-focus and make it go in and out.

- A slightly out of focus image that is consistent, is more acceptable than a imaging constantly going in and out of focus.

# QUICK FILM TIPS - BRIGHTNESS

- Also know as "aperture", "iris", "ISO", or "F-stop" (F4, F2.8, etc).

- These are all different things, but they all control the brightness of your image.

- "Blowing out" is when your image is too bright and things start turning white.

- Once again this happens a lot in live performances. If these settings can be found and set manually, you'll have a much better image.

# QUICK FILM TIPS - DARKNESS

- Once again you're looking for "aperture", "iris", "ISO", or "F-stop" (F4, F2.8, etc).

- This is a problem when your compressing an image by making it a smaller file.

- Movie files such as "Mov", "Mp4", "AVI" all have codecs as well. These have names like "H264" and "DNxHR" and make the files smaller by discarding unnecessary information. Often, darkness suffers the most from this.

- When you've seen videos with large square blocks of colour, this is that compression.

- The camera loves the light is a very relevant expression.

# QUICK FILM TIPS - TRIPODS

- Having a tripod steadies your shot.

- That's pretty obvious, but it can really make things look better.

- It takes a lot of skill and/or expensive equipment to shoot handheld.

# FROM CAMERA TO COMPUTER
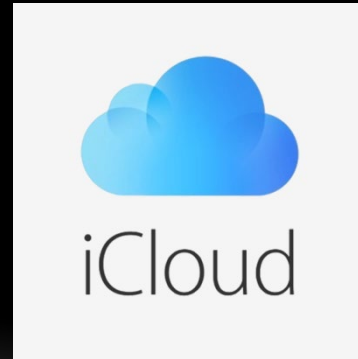
The first step to editing

# TRANSFERRING YOUR FOOTAGE

- Most cameras record to SD cards. You'll need a SD card reader, normally plugged in via USB, to transfer files to your computer.

- Phones are plugged in via a cable. These cables are different for each phone, but they are the same cable you plug in your charger with.
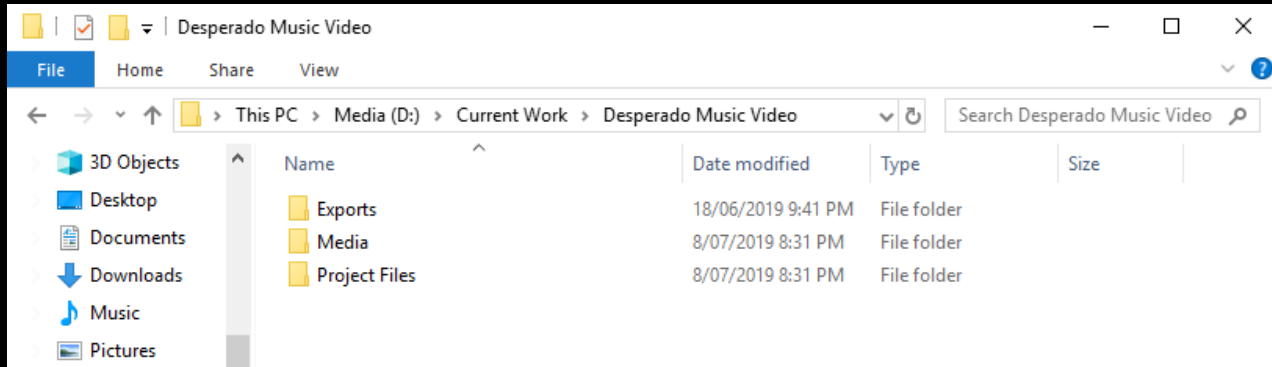
# TRANSFERRING YOUR FOOTAGE

- Online storage is becoming more common place and some phones save all their photos and video to the cloud.

- If you are having trouble transferring with a cable, sometimes this is an easier option.

# GOOD FILE STRUCTURE

- Once your files are on your computer, you'll want to keep them well sorted.

- This is very important once you start dealing with lots of files, and is just good practice.

# STORAGE

- Video files are large, sometimes you'll need more than a internal computer hard drive to store them.

- There are three types of external storage:

    - USBs (these are too small and can't be used to edit off of).

    - Portable HDDs
    These are smaller, but more expensive.

    - Power HDDs
    These have more space and cheaper.
    They also take less power away from your
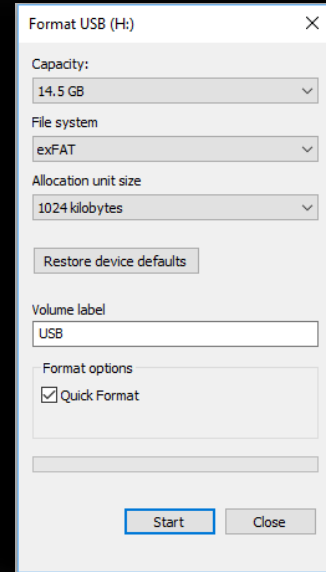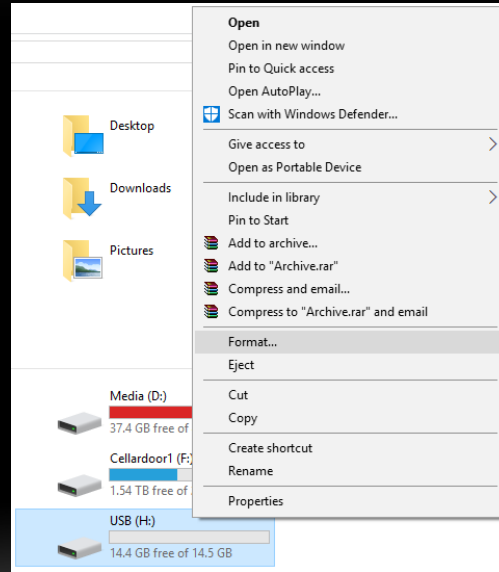    computer as they don't rely on it for power.

# FORMATTING YOUR STORAGE CORRECTLY

- Have you ever had an issue of a large file not fitting on a USB or hard drive?

- Or has your USB not been recognised in an Apple Mac or Windows computer?

- That's because there are different formatting options for these operating systems.

- Why? Because big companies don't always play nice with each other.

- So what can you do?

- The answer is format to exFat, which no one seems to know about.

- Please be aware that formatting erases all your data, and needs to be done before you put files on your storage device.
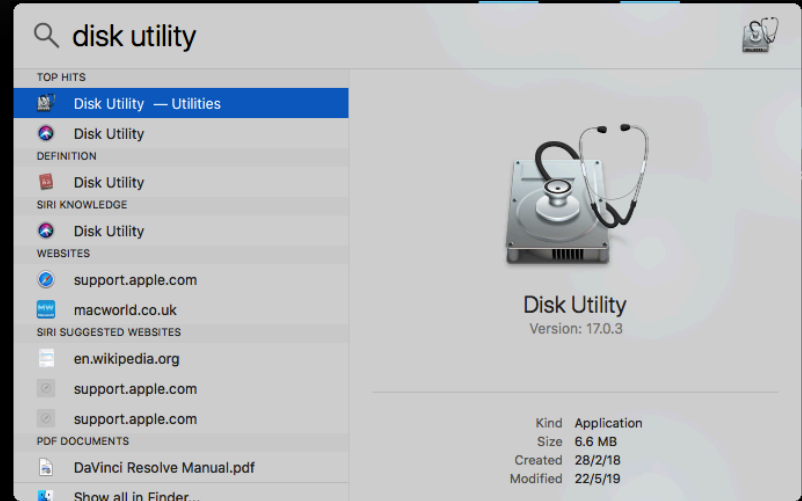
# FORMATTING FOR WINDOWS & MAC

## - HOW TO ON WINDOWS

- Go to "My Computer".

- Right click your USB drive.

- Left click "Format…"

- Choose the options:

  - File system: exFAT

  - Allocation unit size: 1024 kilobytes

  - The others do no matter.

  - Click "Start" to format your device.

# FORMATTING FOR WINDOWS & MAC
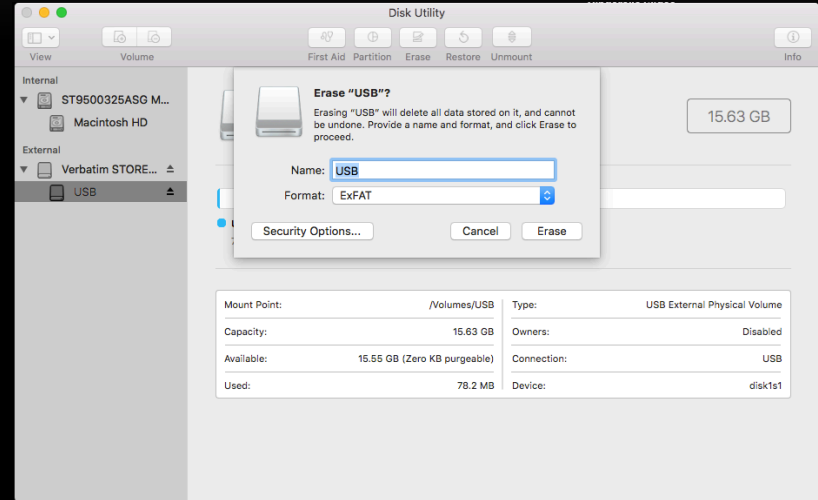## - HOW TO APPLE MAC: PT1

- Press "Command Space" to open Spotlight.

- Type in "Disk Utility".

- Select "Disk Utility — Utilities" from the results.

- Disk Utility will then open.

# FORMATTING FOR WINDOWS & MAC
## - HOW TO APPLE MAC: PT2

- Left click your USB under the "External" options on the left.

- Choose the options:

  - Name your USB.

  - Make sure the Format is exFAT.

  - Click "Erase" to format your device.

# RECORDING SOUND

Doesn't the camera do that?

# GETTING BETTER SOUND

- Internal sound on a camera (no matter how expensive) is always localised to the camera.



The sound of this person walking their dog will be very quiet.

# GETTING BETTER SOUND

- You can fix this by also getting a close up.

- The camera will be closer and you can use the audio from this in the wider shot.

- However because of this limitation internal microphones are rarely any good, which isn't great for the general user.

# GETTING BETTER SOUND

- And what if you can't get closer?

- For example: live performances.

- Sound is often the most overlooked part of film and is the most important.

- People will overlook bad picture, but bad sound is highly unpleasant to experience.

# GETTING BETTER SOUND

- External recorders.

- This is the Zoom H4n ~$400

- It can have 2 microphones plugged into the inputs at the bottom.

- And it has a great microphone in built to the top.

- It's rugged and simple to use.

- Can also be useful for other classes, such as recording and playing back pronunciation while learning languages, or the obvious uses in music.

# GETTING BETTER SOUND

- Placing a recorder at the front of your show will record better sound.

- As the microphone is pointed away from the audience, you will also get less unwanted noise and lower volume clapping (which can overpower microphones).

# EDITING SOFTWARE

Which one? What's the difference?

THERE ARE A LOT — WHICH ONE?

# PROFESSIONAL EDITING SOFTWARE OPTIONS

- Adobe Premiere (Windows/Mac)
  - Most used editor worldwide (outside of the top end)
  - Easily integrates into the adobe ecosystem

- DaVinci Resolve (Windows/Mac)
  - There a free version (you're unable to use a 2nd screen or work in anything higher the HD)
  - The best for colour grading

- Final Cut (Mac)
  - Used to be the most used editor
  - Great all in one package

- Vegas Pro (Windows)
  - The quickest to edit in
  - Very in depth sound editing options
  - A great choice for YouTube creators
  - Great all in one package

- Avid Media Composer (Windows/Mac)
  - Top of the line editor used on most Hollywood films
  - Very complicated
  - Not recommended unless you're highly experienced

# SIMPLE EDITING SOFTWARE OPTIONS

- Free Editors (Windows/Mac)
  - Shotcut (simple)
  - DaVinci Resolve (advanced)
  - Hitfilm Express (middle ground)

- Editing on Phones
  - Hundreds of options!
  - Powerdirector (best pick Android)
  - LumaFusion (best pick iPhone)
  - Premiere Rush (Android & iPhone)
    Might be the best choice to keep things simple across a class

- Vegas Pro (Windows)
  - The quickest to edit in & great all in one package
  - Very in depth sound editing options
  - A great choice for YouTube creators

- Final Cut (Mac)
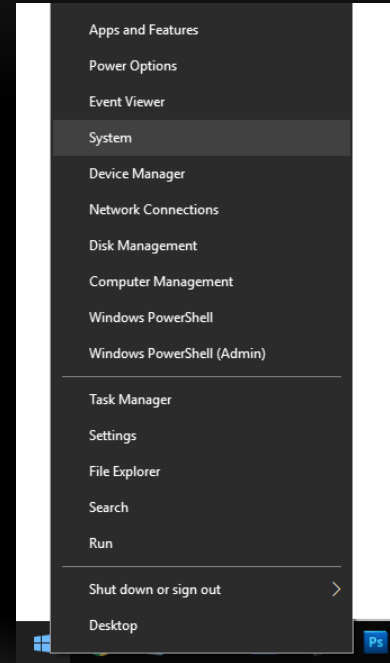  - Used to be the most used editor
  - Great all in one package

- Windows Movie Maker & iMovie
  - Very clunky editors without a lot of features, but if you just need a simple editor, these are fine

# IS YOUR COMPUTER POWERFUL ENOUGH?
## - WINDOWS

- Editing needs a bit of horsepower & Windows computers can be wildly different.

- You need to look for certain specifications. Most editors have their recommended specifications on their website. You can find out *your settings* by right clicking on the "Windows" button on pressing "System".

- I recommend a Core i3 or higher (i5/i7) with at least 8GB of RAM.

- A decent graphics card is also required. There are too many graphics cards to list recommendations and laptops have their own variants. So this might take some Googling.

# IS YOUR COMPUTER POWERFUL ENOUGH?
## - APPLE MAC

- Macs have standard hardware specifications.

- The general rule is:
  If you're filming with recent a camera, you'll need a recent computer (within 3-4 years).

- Older macs can handle older and smaller files, but they might slow a little.

# SOUND ON THE COMPUTER

The basics

# PROGRAMS

- Most video editors will have enough of the features you'll need for sound.

- Sometimes you'll need something more.

- Audacity is the best free audio editor on the market and is a great place to start if a student is interested in sound specifically.

# WHERE CAN I GET ROYALTY FREE MUSIC?

- There are 3 great places to get royalty free music online, but they do require a credit.

- Incompetech: https://incompetech.filmmusic.io/

- Bensound: https://www.bensound.com/

- Purple-Planet Music: https://www.purple-planet.com/

- They all allow you to browse by genre and feel.

# WHERE CAN I GET ROYALTY FREE SOUND EFFECTS?

- Sometime you just need a sound effect, but recording it is too difficult or time consuming.

- These are your best options:

- Freesound (requires an account, but is 100% safe, huge library): https://freesound.org/

- Sound Bible (great quality, small library): http://soundbible.com/

- FindSounds (searches the internet for sounds, not always royalty free): http://www.findsounds.com/

# HOW TO EDIT

The basics
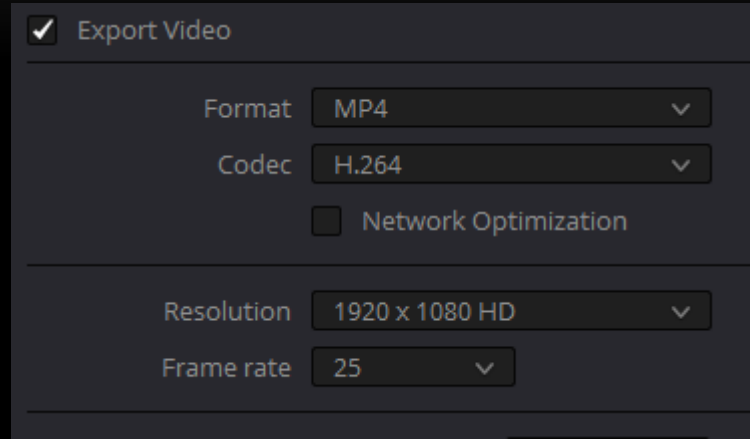
# WHAT DOES AN EDITOR LOOK LIKE?

# MEDIA POOLS

# THE TIMELINE

# PREVIEW WINDOW

# FINISHING YOUR VIDEO

- When exporting your going to want to use common file types to make sure they work on all computers.

- "MP4" is the most widely used files extension and "H264" is the most used compression codec*.

- Australia's standard is 25 frames per second.

- You're going to want to look for these options when exporting your projects.

☑ Export Video

Format    MP4 ⌄
Codec     H.264 ⌄
☐ Network Optimization

Resolution    1920 x 1080 HD ⌄
Frame rate    25 ⌄

*Codecs compress videos to more manageable sizes by discarding unnecessary information. YouTube uses H264 as it is the most efficient.

# VIDEO RESOLUTION

- The meaning of HD has changed over the years.

- HD means 720 pixels high.

- FULL HD means 1080 pixels high.

- The width has changed as well due to a war between film and TV, but I won't get into that.

- We also used to record pixels that weren't square (mostly on tape), which is all kinds of confusing. This changed the width 1080 and 720 pixel high videos because of pixels being stretched out.

- There was also 1080p and 1080i. This differentiated between progressive (720p) and interlaced (720i) recorded footage.

- Progressive footage saves every frame.

- Interlaced footage saved half a frame, then the other half the next frame. This saved space when recording footage and is the what DVDs use. It has to be de-interlaced or looks like this:
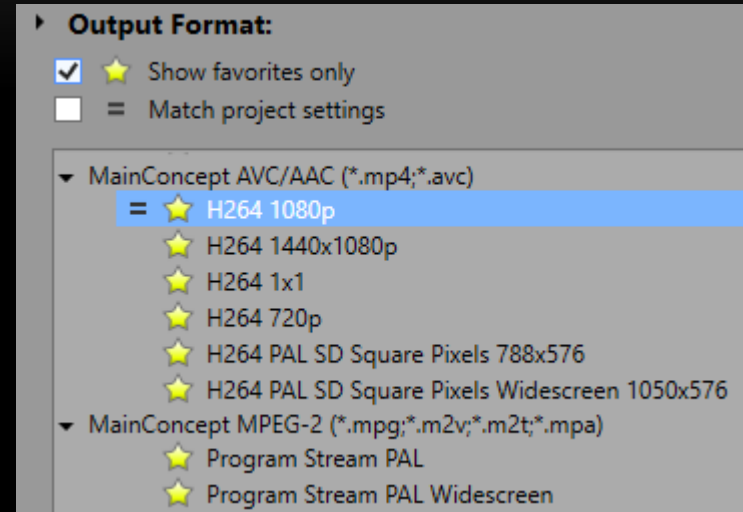
# VIDEO RESOLUTION

- Thankfully stretched pixels and interlacing have mostly gone away.

- We now have new resolutions, such as 2K, 4K, etc.

- 2K = 2000 pixels high. 4K = 4000 pixels high. These numbers aren't exact (and can range from 3840 pixels to 4096 pixels for 4K), but it's a much simpler naming convention.

- What you need to know is you don't have to export your video in anything that large.

- Either 1280x720 or 1920x1080 files are big enough, but always use progressive when the option is presented to you.

- 90% of Hollywood films are send out at 1080p (only a few at 2K), and they stretch fine on a big screen. Quality of your equipment is more important than resolution.

# EXPORTING YOUR VIDEO

- Most of the time you're going to want to export your videos as a Mp4 with a resolution of 1920x1080p pixels, at 25fps, with the H264 codec.

- While these files can be put on a DVD, sometimes it's better to export the right format for DVD if your editor has it.

- DVDs don't use square pixels and the size of those pixels are different all over the world. In Australia we use PAL. Which has a ratio of 1:1.456790123 in 16x9 widescreen & 1:1.0925 in 4x3 (which we don't use anymore). Luckily you don't need to know those numbers, just "PAL Widescreen".

- DVDs are MPEG files with a resolution of 720x576i, at 25fps, PAL Widescreen.



My most common exporting formats.

# TUTORIAL & DEMONSTRATION

Keep in mind all editors are different, but the principles are the same

# DELIVERING YOUR VIDEOS

For grading or to and from students

# SENDING FILES ONLINE

- Video files can be quite large and it's hard to send them over the Internet.

- Using services like Google Drive, Dropbox, and OneDrive make it easier.

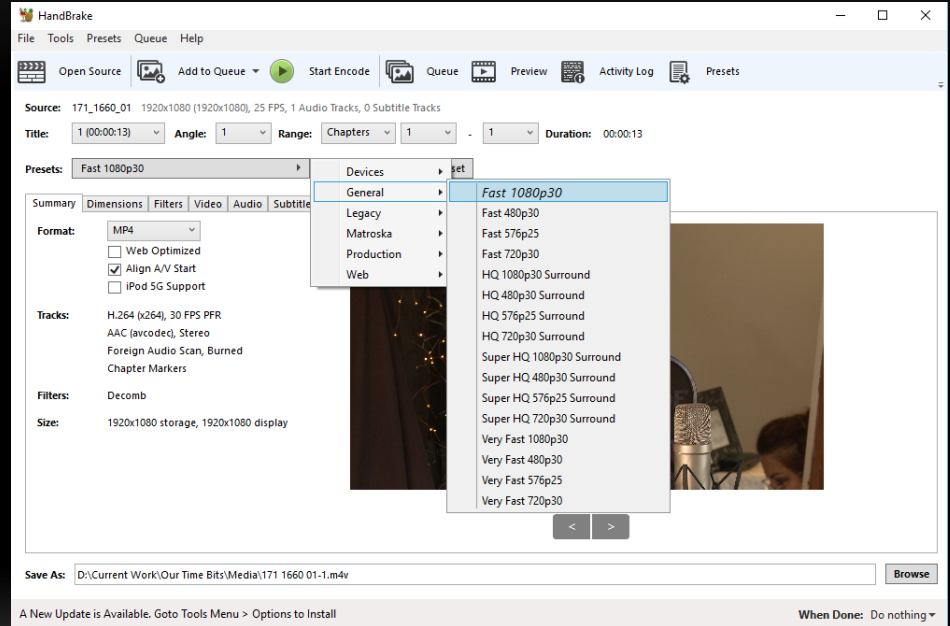- Simply upload them there, and send an email with a link to the file.

# SENDING FILES ONLINE

- YouTube is also an option.

- As minors are involved, make sure your video is set to unlisted (unsearchable) or private (which will require a password) to avoid them being found by the public.

# MAKING FILES SMALLER

- Sometimes you just want a smaller file or a different file type.

- Or your editor isn't accepting the type of files your camera is recording.

- For this you need a program like HandBrake.

- HandBrake is a free program that converts video from one type to another.

- Default conversion file is a MP4 H.264 at 30fps. While we normally use 25fps in Australia, this won't be a problem. So to keep it simple, convert to the default unless it's not working for your needs.

- To make files smaller than that, pick Fast 480p30 or try other options.

# QUESTION TIME

Go on, don't be shy!