Basic Guide to Video Editing

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Introduction

According to Sandvine (Schwartz, 2023), the video format is responsible for 65% of global data traffic on the Internet. For the first time, Netflix has overtaken YouTube as the single app with the highest traffic, while TikTok, Disney+ and Hulu are among the top ten apps generating the largest volume of traffic.

According to Sanvine CEO Samir Marwaha, "Video is almost at a point where it can no longer be considered as a standalone category, as it is now integral to conferencing, gaming, social networking, messaging and virtually every app that wants to drive interactions and engagement." Furthermore, with the expansion of the 5G network, the fifth generation of mobile networks, with speeds 10 times faster than the market's leading fibre-optic offers, video traffic and video production will account for almost 80% of mobile traffic by 2027 (Ericsson, 2023).

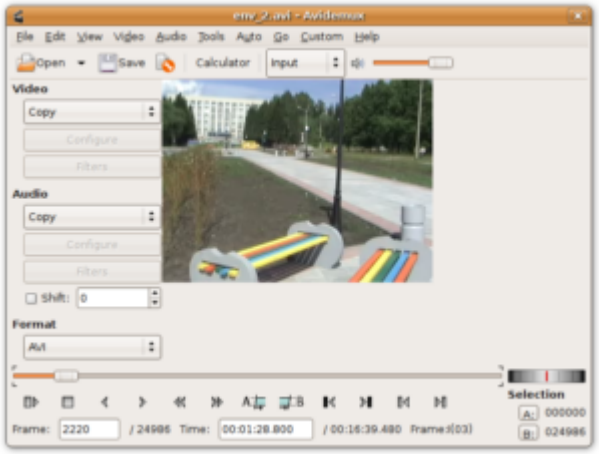
> Therefore, video is a **dominant format**, both for those who consume content and for those who produce it. As a result, it makes sense to consider oneself competent in the field of video production and creation in a world where technology is ubiquitous and increasingly user-friendly.

Broadly speaking, there are two types of video editing, based on the type of support used:

- **Linear or analogue editing**. In the case of tape, editing was done mainly with tape recorders – normally a player where the tape with the recorded images used to be inserted and a recorder where the editing used to be recorded. This is called linear because, while editing, it was necessary to record the images in an orderly fashion on the tape where the editing was done. If you wanted to change the order afterwards, you had to start again or cut the tape and join it together. In other words, it did not allow for free manipulation of the shots. Therefore, it required a very precise order when editing.

Source: Wikimedia Commons.

- **Non-linear or digital editing**. There have been several generations of these types of editing in line with technological developments, and this represented a breakthrough in the field of video editing with the digital revolution of the 1990s. This system meant a change in editing processes, especially with the introduction of new, higher quality video formats which also made it possible to work in a much more flexible and efficient way – by working non-sequentially with computers and, later, also with other digital devices, such as mobile devices. Among those first non-linear editing programmes, we see Avid Media Composer or Adobe Premiere, which are more oriented to professional work, and which have evolved at the same time as the technology itself.



Source: Wikimedia Commons.

Currently, some video editing software is already built into the system, such as Clipchamp (for Windows 1), iMovie (for OSX), and other free cross-platform video editing software can be installed, such as Openshot, Shotcut, Kdenlive, and OBS, among others.

Compact digital cameras (portable and easy to use), mobile integrated cameras, DSLR cameras, MILC (Mirrorless) cameras, GoPro cameras or those that produce 3D images allow image quality that leads towards video software capable of managing increasingly larger files within editing platforms. Innovations such as **editing in the cloud** with different people watching all the changes in real time, editing apps integrated to mobile devices, artificial intelligence (AI) and automatic learning have revolutionised the market, providing advanced tools and functionalities for professionals and fans of multimedia production. There is no doubt that video technology has been growing **exponentially** since the early 2000s in terms of affordability, ease of use and portability (Calandra and Rich, 2014).

According to Espinosa and Abbate (2005), editing a video consists of manipulating it to elaborate an **organised and coherent discourse**, with continuity. This involves selecting the previously recorded images and putting them one after the other, depending on what you want to explain, and elaborating a discourse. It also allows us to incorporate still images, music and sound, add digital effects, graphics and any other resource that allows for a finished audiovisual product.

Editing also makes it possible to correct or improve aspects derived from the recording to achieve better quality in the final audiovisual product. Some examples to this are audio and colour processing, adding filters, effects, transitions, etc.

Even so, it is essential to ensure that the minimum technical requirements are met during the recording of film material to ensure that all elements are captured in the best possible way from the start, thus facilitating the editing process and allowing for **optimal results**.

That is to say, if, for example, burnt images have been recorded because they have been overexposed to light, or if distorted or saturated audio has been recorded, these defects can be alleviated relatively effectively during editing with the new technologies of the programmes offered by editing platforms. Even so, it is preferable to avoid these problems from the moment of recording.

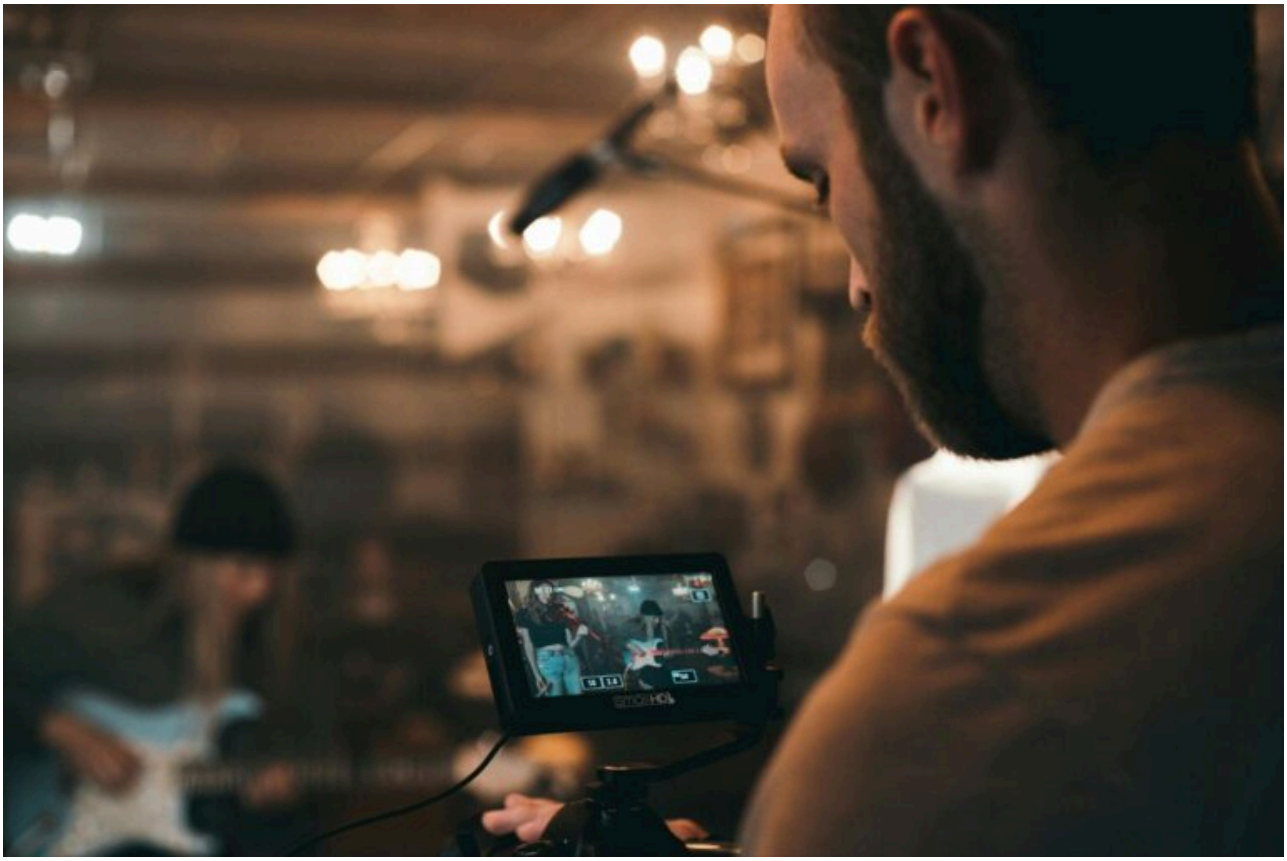
There are currently numerous **technological solutions** on the market for non-linear video editing. In this field, we can find a wide range of software, both with commercial and free software licences, as well as those oriented towards professional use, or other solutions designed for domestic or semi-professional use.

In the sections below, this guide gives you some recommendations for video recording. Further on, you will also find a series of technical aspects to take into account during the video editing process, as well as different video editing tools, both for desktop and mobile devices and online tools, and the main functionalities of some of these editors. We conclude the guide with different **recommendations** for publishing and sharing videos on the web.

1. General recommendations for video recording

1.1. Introduction

Before starting any recording, it is always advisable to have a plan. That is to say, we need to **clearly define** what we are looking for and what we want to record by taking into account the subject and what we want to show and explain. From here, we need a script and we need to decide which resources will be needed.



Source: Pexels.

Once this has been done, it is important to take into account some technical requirements in order to achieve an optimal recording, depending on the means available. In this sense, can find different examples of professionals on the Internet who have shared their criteria and knowledge so that any person, without previous technical knowledge or experience, is able to record a video suitable for its purpose, thus avoiding possible mistakes.

> For example, to record a video resource for the UOC's classrooms, very specific production steps are followed by the UOC's audiovisual production technical team: the script (*), **recording, sound equipment**, **lighting**, **video editing** and developing the **appropriate subtitles** for the final product. It is the result of teamwork, as Elisenda Díaz, project manager of the UOC's learning resources production team, explains.

Olga Bedrina, marketing producer at Jet Brains, which specialises in multimedia and online video production, offers a comprehensive guide with relevant examples on the wave video blog entitled, *12 Simple Tips for Making Your Videos More Professional*.

Taking these tips into account, as well as those provided by other specialists in the sector, some recommendations are proposed below.

> We recommend the following video by Nick Houchin with interesting tips for **planning** and **filming**:


My Favorite Way to Film a Sequence - The 7 ...
Visualitza ...
Comparteix
Mira a YouTube

1. General recommendations for video recording

1.2. Use a tripod

As cameras become smaller and lighter, they also become more unstable and more sensitive to movement. Although many of today's cameras are already equipped with **image stabilisers**, this is a common problem, especially in mobile devices. Therefore, whenever possible, it is advisable to stabilise the camera when recording to avoid shaking or unwanted movements, especially if you are planning to pan or do any other camera movements.

For more information on camera movements, see the following article.

Record with a tripod or a selfie stick (some models also incorporate the option of including a tripod). Alternatively, in case of emergency, you can also take advantage of some element of the environment that can help you to support the camera a little (such as a table, a chair or bench, a wall, etc.).

1. General recommendations for video recording

1.3. Record a variety of shots

A frequent mistake made by beginners is the tendency to **open up** the shot too much. In this sense, it is necessary to consider where the real interest of what we want to show is. If it is the details, then it will be essential to focus on showing them, especially if our video will be viewed online on services such as YouTube or Vimeo with low resolution for mobile devices or websites. In these cases, it will be viewed on a 640 x 360 pixel screen, a size that does not facilitate the observation of details in very general shots. However, video sharing websites now accept higher resolutions of 4K and 8K. For videos uploaded to Instagram, we should keep in mind that the aspect ratio should always be 9:16 (16:9 in landscape mode). More information about video specifications on social media can be found on this page.

Another common tendency is to record sequence shots, i.e. to press the record button and record **continuously** until you decide to stop filming. Although this is a cinematographic technique, we should keep in mind that doing it this way also involves a lot more editing work afterwards, unless we do it in a specific and very planned manner. That is why it can be very useful to play with a **variety of shots**, and thus make the editing work more agile. For example, we do an initial take of a general shot to set the location, and then record other types of shots in different positions and angles. This allows for more resources and more visual play during editing.

In this video, you can see some cinematographic examples with sequence shots.

In these cases, it is advisable to take the shots separately and not to use the zoom of the camera, unless it is absolutely necessary (*). Remember that you can **organise** the shots during subsequent editing based on the narrative you want to develop, i.e. it is not necessary to record them in order. As for zooming, it is important to bear in mind that digital zoom is not optimal, unless you have high-resolution equipment. It is also useful to know the differences between digital zoom and optical camera movements. Rather than focusing solely on aesthetic results, it is important to consider the expressive possibilities that camera movements allow.

It is best to shoot short takes with varied shots, and to take into account close-ups and detail shots.

1. General recommendations for video recording

1.4. Choose the resolution

When recording with the camera, it is important to take into account the **format or formats** with which the device you are using allows you to record, as well as its **resolution**. If you need a video with good image quality, then you should set the resolution to the maximum.

In the camera menu, you can find different options to select the format and resolution. Remember that image quality is linked to file **size**. Therefore, the higher the resolution, the higher the quality, but also the more storage space it will take up.

> Select the maximum resolution. Later, if you want to reduce it, you can always do so. Otherwise, we can't increase the quality if the video has been recorded in **low resolution**.

1. General recommendations for video recording

1.5. Control the light

This is an important aspect to take into account. We can find very bright or dimly lit places, as well as natural or artificial light.

To control the light, there are two concepts to consider: **white balance** and **exposure**. Nowadays, cameras have automatic settings that allow you to adjust the white balance and exposure, although it can also be done manually.

- When it comes to **white balance**, you need to know what refers to colour temperature, and what is directly related to light. When you do white balance, you tell the camera what is white, so it adjusts the other colours based on that.

> Normally, cameras have different **default settings** to choose from within the white balance, taking into account whether we are shooting in daylight, cloudy conditions or indoors. The most common ones are "Daylight", "Tungsten", "Fluorescent", "Cloudy", "Flash" or the automatic mode itself: "AWB" (Auto White Balance), which is recommended for beginners. When using the automatic option, the camera determines the colour of the light and makes the correction based on this predetermined calculation. Although it is not 100% accurate and reliable, it has been improved quite a lot in the latest digital camera models.

- **Exposure** is also an aspect to take into account, and consists of adjusting the amount of light the camera lets in. In video cameras, this is the iris (similar to the diaphragm in cameras).
  There is also the "Gain" option, which allows the light signal to be electronically amplified when it is very low. The problem is that its use can generate a lot of image noise (grain).
  Another element that can allow us to control what is **overexposed** (i.e. what is burning out the image) or **underexposed** (too dark) is the Zebra pattern, which allows us to test the image and see what is burnt out or which areas the light is not reaching so that we can correct it.

In any case, to avoid burnt or backlit images, it is advisable not to shoot directly into the light, but rather the light should come from behind or to the side of the object or subject in focus. If natural light is used, it is important to bear in mind that it can change unexpectedly, for example, depending on the **weather** (e.g. sudden cloud cover), so adjustments should be made to minimise its effect on image quality.

In the case of **night images**, we should keep It in mind that shooting at night is always more complicated, depending on the possibilities of the camera and our knowledge of how to set it correctly.

> If you have little experience or knowledge, it is recommended that you use the automatic settings and avoid places that are too dark or night conditions.

1. General recommendations for video recording

1.6. Watch out for the sound

When recording video, audio quality is as important as image quality. It should be noted that, in most cases, the internal microphones built into low to mid-range cameras tend to be of poor quality, and often also record **noise generated by the camera itself**, as well as **external noise**.

To avoid this, we can use an **external microphone**, if possible, and shield it from the wind with a microphone screen. More economical solutions can also be found, such as adding a piece of foam or a sock to the microphone to alleviate annoying air noise. Often, very inexpensive options for windshields for sound recording equipment are also available on the market.

If the camera does not have a microphone input, or does not have a microphone, we can also use an **external recorder**. One possibility is to use the recorder of a smartphone or tablet, as most of them are equipped with one.

Later, during the editing process, we will need to add this separately recorded audio to the video and synchronise them. To this end, and to facilitate this synchronisation task, we can make an indicative sound signal during the recording, such as a finger snap, to know the starting point.

If interviews are to be held, it is also recommended to **avoid noisy places** if possible.

> Use a tape recorder or microphone, and, in the case of interviews, avoid noisy places if possible.

1. General recommendations for video recording

1.7. Recommendations for recording with a mobile device

1.7.1. Introduction

Smartphones and tablets have some specific characteristics that need to be taken into account in addition to the recommendations provided in the previous section.

Source: Pexels.

1. General recommendations for video recording

1.7. Recommendations for recording with a mobile device

1.7.2. Clean the lens

Although this recommendation applies to any camera, smartphones or tablets are devices we often touch throughout the day. This makes the camera glass more vulnerable to **fingerprints**, **grease** and **dust**.

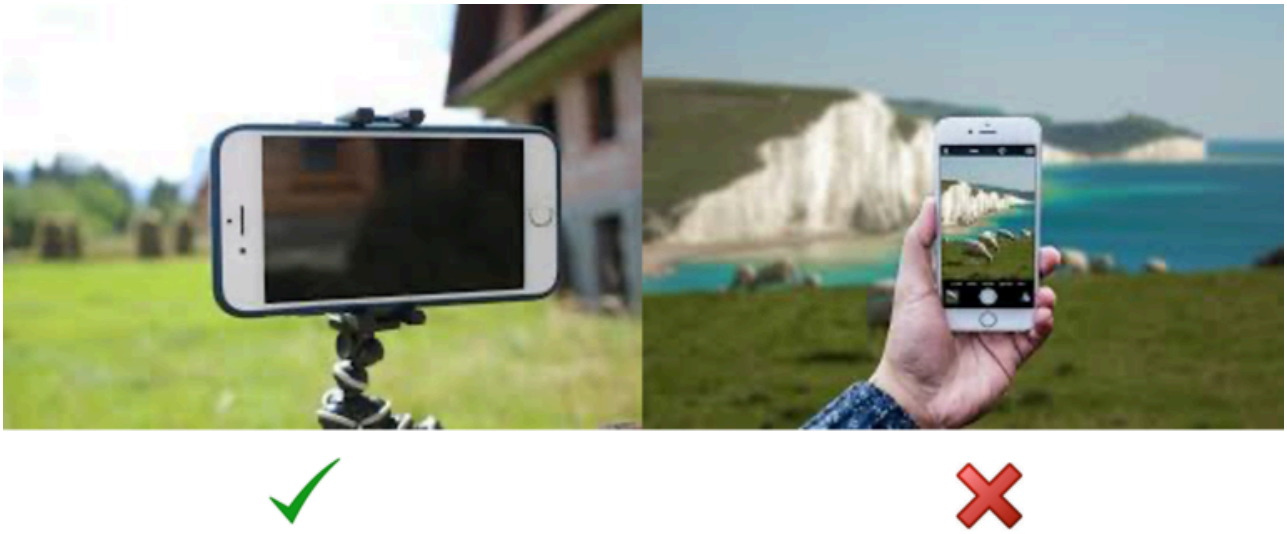
> Use the soft part of a piece of clothing, or a microfibre cloth. This will allow you to leave the lens clean and ready for sharp recording.

1. General recommendations for video recording

1.7. Recommendations for recording with a mobile device

1.7.3. Record the video horizontally

You should **avoid** shooting in portrait with your smartphone or tablet. Recording in portrait position is a fairly common tendency with the smartphone, as we use it in this position for most purposes.



Source: Pixabay.

We should keep it in mind that, when recording with a video camera, we don't normally record vertically, unless you specifically want to do it that way. This would not be a problem if the video was only displayed on smartphones. **The problem arises when the video is displayed on other screens**, such as **computers** or **televisions**, which are horizontal, and currently in a 16:9 screen ratio. Therefore, when a vertically recorded image is displayed, black stripes appear on the sides, as the proportions are inverted. This is why it is recommended to record horizontally with mobile devices.

The result of recording incorrectly can be seen in the following examples:

Horizontal (recommended)

Vertical (not recommended)

It is also important to look for a reference line on the **horizon** so as not to tilt the recording and avoid a crooked view.

Set the device horizontally and look for a reference line on the horizon.

One exception is **Instagram.** This platform, aware of the diversity of its users' preferences, allows two different versions of video recording, portrait and landscape. This makes the platform more inclusive for all types of users, reflecting the current dynamics of online content consumption. Therefore, whether you prefer to watch videos in full-screen landscape mode, or fit them on your device's screen in portrait mode, Instagram has tried to adapt to the viewing preferences of its users. **Instagram**'s vertical posts are limited to 60 seconds for reels and 15 seconds for stories. Both types of content are meant to create fun and entertaining content and are perfect for companies that want to showcase their products or services in an innovative way. Facebook, TikTok and Snapchat also have the option to share their content in vertically recorded videos.

1. General recommendations for video recording

1.7. Recommendations for recording with a mobile device

1.7.4. Other recommendations

Be careful with the digital zoom

Smartphones and tablets incorporate digital zoom, but when applied to a recording, care must be taken because, unlike optical zoom, digital zoom does not move the lens, but simply digitally enlarges the image, with a **significant loss of quality**. Although it uses interpolation to enhance it, this often results in a pixelated or blurred image.

One approach is to use gentle movements, approaching or moving away carefully.

> Avoid manipulating the digital zoom.

Battery and internal memory

Recording video involves using the storage capacity of the smartphone or tablet and consumes a lot of battery power. Therefore, before recording, it is necessary to make sure that there is enough space available in the **internal memory** or **memory card** and that the battery is sufficiently charged.

> Charge the battery and make space In the internal memory or memory card. If possible, make sure you have an **external battery** and an **additional memory** card.

Stability

When recording videos with a mobile phone, be careful with the movements during the shots. Avoiding sudden or rapid **movements**, as these can be disturbing when viewing the image. For example, if you have considered taking a panoramic shot and you do not have any support (such as a tripod), you should maintain your balance and move your body slowly, with the smartphone held firmly in your hands, so that the sweeping movement during playback does not cause the viewer to feel dizzy. A good option for portability is to carry a mobile phone **tripod**, which is a support specifically designed to hold mobile phones while recording a video or taking a picture.

> Make slow and controlled movements. One way to achieve stability is with an optimal **body** position, with the legs placed slightly apart.

Audio

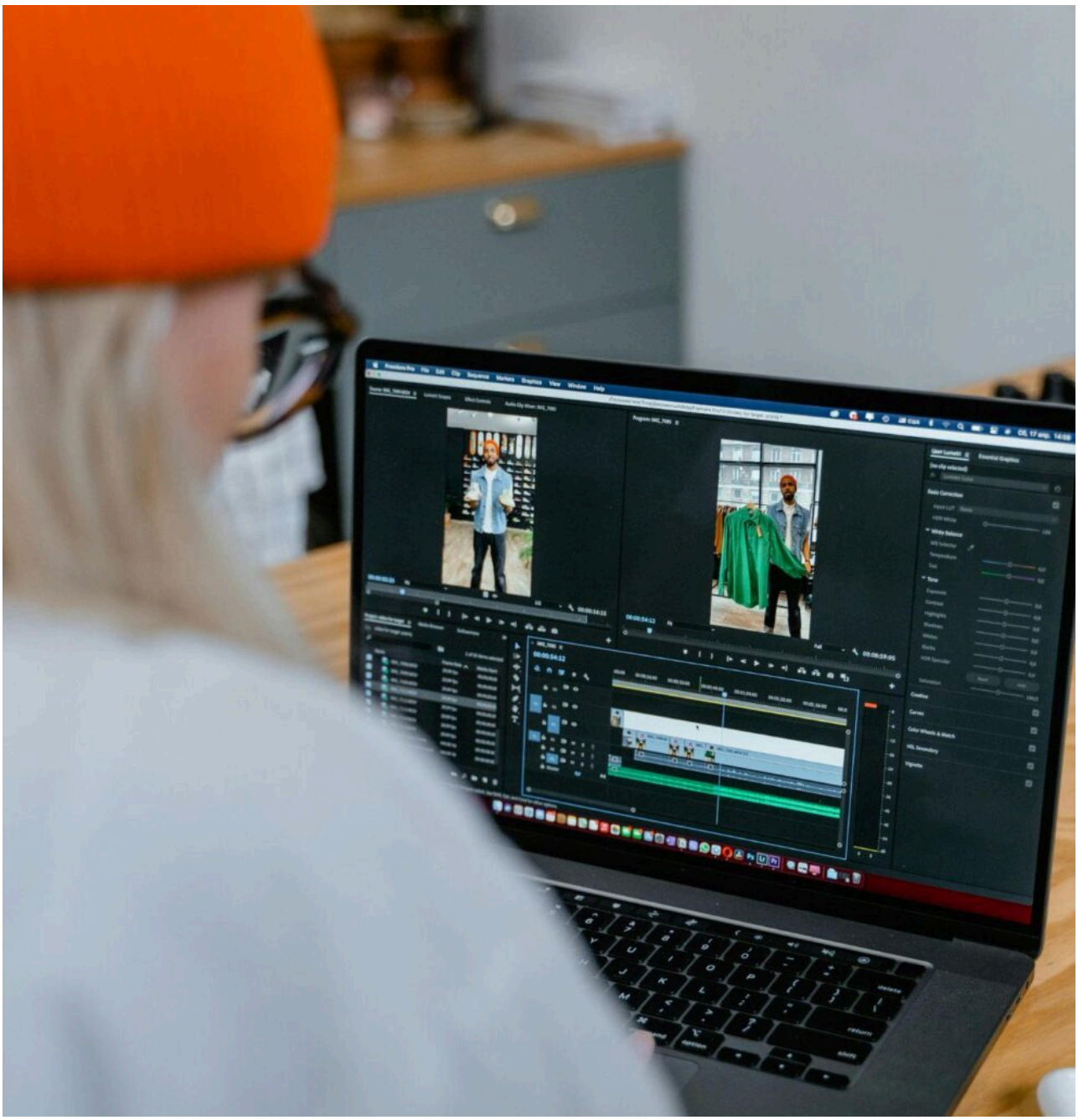
We have to make sure that the microphone of the smartphone or tablet is not being blocked with our hands.

> Be aware of **where the microphone is located** and be careful not to touch it or cover it during the recording.

2. Technical aspects to consider in video editing

2.1. Video format

When talking about **formats** in digital video, concepts such as codec or container are often mixed up, which can create confusion, since we generally understand format as the type of file or extension. However, in the case of video it is a bit different.

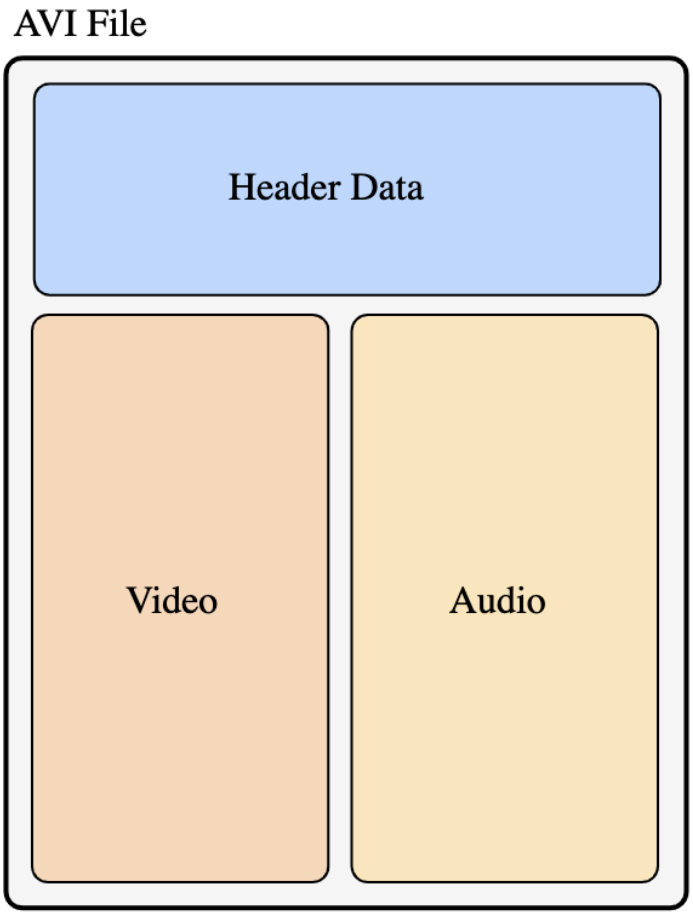


Source: Pexels.

> It is important to have an idea of these concepts, because they may be the reason why a video cannot be opened in the editor, why it cannot be uploaded to a platform or why it does not play correctly in the player. Therefore, the software in question may not be able to read what is in the file, because it cannot **interpret the codecs**. These are common problems for video users.

We will go deeper into these aspects later, but, as an introduction, let's keep in mind that a video file is made up of a **container**, which we could define as a box or package that keeps the content of this file, which is mainly audio, video and text data. In order to open all that is inside in an efficient way, some encoders/decoders of video and audio signals are necessary. These are the **codecs**, which serve, among other things, to interpret this information and also to **compress and decompress** all this encapsulated information.

All this is part of the video file. And the video format would be the structure of this AVI file or container, which is a multimedia container format and a Windows standard introduced by Microsoft in November 1992.



Source: Wikimedia.org.

We will look at these concepts in a little more detail below.

2. Technical aspects to consider in video editing

2.2. Compression, codecs, containers and video players

2.2.1. What is video compression?

Video compression refers to the **reduction** of the amount of data used to represent digital video images and is a combination of image compression and temporal motion compensation. This process reduces space by eliminating information that is redundant or of low perceptual impact, but may also result in a loss of quality.

2. Technical aspects to consider in video editing

2.2. Compression, codecs, containers and video players

2.2.2. What is a codec?

As we explained at the beginning of this section, the codec allows the encoding and decoding of video, audio and text content, and allows compressing and decompressing all the information kept inside the container file. In other words, it is a **specification on how to encode a type of information and then decode it**.

As for video codecs, among the most common are:

- **H.264**. Also known as AVC and widely used to export videos and upload them to different web platforms. Created in 2003, it has been evolving, producing high quality video while keeping the bitrate low. H.264 is one of the most current video formats and has a simple design structure and a flexible format for mass use. H.264 is an ideal candidate for YouTube format or for any web streaming tool.

- **H.265 and VP9**. H.265 is a licensed codec, which means that you have to pay to use it. Its main competitor, VP9, is a royalty-free and open-source code developed by Google. This means that anyone can use the codec to compress their videos without a licence. In general, VP9 produces more consistent or more reliable streams, while H.265 (HEVC) produces higher quality video. H.265 is the first codec to support 8K resolution, making it an industry pioneer.

- **AV1**. An excellent alternative to H.265, AV1 is open-source and free of copyright. In other words, this is one of the best free video codecs available on the market. AV1's decoding capabilities are not yet fully integrated on a large scale, but its creators claim that it is 30% more efficient than its H.265 competitor.

- **DIVX**. It is known for being the first video codec that was used in the first films in DVD format to reduce the size and record the content on a CD. It provides images of similar quality to DVD while requiring less storage capacity. To view videos with DIVX, it is necessary to install decoders or codecs that almost always work with plugins. This format is now obsolete.

As for audio codecs, **AAC**, **FLAC**, **MP3** and **OGG Vorbis** are among the most popular.

2. Technical aspects to consider in video editing

2.2. Compression, codecs, containers and video players

2.2.3. What is a container?

As we have explained above, a container is like a **box or package** that keeps the content of a video file, which mainly contains audio, video and text data. These are grouped into a single file for the user's convenience.

The order in which this content is stored in this file is the specification of the container. There are different types. The following table lists some of the most common containers:

Container format	Description
.AVI	This format is one of the best known and most commonly used containers, mainly to store series, movies and other similar videos. AVI was released in 1992 and was undoubtedly the video export file par excellence, because it was fully compatible with Windows, Apple, Linux, Unix, etc. Currently, it is one of the most standard formats used with Windows. In terms of disadvantages, the memory used to store audio and video information is large. Another disadvantage would be the playback. As it is an old format, it has been updated with codecs, so older players can no longer read these updated formats and vice versa. It is also not suitable for streaming videos.
.MOV	This standard developed by Apple allows the transmission and playback of high-quality visual content on the Internet on both Apple and Windows operating systems. Quicktime comes with its own built-in player and has become a player that recognises most of today's video files since version 7.
.MP4	An MPG video format with global support. Low-loss audio and video compression makes it possible to easily download these files on a website. MP4 is capable of storing audio, video, subtitles, text and still images. It is the best choice for use on Facebook, Instagram, YouTube and Twitter.
.FLV (Flash Video)	Although this software format was extremely popular between 2002 and 2008 for creating animations, games and other interactive content on the web, it fell into disuse due to security concerns. Flash-based video players have become obsolete as web browsers no longer support Flash Player and have turned to other technologies, such as HTML5, for video playback.
.MKV (Matroska)	The MKV format is a format mainly used for movies, series and 3D content. It supports an unlimited number of picture, audio and subtitle tracks. The container is similar to MOV and AVI files, except that it has a much larger storage capacity. It is an all-in-one video format, although it has slightly less device and platform compatibility compared to MP4.

You have a complete guide of the characteristics of the media container formats that are mainly used to store or deliver digital video or digital audio content. To see which media players support which container formats, see the **media player** comparison table linked below.

2. Technical aspects to consider in video editing

2.2. Compression, codecs, containers and video players

2.2.4. Video players

A digital media player is a device that stores, organises and plays video, audio and image files.

To play videos, one of the most popular players is VLC Media Player, a free software which is capable of interpreting many types of video files. You can download it at this link.

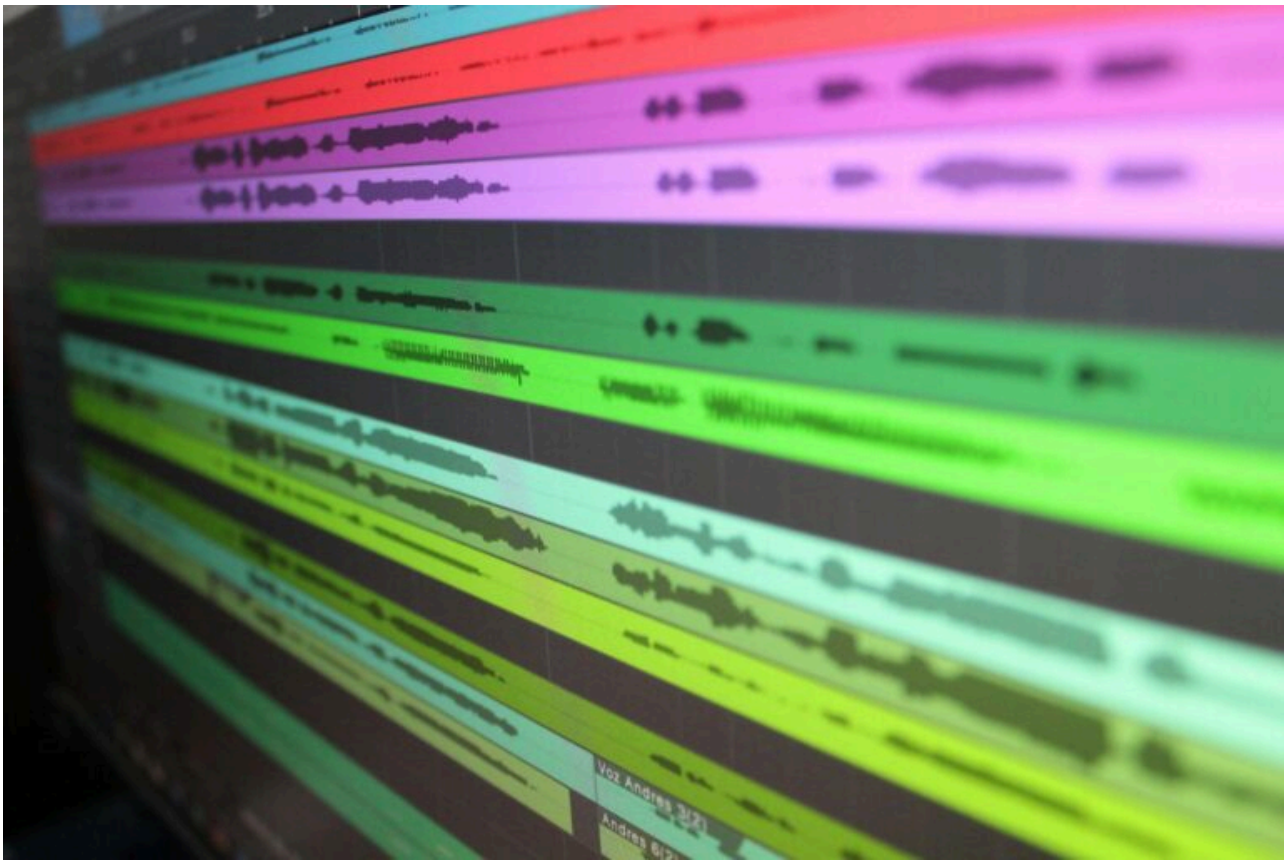
> For a more complete guide to the video players currently available, we recommend you to visit this link and see the guide provided by Target Video.

2. Technical aspects to consider in video editing

2.3. Video and audio converters

2.3.1. Introduction

A video and audio converter has the function of **converting** audio or video files from one format to another. Below are different free converters classified according to the different operating systems.



Source: Pexels.

2. Technical aspects to consider in video editing

2.3. Video and audio converters

2.3.2. Converters for Windows

In the Windows environment, we have a wide range of functionalities adapted to the user's needs with programmes that manage a wide variety of formats, including the most common ones, such as MP4 or AVI for video, and MP3, WAV or AAC for audio.

Here are the most important converters for Windows:

Format factory

Converts all file types. It has several options to choose the output format, and allows you to adjust the quality as low, medium or high.

> https://formatfactory.uptodown.com/windows

Video to video converter

Quite simple and intuitive. Supports more than 200 output formats, including the most popular ones: AVI, MPEG, MP4. MKK H.264, etc. It allows us to convert several files simultaneously.

> http://www.videotovideo.org/

Freemake video coverter

Very agile, with several input and output format options. In addition to converting, it also allows very basic editing (such as cropping or rotating the image).

> http://www.freemake.com/es/free_video_converter/

2. Technical aspects to consider in video editing

2.3. Video and audio converters

2.3.3. Converters for the Apple environment

In the Apple environment, it is essential to consider compatibility and quality to work with your system's native, such as MOV and M4V, since Apple supports a wide range of formats, such as MP4, AVI, MKV for video, as well as WAV and FLACO.

Below are the most popular converters on the market for the Apple environment.

Total Video Converter Mac Free

Integrates directly with iTunes and makes the process even faster and easier.

> https://itunes.apple.com/es/app/total-video-converter-lite-totally-free-to-convert/id520374433?mt=12

Handbrake

Allows you to add subtitles, create new audio channels and edit fragments or clips.

> http://handbrake.es/

Free video converter

Easy and intuitive, but no preview of the files before conversion. Therefore, you need to be clear about what you want to export. Allows you to convert several files simultaneously.

> https://videoconverter.wondershare.com/free-video-converter.html

You can find more tools related to video converters and their utilities at this link.

> To learn more about containers, codecs and converters we recommend visiting:
>
> - Codecs and formats
> - Video codec
> - Video encoding: The definitive guide

2. Technical aspects to consider in video editing

2.4. Basic settings during the editing process

2.4.1. Introduction

Depending on the editor that we decide to use, in addition to elaborating the audiovisual narrative discourse itself, we can also make **corrections or improvements** to both the image and the sound during the editing process, as well as add different filters, effects, transitions between images (by cutting, fading, chaining, curtains, etc.) and graphics.

It is recommended to use all these elements in a measured and justified manner so that they reinforce the audiovisual discourse of what we intend to communicate, correct defects derived from the recording, **without abusing** effects, filters or transitions.

It is also important to take into account the continuity or raccord and to be careful not to pass over the axis line.

More information on raccord can be found in this Wikipedia article and in this explanatory video:

The most common adjustments are explained below.

2. Technical aspects to consider in video editing

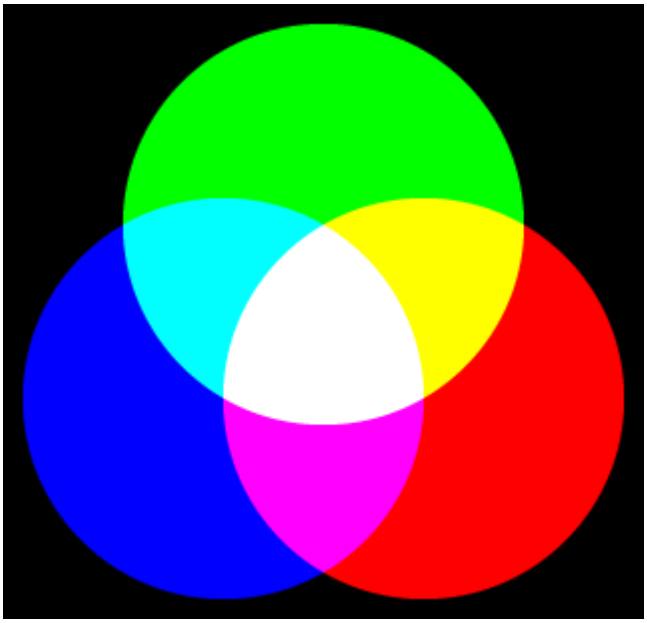
2.4. Basic settings during the editing process

2.4.2. Correct colour and light

During editing, it is very often necessary to make a **basic colour** or **light** correction or adjustment of the recorded audiovisual material. There are some simple corrections which improve the image in almost all cases:

- **Adjust the contrast**, to bring out the darkest and brightest parts.
- **Give the image more or less light**, depending on the needs of the shot (if it is too bright or too dark).
- **Remove saturation**, not too much, just a little to get a cleaner look.
- **Balance the colour**, if necessary, if it is observed that one shade predominates too much.

You will need to find out how to adjust these values in the video editor you are using. If the editing software does not allow you to make these changes, there are some online editing services that allow you to edit your videos after uploading them and make these and other adjustments.



Source: Wikimedia Commons.

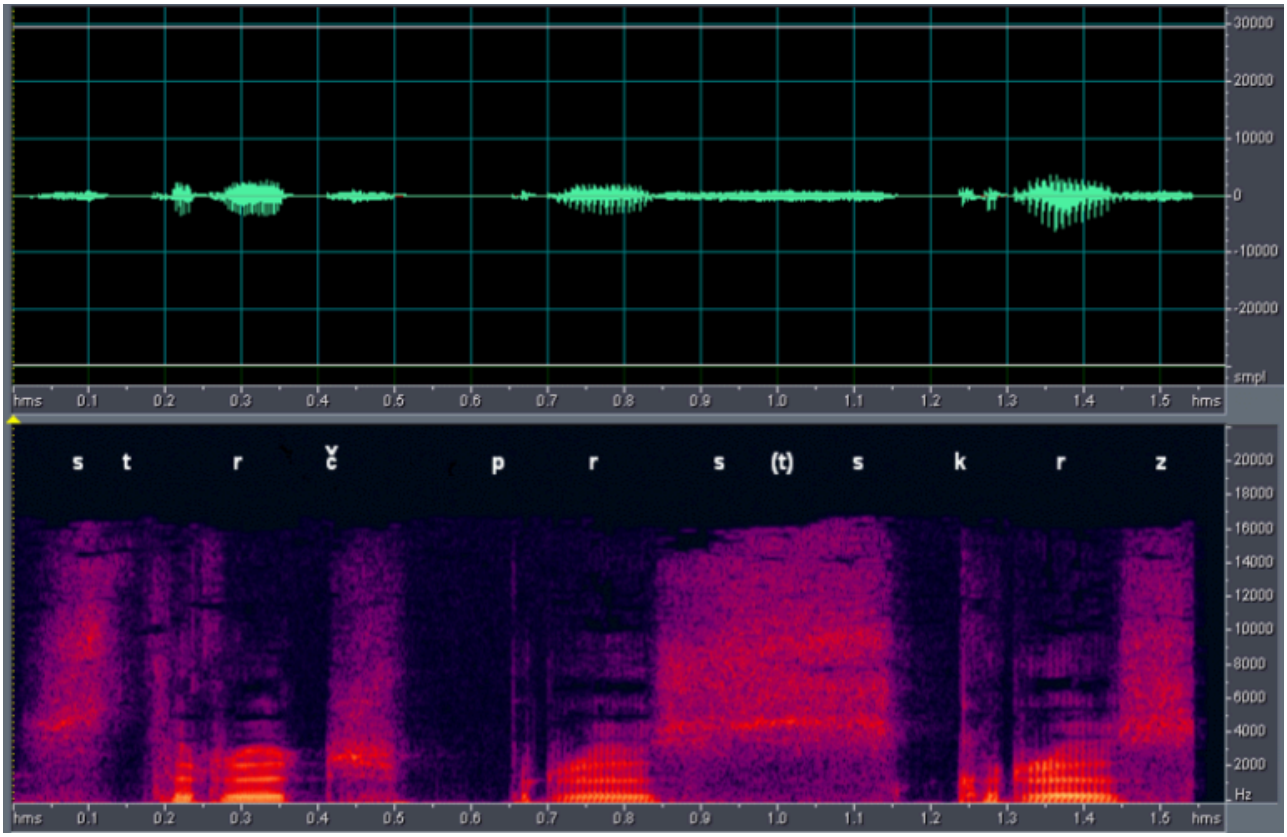
2. Technical aspects to consider in video editing

2.4. Basic settings during the editing process

2.4.3. Audio editing

During the editing of the video, you may need to make some **improvements or adjustments** to the recorded audio. For example, you may need to take shots at different volumes, you may need to attenuate certain noises, you may want to add a sound effect to the video, etc.

To do so, the video editor itself, if basic, is usually very limited and does not allow for careful work on the sound. However, it does allow you to mute the sound, in the event that you want to ignore the audio of an image completely, and, in some cases (depending on the editor), to remove it.



Source: Wikimedia Commons.

However, in order to specifically and carefully edit the sound, there are **audio editing programmes** that allow you to work on it separately.

However, if you have decided to incorporate a voice-over in your audiovisual product, you can also use an audio editing programme to record it.

One of these audio editing programs is **Audacity**, which is free and cross-platform. It allows you to record sounds, play them back, edit them, as well as import and export WAV, AIFF, MP3 and other files.

You can download it at https://www.audacityteam.org/

The new version of **Audacity** focuses on the needs of musicians, including tempo adjustments, time signatures, beat alignment, a new music grid and time stretching. An explanation of the new changes can be found in the video below.

In order to use it efficiently, and according to your needs, we recommend you to watch the video tutorial of the latest version. For more information, you can also check out the manual in English.

2. Technical aspects to consider in video editing

2.5. Downloading reusable resources or video excerpts

YouTube uses CC licences on its content, allowing creators to grant use of their work as standard. Until September 2021, users could mark their videos with the CC BY licence, generating an automatic signature and indicating that Creative Commons content was being used. **Attribution** now continues to be added to videos through description updates.

With CC licences, creators retain the **copyright**, but others can reuse the video under the terms of the licence.

To learn more about the use of Creative Commons videos on YouTube, you can read the following information at https://support.google.com/youtube/answer/2797468?hl=capport.google.com/youtube/answer/2797468?hl=ca

Furthermore, this tutorial also explains in detail what you can do as a YouTube video editor, including editing the audio part. You also have the information provided by YouTube about editing videos and their settings.

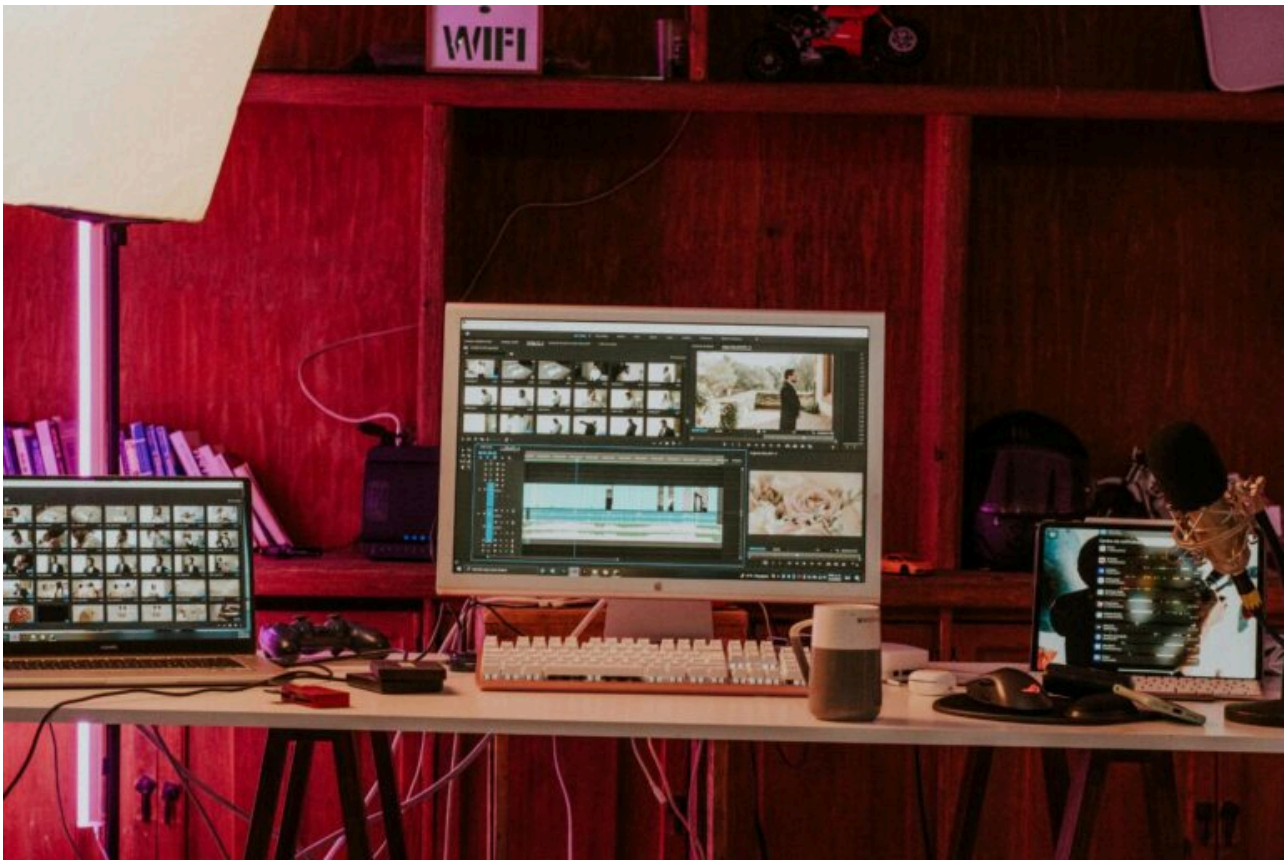
On **Vimeo**, there is also the option to search for Creative Commons videos that are available for download and further use. The **Pexels** platform also has 4K videos that you can use for **free** for personal and commercial purposes without attribution under the Pexels licence.

3. Video editing tools

3.1. Introduction

As discussed in the introduction of this guide, there are currently **several possibilities** for video editing: desktop tools, online editing tools and video editing apps for mobile devices.

> All programmes have a **timeline** where the selected images, audio or graphics are organised in the different tracks available.



Source: Pexels.

As for programmes for **professional use**, they are usually paid and very complete. Some examples are Adobe Premiere Pro, Avid Media Composer or Final Cut Pro, among others.

However, there are also simpler tools (many of which are free) which, although not designed for professional use, like those listed above, do allow video editing in a fairly efficient and intuitive way.

Below are some of these tools and links to tutorials.

3. Video editing tools

3.2. Desktop tools

Desktop video editing tools are integrated into computers or laptops. In this section, we present the most representative ones.

Clipchamp – Microsoft Video Editor

Integrated video editor for Windows 11. To access Clipchamp, you can:

- Go to the search box in the taskbar, type “Clipchamp” and select it from the results.
- Select “Start”, then select all apps, scroll down and select “Clipchamp” from the list of apps.

You can access a browser-based version via the following link https://app.clipchamp.com/pp.clipchamp.com/ on Microsoft Edge or Google Chrome.

Microsoft’s guide Creating Movies with a video editor is a visual tutorial which is also very helpful for **Clipchamp** users.

https://clipchamp.com/es/

iMovie for OSX users

Video editing software created by Apple Inc. as part of the iLife suite of apps for Mac. With this editing tool, users can edit their own movies professionally at home.

https://support.apple.com/es-es/imovie

Openshot

Free and open-source video editor for Windows, MacOS, Linux and ChromeOS. The editor has been in operation since 2008 and aims to provide a stable, free and easy to use video editor.

http://www.openshot.org/features/

Shotcut

Free, open-source, cross-platform video editing software for FreeBSD, Linux, macOS and Windows. Operational since 2011.

https://shotcut.org/

Kdenlive

Non-linear video editor that is officially available for GNU/Linux, Windows and macOS operating systems . It has been operational since 2002.

https://kdenlive.org/es/

OBS

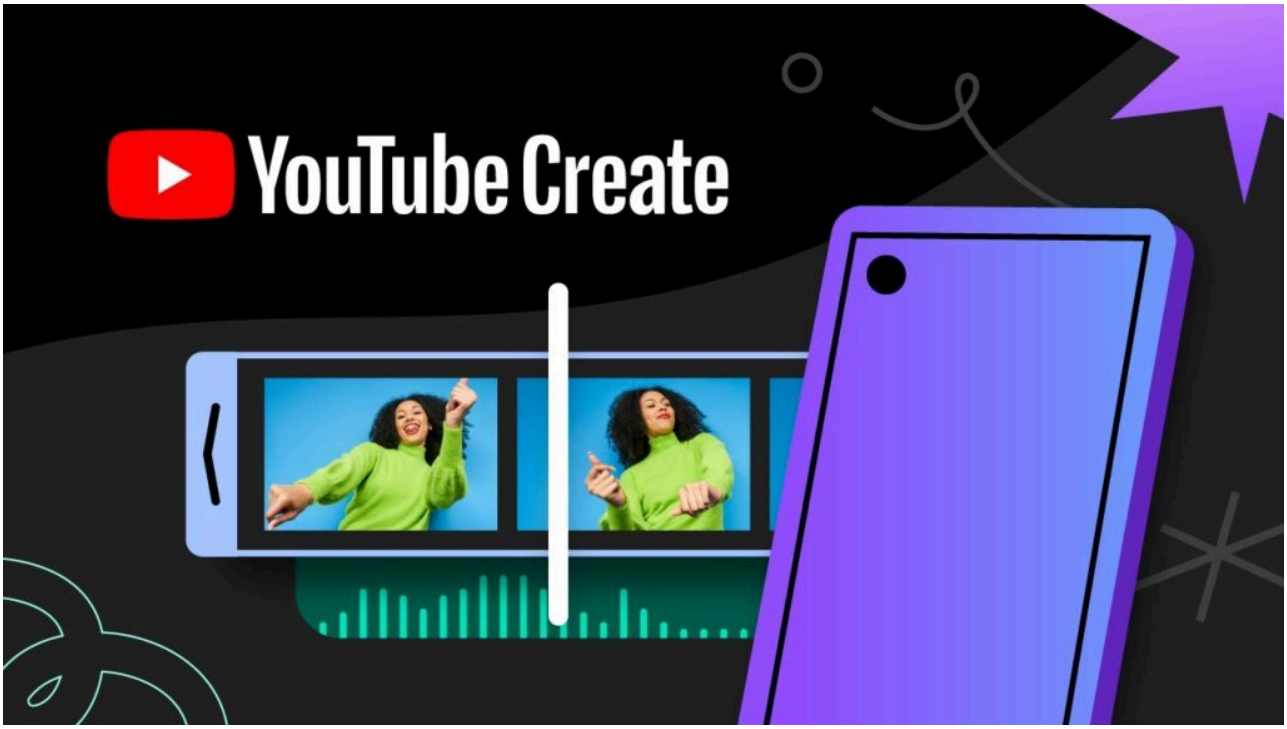
Open Broadcaster Software (OBS) is a free and open-source app for recording and streaming video over the Internet, maintained by the OBS Project. It is available for Windows, macOS , Linux and BSD. It has been operational since 2012.

https://obsproject.com/

3. Video editing tools

3.3. Online editing tools

Online editing tools are **very numerous** and have grown a lot in recent years. Let's look at a few examples: YouTube Create offers a number of very interesting video composition tools, and, as we have seen before, Microsoft Clipchamp has an online option for editing videos, which can also be found by purchasing a Microsoft 365 licence.



Source: YouTube Create.

The best online video editors offer a foundation of editing, mainly trimming, joining and applying titles and transitions. In addition, they provide templates, pre-defined videos and the ability to add background music, along with other audio controls. In many cases, however, **advanced features** such as chroma keying, motion tracking, 3D effects or advanced colour grading are not available. To do this, more comprehensive video editing software is still needed. When using an online video editing service, clips need to be uploaded, so a fast Internet connection is necessary.

Here are the most commonly used editors.

Adobe Express

This online video editing tool is a template-based design app that helps create still images and offers minimal video editing capabilities. Free accounts come with 2 GB of cloud storage, basic editing and thousands of design resources and templates.

> https://www.adobe.com/express/collaborations

Canva

Particularly suitable for users who need to create videos for promotional use and social media posting, especially for mobile vertical formats. Although it relies primarily on template-driven graphics creation, Canva also offers some video editing capabilities. The programme allows trimming, cropping, splitting, speeding up and resizing clips, but does not allow multi-track timeline editing, only thumbnails from the storyboard. Users receive 5 GB of free online storage and over half a million templates.

> https://www.canva.com/video-editor/

Flex Clip

Used especially for small businesses that want to create marketing videos for social media. You can start from a template or from scratch, and the interface allows you to use timeline or storyboard modes and vertical or horizontal proportions. The program contains all cropping, transition, text and overlay options, along with a decent selection of background audio sorted by mood. The free account is limited to 720p resolution, a maximum of 12 projects and a video length of 10 minutes, and has a FlexClip watermark.

> https://www.flexclip.com/

Kapwing

Allows you to combine video clips, trim, split and add transitions, overlay text and images, generate subtitles and upload music. There is also access to stock video, photos and background music. Videos edited by free users are watermarked and limited to 7 minutes and 720p resolution.

> https://www.kapwing.com/

Veed

Impressive video editor with multi-track timeline that features a clear and simple design, with high-quality pre-defined templates, very similar to the installed video editing software. The website provides speech-to-text conversion for automatic subtitles, effects filters, shape overlays, and ten transition styles, as well as image metrics for social networking. Free users get 720p watermarked video output of up to 10 minutes in length, but no limit on the number of projects.

> https://www.veed.io/

3. Video editing tools

3.4. Video editing apps for mobile devices

Video editing is no longer limited to the computer. The best video editing apps for iPhone and Android allow you to create content on **mobile devices** for free in many cases and can be downloaded for efficient video editing. Always keep in mind that the free versions are watermarked.

VivaVideo (Android/iOS)

Free video editing software compatible with multiple operating systems. The editor is one of the best camcorder and video editing apps on the mobile app market and ranks first as a free video editing app.

> https://vivavideo.tv/

iMovie (iOS)

The iOS mobile app has iMovie built-in, with a video version for professionals and beginners. For example, it supports 4K and multi-track editing, has a wide range of filters and allows the insertion of free music that automatically adjusts to the length of the video. The following options are predefined in the app: photo album, sports, travel, comic and neon. Each option comes with music, transitions and text overlays, saving time and effort during the editing process.

> https://apps.apple.com/es/app/imovie/id377298193

Go Pro Quick (Android/iOS)

GoPro's product for creating summaries of multiple clips. It is ideal for quick, tailored videos on Instagram, mixing and matching clips, although it is not suitable for 4K video edits or more complex projects. It has a limited free version.

> **Android**: https://quik-free-video-editor.softonic.com/android
>
> **iOS**: https://apps.apple.com/es/app/gopro-quik/id561350520

Kinemaster (Android/iOS)

It offers support for 4K editing and exports videos to YouTube. Clips can be trimmed, cropped and adjusted frame-by-frame and to audio tracks. KineMaster does not have a traditional timeline, so clips overlap rather than sit underneath on a separate track. Images, video effects and text can be added to create a sophisticated final product. The free version comes with a watermark.

> **Android**: https://play.google.com/store/apps/details?id=com.nexstreaming.app.kinemasterfree&hl=es_419&gl=US
>
> **iOS**: https://apps.apple.com/es/app/kinemaster-editor-de-v%C3%ADdeo/id1609369954

In paid apps, **PowerDirector** (Android/iOS) is a video editing program with excellent functionalities, such as transforming videos into cartoons or anime, video effects with artificial intelligence tools, and more than 600 font

families. **Adobe Premiere Rush** also provides intuitive video editing and is available for purchase with Adobe Creative Cloud apps.

4. Publishing and sharing

4.1. Most common platforms

Now that we have seen how to record and edit a video, we will now look at some **guidelines** for publishing and sharing videos.

Video hosting sites are online platforms where you can upload, edit and share videos. You will get an embed code to share the videos on your website or on social media.

The **strengths** of the most common platforms are listed below. This way, you will be well-informed before choosing where to host your videos:

YouTube

- **Popularity**: This is the platform that receives the most visits and plays daily. However, competition is also fierce.
- **Video length**: with a normal account, YouTube allows you to upload videos of up to 15 minutes.
- **Private video sharing**: YouTube gives the option of making videos private and sharing them only with certain people. This feature has a limit of up to 50 people and always with prior registration to the platform (with Gmail). YouTube videos can be shared on social networks.
- **Live subtitles**: Subtitles are a great way to make content accessible to viewers. YouTube can use speech recognition technology to automatically create captions for all types of videos.
- **Advertising**: frequent advertisements can disrupt the viewing experience, causing frustration among users.

Vimeo

- **Resolution**: Vimeo stands out for its quality of content. This is the main reason why many film professionals choose to use this platform, as their work can be seen in much greater detail.
- **Video length**: Vimeo has a video length limitation of 24 hours, and the free version allows you to create up to three video samples, one channel and one group. If you created your free Vimeo account before 7 November 2023, you can upload or create up to two videos per month, with a limit of 25 videos in total.
- The size of each video can be up to 250 GB in the free version, and it allows you to upload videos in 4K, HDR and Dolby Vision.
- **Advertising**: Vimeo does not display advertising in the videos. No ads will appear before, after or during the video in the video playback window.
- **Sharing private videos**: you can choose not to share private videos, share them only with Vimeo contacts, share them with certain Vimeo users, or simply protect the video with a password that will be requested at the start of playback.

In recent years, videos can be uploaded to various social media platforms, such as **Facebook**, **X**, **Instagram** or **TikTok**. Each platform has its own particularities and the main advantages are that the videos automatically go viral when they are shared.

- For example, **Facebook** is a platform with a wide range of audiences and offers options such as sharing to groups and your personal profile pages. Videos shared here can be longer and can benefit from the audience targeting options offered by Facebook Ads.
- **X**, on the other hand, is known for its immediacy and limited characters. Videos here tend to be shorter and have a more informative focus.
- **Instagram** emphasises visuality and visual storytelling, which is why it is popular for short, creative videos. Instagram stories offer options for longer videos, and tags and hashtags are key to their visibility.

- Finally, **TikTok** is a platform totally oriented towards short videos and vertical format. Its ability to make videos viral quickly and its participatory community have made it an ideal place for content to go viral.

4. Publishing and sharing

4.2. Recommendations for publishing and sharing

Today, publishing and sharing videos shot with digital cameras is essential for online communication.

Thanks to Internet platforms such as YouTube or TikTok, anyone can create and share high quality images with a global audience.

This democratisation of the user allows videos to be used to entertain, inform or sell products, making them a very powerful global communication tool.

Here are some tips on how to effectively publish and share your content online.

1. **Save the video thinking that it has to be viewed on a website**. If the idea is for the final product to be viewed on the Internet, it is important to take into account the need for proper compression, since videos that were recorded in HD often look pixelated due to inadequate compression. In this regard, we should note that there are different file formats and video codecs, as can be seen in section 3 of this guide. However, for publishing online, the variations are straightforward. Firstly, for most videos it is recommended to export at 1280 × 720 (720p), even though this is not the largest size. Vimeo and YouTube convert videos to this size, so if this is done before uploading to these platforms, this will save on file size. To upload videos to the Internet, there are a variety of file types: mp4, mov, AVI, flv, etc. to name a few. The first three use the H.264 codec, which offers compression that provides good image quality.

> If the video was recorded in HD, save it in 720p. The video must be **compressed** to mp4, mov or AVI using H.264 before uploading.

2. **The title of the video should be meaningful.** It is advisable to use keywords at the beginning.

3. **Be clear about how you want to share the video** and set it up appropriately:

- Public (any user can search and view it).
- Private (only the people you choose can see the video).
- Hidden (any user who has the link to the video can see it).

4. **Select the best thumbnail** possible. The thumbnail is the still image that is displayed when the video first loads, before it starts playing. It is the cover that the video will have, so it is important to choose it well. Most programmes offer some by default, extracted from the video prepared. We recommend choosing the best image available. For example, YouTube gives us different options to choose from; on the other hand, Vimeo invites us to upload our own image directly.

> Canva and Adobe Express offer **free options** to create thumbnails for videos that can be uploaded to all video playback platforms.

5. **Use of metadata.** A common mistake – even made by companies and the media – is to forget about metadata, overlooking the description, categories and hashtags of the video. This is an important issue if our goal is to have our work well positioned on the web. If we don't do this, a video file is practically invisible to **search engines**. Therefore, the metadata is the only thing that identifies a video on the Internet.

6. **Description**. It is also important that you make use of the description to **explain** what the video actually is, and that you do not limit yourself to keyword tagging only.

> Make sure that all videos have **detailed descriptions** (transcripts, if necessary), including the hashtags, taking into account the existing ones, in case any of them can be useful to position our video.

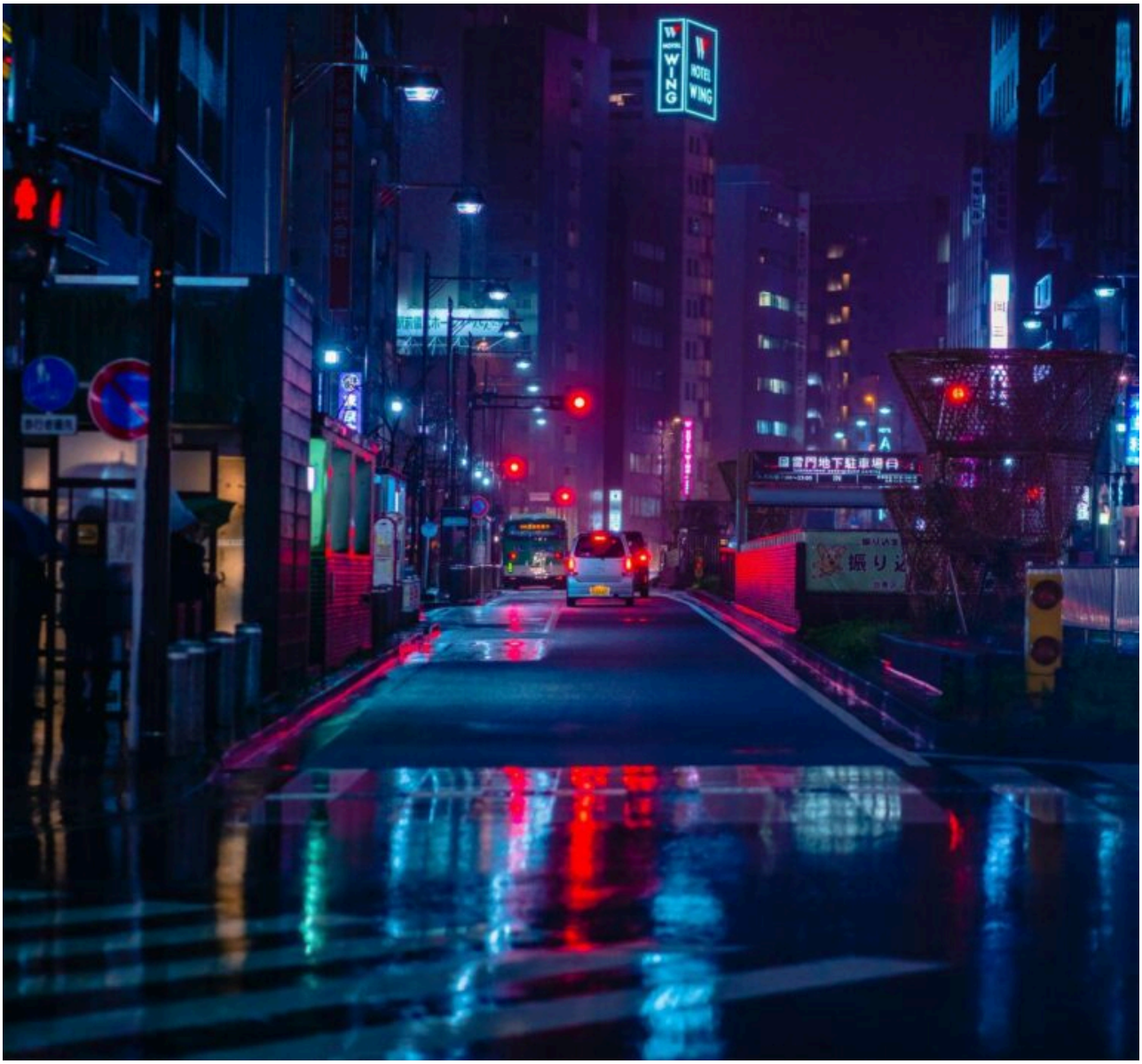
7. **Categories**. Don't forget to select the appropriate category depending on the content of the video.

8. **Permissions for use.** It is important that you make it clear how you wish to share the audiovisual production that you post on the web. In this sense, you can use Creative Commons licences to decide on permissions for use and for sharing. If you have used resources from other people (music, images, etc.) you should be careful and make sure that these resources have the relevant permissions for use.

5. Artificial intelligence in the world of video

5.1. Introduction

Artificial intelligence has burst into the image and video scene with great impetus, from platforms such as Sora, an AI model capable of creating realistic and imaginative scenes from text instructions, to the creative possibilities of artificial intelligence in Adobe Premiere Pro. Their impact is undeniable.



Source: Unsplash.

Below, we present a series of tools related to artificial intelligence and audiovisuals which have emerged and which may be useful to you.

5. Artificial intelligence in the world of video

5.2. Video editing

In video editing and post-production, artificial intelligence has significantly improved the work. The editing process is now **smoother than ever**, allowing for colour correction, lighting and even **suggested** cuts and transitions.

For example, there are tools such as Rephrase.ai, Invideo.io, Runway or Haiper.ai that can **create moving images** very efficiently from descriptions (textual prompts). Flexclip creates and edits videos focused on product promotion on social media, although it can be used for any other videographic purpose. Veed.io focuses on how-to videos, and is ideal for online courses that can be shared from the platform on major social networks. Loremachine, based on the ideas of its creators, creates graphic stories that can be included within video editing.

5. Artificial intelligence in the world of video

5.3. Sound editing

Today, AI tools, such as veed.io, are available to **remove** unwanted **noise** or **synchronise** audio. In addition to the AI video editing tools discussed above, this platform offers the ability to remove unwanted noise or synchronise audio automatically.

Sonix.ai automatically transcribes, translates and helps to organise audio and video files in more than 40 languages. Auphonic removes noise and improves the audio quality of videos while saving time in the editing room. It meets all common audio specifications of platforms such as Netflix, broadcasters and commercials with one-click access to videos by adding automatic transcriptions.

> AI will lead to changes in the audiovisual industry in the coming years, from the **creation of scripts, realistic avatars** that are part of the characters in films, to the **creation of music** and **video production** in general.

The responsibility for creating audiovisual fragments through AI has to follow **ethical principles of accountability** and **transparency**. In principle, all AI-generated content has to carry hashtags which label the digital content and which are associated to the content used, published or stored. This way, we can apply to become a Trusted Technology Brand, which is a label that is only awarded to products that reach a certain threshold in terms of **data rights, security** and **transparency**.

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