XPRESS YOURSELF

"XPRESS YOURSELF" THROUGH DIGITAL STORYTELLING

THE NON-FORMAL TRAINING SET OF CREATING DIGITAL STORYTELLING

Co-funded by the European Union

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Chapter 1 Digital Competence

1. Online Safety and Legality

The Internet, often known as the "inter-network," is a phrase used internationally to refer to a computer network that connects other networks. The Internet, as its name suggests, is a globally accessible computer network that connects people to information and services. The system employs a mode of the packet-switchable TCP/IP protocol. So, the biggest Internet is just referred to as the Internet. This method of network connection is known as "internet operation." The World Wide Web (WWW), e-mail, or online chat are just a few examples of services that are commonly referred to as being on the Internet.

1.1. Some Privacy Settings and Measures

1.1.1. What you should think about in terms of internet safety?

	Configure your browser to allow you to browse the web anonymously.
	Ensure that your social media privacy settings are appropriate. If someone knows your password, they can steal our identity and cause us great harm.
	Avoid responding to spam emails or attempting to unsubscribe via the links contained in them. You will only receive more of these emails as a result of doing this, as it serves as confirmation to the senders that your email address is active.
	Don't reply to emails asking you for money and personal information. Such requests won't ever be made online or via email by trustworthy businesses.

1.1.2. Protecting the privacy

Let's think about the images of ourselves, our kids, etc. that we post online. It's challenging to take something down once it's been published because we don't know how far it has traveled. We occasionally "google" ourselves by typing our name and last name into a web search engine, then reviewing the results to see what has been said about us online. We look at your profile on your website, blog, or other online community to determine whether it might contain personal information about you that we don't want to post publicly. Let's remember that search results make it available to everyone! Your contact information, including name, surname, phone number, home address, e-mail, messenger, and other personal information like date of birth, credit card number, tax identification number, etc., are not openly shared online. Online strangers do not have access to our personal information, even though we may appear to be friendly to them. We don't know anything about them. Keep the webcam off when not in use and exercise caution when utilizing it. Let's be conscious of the fact that it resembles a window through which even strangers can peep into our private lives, apartments, and families.

1.1.3. Spam

Spammers scan websites and look for anything that resembles a legitimate email address. Spam emails should never be replied to, and we should never try to unsubscribe using links contained in them. This just serves to confirm to senders that the email address is active, which increases the amount of spam we get. Chain letters provide lists of email addresses that spammers collect, thus we never send them.

1.1.4. How to Choose Good Passwords?

Never use personal information like your name, last name, or date of birth. Consider other facts about you that a large number of people are aware of, such as the name of your pet dog, cat, hamster, or favorite band. These are also not clever passwords. In general, dictionary words are bad passwords; instead, choose a string of at least eight characters, including capital and lower case, a number, and possibly a punctuation mark.

1.1.5. How to Protect Our Password

Never trust anyone with your passwords! Change your password sometimes. Writing it down would not be a good idea because it could be discovered. Additionally, it's advisable to enter your password

manually every time rather than letting the browser save it. Additionally, it boosts the body's memory centers. Remember the following when writing down your password if you didn't recall it: don't mark it as a password, never write it down with other information needed for specific registration, and encrypt your password, for example, by changing letters. Always remember to unsubscribe when you access your email, account, etc. especially if you used a public computer to enter them! As you input your password, make sure nobody is observing. For phone lock passwords, the aforementioned is especially true. However, remove the fingerprint from the screen if you're using a pattern for the lock.

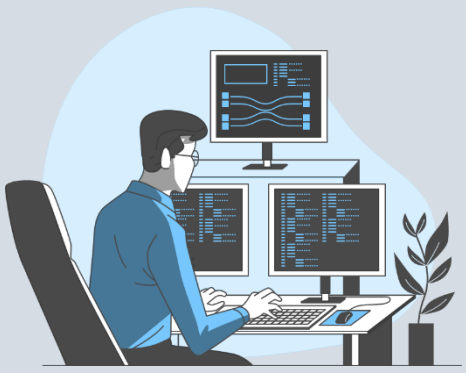
1.1.6. What to do if the password is stolen

If you have even the slightest doubt that your password has been taken, change it right away. Before he does that, your login access will be terminated. Inform the web service administrator of the incident so that they can prevent password theft and subsequent identity theft. Inform your friends as quickly as you can that they shouldn't open any further emails from your address because you are no longer sending them if you are unable to obtain your account restored.

1.1.7. About the Use of Cookies and Privacy

Most data are required for websites to function normally. However, it is advisable to be wary of individuals whose only aim is to follow you around or put harmful malware on your computer. Additionally, please remember that if you remove all cookies, some websites might not function. You can accept or ban cookies on individual pages using some browsers. You can indicate that you only want cookies from websites that you genuinely trust if you do this. Utilize anti-spyware tools that can check cookies for tracking.

2. Core Digital Skills



You will be guided through the process of going internet in this chapter. The Web is a never-ending resource of information that can assist you to advance your career and give you a general understanding of practically any subject. You can read books and articles, watch documentaries, listen to the radio or podcasts, or watch interviews. Through social networks, the most well-known of which are Facebook

and Instagram, the Web is also used to link individuals with one another. To connect with or call your friends, you can also utilize instant messenger apps like WhatsApp or Skype. You will mostly utilize email for work-related objectives because it is the most common form of corporate communication.

2.1. Connect To the Internet

Your computer can be connected to the Internet in two different ways. A LAN cable or Wi-Fi can be used to connect a computer to a router. Wi-Fi connectivity is also an option on laptops for connecting to the Internet. To begin, left-click on the Wi-Fi icon in the bottom right of the screen to bring up the Wi-Fi menu. The list of all nearby Wi-Fi networks that are accessible will appear as a drop-down menu. To join your Wi-Fi network, you must locate it and input the router's supplied password.

2.2. About using a browser

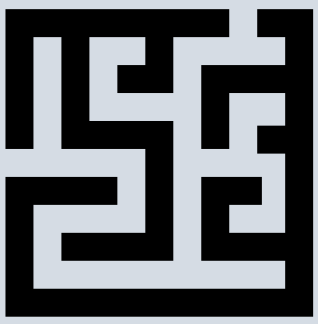
A program used to access websites is called a browser. Among the many available browsers, Google Chrome and Mozilla Firefox are the most widely used. Double-click Google Chrome's desktop button to launch it.

Enter to bring up the desired webpage. This bar can be used as a Google search bar as well. If you type "how to write a good novel?" and hit Enter, the most popular Internet searches for this query will appear. A Google bar is also available in the center of the screen.

2.3. Knowledge of Content Reliability

Internet content is not always accurate or accurate. The Internet is a useful tool for disseminating accurate and false information. It is therefore advisable to stay away from pages of uncertain origin. Science journals are the most trustworthy sources since they contain complete author and publisher information. It is recommended to double-check the same facts in other media if you come across an essay without an author or sources.

3. Problem-Solving



You frequently find yourself in circumstances when utilizing the internet where you are unsure of how to handle an issue or circumstance. This is a brief guide on what to do if you find yourself in a sticky situation and are unsure how to resolve it.

The "frequently asked questions" (F.A.Q.) section is the most crucial instrument in this. Website parts called FAQs can assist you in locating answers to the majority of common issues that are connected to the subject. The majority of educational websites feature a helpful FAQ area that you may read through to get assistance. Finding similar answers posted helps the business by reducing the amount of time spent on customer service, which benefits both you, the user, and the firm.

3.1. Using tutorials found online

In addition to FAQ, you can use internet resources that offer a variety of tutorials on various subjects. It is advisable to head over to your browser and check for them there if you know precisely what the issue is. When you search for this, you will come across numerous websites that provide instructions for various tasks. This is an easy approach to locating numerous websites that provide crucial information.

3.2. Some Notable Websites

Quora might be a good location to start asking questions about anything. A place to learn and share knowledge is Quora. It serves as a forum for queries and connections with experts who offer insightful observations and thorough responses.

WikiHow is an online publication in the wiki format that offers how-to information on a range of subjects. It was founded in 2005 by Web developer Jack Herrick to build a sizable collection of educational content. Users can upload, produce, and alter content utilizing the wiki model of open collaboration.

4. Sharing

What drives internet content sharing? Despite how simple the question may seem; it is quite difficult. Simply put, there is no one size fits all solution and it varies from person to person. Nevertheless, content sharing has some unique similarities that we shall consider. These sharing buttons are widely used. The information can be distributed in both cases.

4.1. Common Forms of Content Sharing

Social Media Post	Going to your page will allow you to access this basic social media post. typically includes a topic-related graphic.
Story	This is comparable to the post, but it has a different aesthetic layout and typically only lasts for 24 hours. Daily updates are the finest.
Article	These are lengthier sections of text that provide information on a particular subject.

4.2. Advantages of Sharing Content

People naturally interact since they are social beings. Online conversations are successful precisely because they foster interpersonal connections. With the era of social media already started, we might take a look at the following initial motivations for sharing content. It helps people feel good about themselves, identifies them in the sight of others, introduces them to valuable content, and makes them aware of commercial goods and services.

4.2.1. Target Group

First and foremost, you should consider the target audience you are trying to reach when you consider distributing material. You must consider posting content that will be most appealing to the people who are following you. The typical audience for personal social media is friends and family. For commercial purposes, the majority are clients of your company. visualizing a target audience. The folks you want to connect with are those in the middle.

4.2.2. Tips

First and foremost, you should consider the target audience you are trying to reach when you consider distributing material. The best method of approaching people must be used. You want to ensure that people are inspired to connect with you through this. Even for business purposes, that is the most crucial component. People will not consider your material to be relevant and will disregard what is being supplied if you don't have a sound strategy. Thus, you should concentrate on a few pointers. You should maintain your content entertaining and humorous. Your writing should be clear and uncomplicated.

4.2.3. Social media content sharing

The key to effective social media posting is creating a coherent online visible strategy. To maintain the relevancy of your profile in check, it is strongly encouraged to integrate external information and share it weekly. Planning is key to achieving a healthy mix of original and pre-existing content.

4.2.4. Content Curation

Curating content is a fascinating activity to engage in. It implies that you can locate some pre-existing content and afterward distribute it to your viewers. It means that rather than starting from scratch, you may start with material that already exists and give it your special spin to add to its worth. By doing so, you can quickly locate and distribute information that will be highly pertinent to your audience while also fostering positive relationships with those who supply the content, such as companies.

4.3. Legal Content Sharing

There are obligations associated with using and distributing someone else's content, particularly if you want to. Legal material sharing is crucial for this. To be sure you are lawfully distributing content, you should:

Ensure that you distribute the appropriate content.	The most crucial step is to identify precisely what you want to achieve by sharing material, as well as to be aware of your intended audience.
Share your opinion	Information sharing without context is largely useless. You should summarize the information and identify the precise passage you think deserves special attention in your post.
Give the writer credit	Make sure to credit the author of any work you utilize in your creation. Tag them if you can when sharing.

4.4. Sharing Content Created by Others

Networking benefits from sharing other people's content, which can benefit both your personal and professional life.

First, for blogs

- Always include a reference to the blog where you found the written material when sharing it.

Second, for Pictures

- Utilizing your photos is recommended. It's best to ensure the image has a "creative commons license" if you don't have them. This indicates that it is free to utilize the image in content development. It's crucial that its licensing covers commercial use.

For use on social networking

- Sending a notification to a person or company that has been tagged. To do this, use a @ symbol in front of their username. By sharing your information with their audience, they can show their appreciation, which is also very advantageous for you.

4.5. What can be done to Get Others to Share Your Content?

4.5.1. Use high-quality pictures

Make sure the photograph is of satisfactory quality before submitting it. Although they might be simpler to acquire, low-quality photographs will not do the post itself justice.

4.5.2. You can increase your shares on social media.

Most social media platforms let users pay to have their posts promoted. In general, due to the potential for financial loss, this is only recommended for commercial users. However, it is widely acknowledged in internet advertising and does aid in gaining followers.

4.5.3. Distribute material to other users or companies.

Include other people in your posts as often as you can so that they will know you posted stuff that is relevant to them and that they can show their appreciation by promoting your content.

5. Tools You Can Use for Sharing

5.1. Photo Editing:

A great photo might succeed or fail in editing. Even while a shot may appear ideal at first look, there is frequently still much space for improvement. Consider the light, red eyes, unnecessary details, etc. The talent required to edit a photo into a stunning final result is often underestimated.

However, with the aid of a free photo-editing application, this is a simple task, and you'll be elevating your image to a higher level in no time. It has never been simpler to edit your photo online, regardless of your level of experience. You'll quickly become an expert and create your photographic website.

5.1.1. Adobe Photoshop Express

On your smartphone, tablet, or computer, Adobe Photoshop Express makes it simple to edit photographs. Beginners or those looking for a high-quality program for rapid alterations are the target audience for this free picture editing program.

The software is easy to use and provides a wide range of settings. The majority of the common photo editing tools are available. You may rotate photographs, alter perspective, enhance brightness and contrast, and apply a variety of effects. Looking to edit a picture later? All of the alterations you've made in Adobe Photoshop Express are reversible. The "decorate" category is also present in the Adobe Photoshop Express edition. You can do this to add text and make collages that are customized.

For those searching for a simple program to edit images, Adobe Photoshop Express is the best choice. You should go further if you're looking for more specialized applications.

5.1.2. Pixlr X

The photo-editing program maintains the same layout as its forerunner and concentrates on capabilities that cover all of your fundamental editing requirements. Pixlr X allows you to adjust, crop, and change colors among other things. You may also alter the white balance and get rid of undesirable objects. Additionally, you can use additional tools to advance your portrait photography. Pixlr X is an excellent application for amateur and non-professional photographers overall.

5.1.3. GIMP

GIMP is frequently recognized as the top free photo editing tool on the market. The software has a wide variety of equipment, from fundamental operations to sophisticated features. It can be highly helpful for novices even if it is suitable for experienced users. These include automatic image improvement, cropping, color correction, and the selection and editing tools. Tools like resize, face-swap, gifs, layer filters, and curves are fun for more seasoned users. The interface can be completely customized, and many plug-ins can be supplied without cost. Start your research for the best free image editing program by getting some needed inspiration from these instances of professional photography portfolios.

5.2. Making screenshots

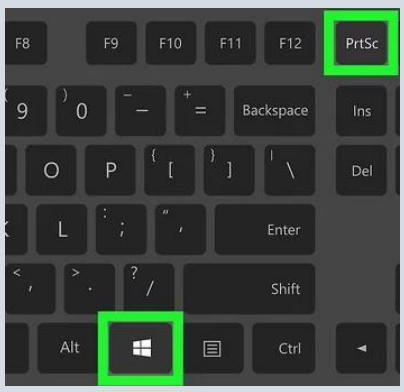
Taking screenshots might be helpful when doing your own sharing. In this manner, you may incorporate the data you see on your screen right into your post. We are here to guide you:

Make a decision as to how your screenshot should appear first. Do you want a picture of your complete screen captured? Do you require a screenshot of only one program or window? Do you prefer to pick a specific area of your screen and snap a screenshot of it instead?

5.2.1. Take a Screenshot with the Print Screen key

Do you want to capture the entire screen or only a segment of the window? then take these 3 actions.

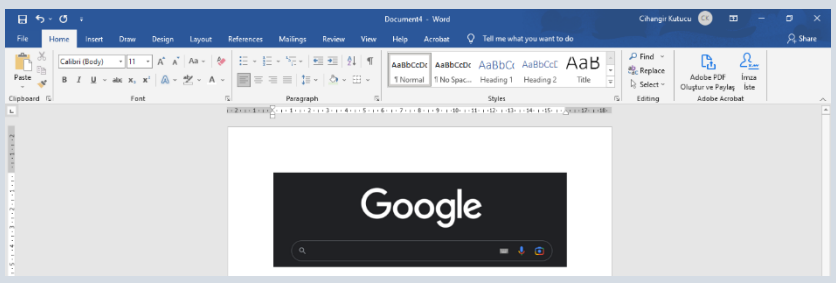
- **Action 1: Locate the Print Screen button**



The highlighted Print Screen key is on the keyboard.

Locate the PrtSc (short for Print Screen) or Print Screen key on your keyboard. On a keyboard, this is frequently one of the keys located above the arrow keys. Simply hit the Print Screen key to capture a screenshot of the current window. Is blue used for Print Screen? Then concurrently hit the Fn and Print Screen keys. Nothing will happen, but the screenshot has already been taken.

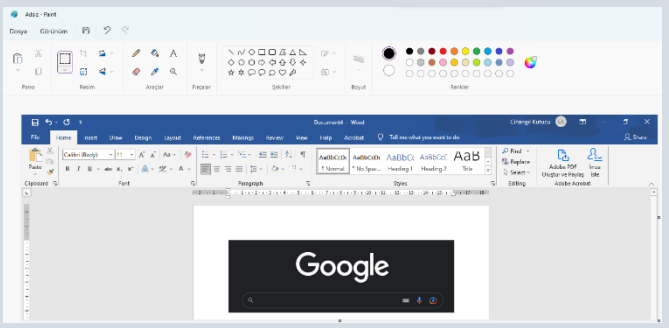
- **Action 2: How to use a screenshot in a text file?**



Copy the screenshot and paste it into a text file.

Are you planning to use your screenshot in a text file? Then, after opening the file, click on the area where you want to take the screenshot. Next, hold down the Control key on the bottom left of your keyboard while pressing and holding the "V" key. Your file will now contain your screenshot.

- **Action 3: How to save the screenshot?**

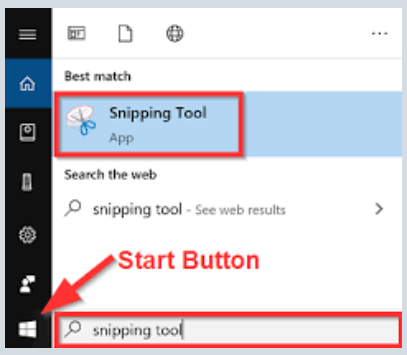


Will you be saving the screenshot to your computer's hard drive? Open Paint or another photo-editing program after that. When the application is running, press the "V" key while continuing to hold down the Control key on the bottom left of your keyboard. Here, you can decide whether or not to crop the image. Is the picture decent? Then select the name and folder for the image's saving by clicking on "File" and then "Save as." You can now shut down Paint because the image is now in the selected folder.

5.2.2. Using the snipping tool to take a screenshot

Do you wish to rapidly choose and take a screenshot of a certain area of the screen? use Windows' basic Snipping Tool.

- **Action 1: Open**



Snipping Tool should be opened.

The Windows start button is located in the bottom left corner of your screen. The search bar is located at the bottom of the panel that now appears. Search for "Clipping program" there. The "Clipping program" search result should be clicked. You can see the program's logo in the image next to it the image next to it, you can see program's logo.

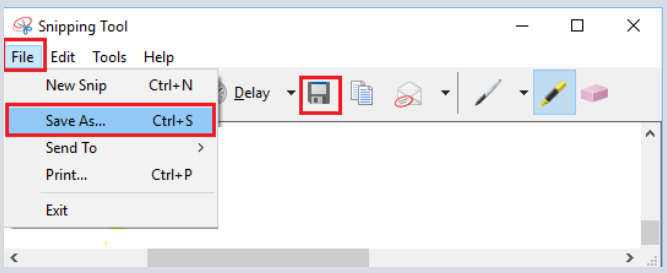
- **Action 2: Choosing the appropriate area on your screen**

And choosing the appropriate screen size for a screenshot.

Cross appears where your cursor once was. You choose the area of the screen for which you wish to take a screenshot by clicking that cross. Hold down the left mouse button while moving the mouse to select. The screenshot is captured as soon as you let go of the left mouse button.

- **Action 3: Save it**

In a new window, your screenshot will be shown. By selecting the "floppy disk" button, you can save the file. As seen in the image, this is the purple icon. Next, decide on a name for the screenshot and a location for its storage.



5.3. Video Editing

5.3.1. ShotCut

There are many systems on which this open-source software is accessible, including Windows, of course. ShotCut is user-friendly and packed with features. It supports nearly every film type you can imagine, can improve video, and applies digital image stabilization to make unsteady videos less distracting. There are numerous dials to change even after saving the finished film to create videos for any tool or media.

5.3.2. YouTube

A video is usually edited before being uploaded to the internet. On the other hand, you could also do this later. For instance, you may always include audio or a caption on YouTube. Login into YouTube Studio and choose Content from the left menu to accomplish this. After selecting the video, you wish to edit, click Editor. Here, you can give your videos audio and captions.

The picture quality can also be improved by adjusting the exposure, contrast, brightness, and color temperature. And when playing back the video, it's simple to see both the raw and the altered versions simultaneously. Other clever choices include trimming, slow-motion playback, accelerating a sluggish timelapse, and stabilizing unstable footage. Combine several clips, then add captions and transitions.

5.3.3. Movie Plus Starter Edition

A quite good video editor is Movie Plus Starter Edition. Conveniently, you can make a picture-in-picture so that you can truly view two videos at once. For instance, to simultaneously depict a scene from two views. helpful if you use multiple action cams or if you include videos shot by colleagues in the montage. You must enter your email address to download, and you'll then get a license code. Be careful not to install any unnecessary programs. Unless you purchase a codec pack along with it, the program does not support a wide range of file types. Thankfully, the programs from suggestions 10 and 11 allow you to convert videos for no cost.

5.3.4. Magisto

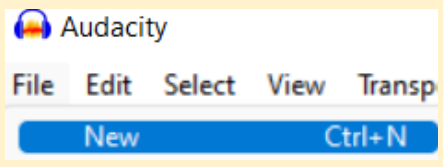
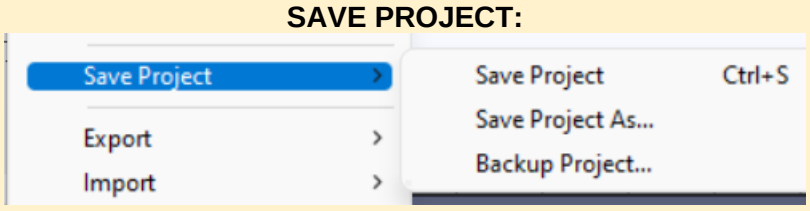
The internet video platform Magisto makes it simple to make short movies. Expect a basic video editor; this is all about simplicity. You decide which videos to use, pick an appealing topic, and include appropriate music. Magisto then looks for several lovely scenes and incorporates them into a spectacular film. You have the option to utilize Magisto as a PC program or an iOS or Android app in place of the website to accomplish this.

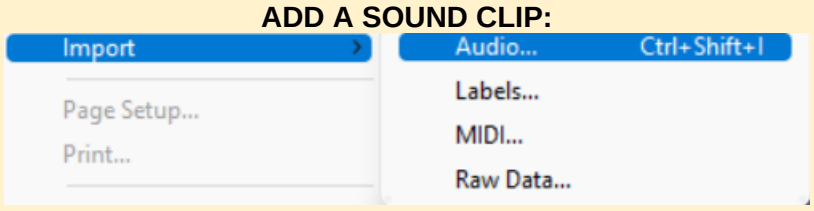
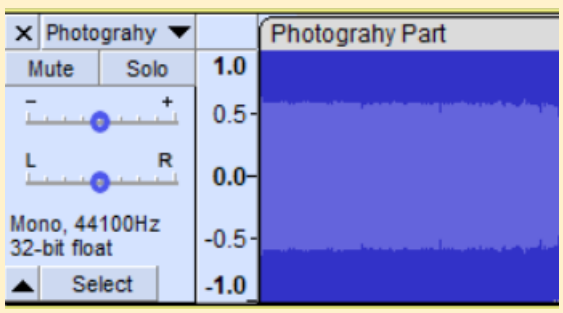
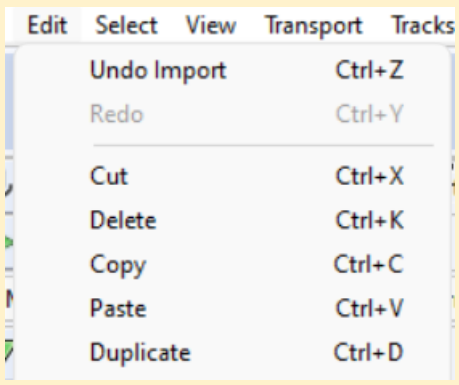
5.3.5. iMovie

You have been receiving the video editor iMovie for freeware when you purchase an iPhone or iPad for several years. This is wonderful news because this application is quite thorough and enables you to modify and edit the most exquisite videos. Pick a few clips, arrange them chronologically on the timeline, specify the beginning and end times for each, and, if you like, apply a fun filter. A video can also be split up into smaller pieces, duplicated, and played again at different speeds. There are many options available to you on your Apple smartphone.

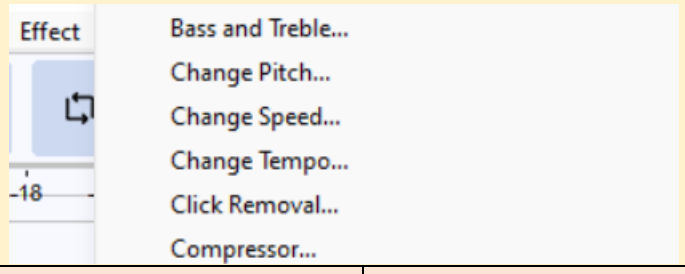
5.4. Adding audio to your video

WAV, AIFF, Ogg Vorbis, and MP3 files can be created, edited, and saved using the free and open-source sound editing application Audacity. For Windows, Mac, Unix, and Linux, Audacity is accessible.

Action	Info	Practice
1	**PROJECT CREATION AND SAVING** A new project is automatically created when the software is opened. In the program, you may also start a new project. It is recommended to save a new project as soon as you begin it with the desired title. While working, save the file multiple times. By doing this, you can keep your project from failing.	**PROJECT CREATION:** Click 'File' and then 'New' in the toolbar. **SAVE THE PROJECT:** Click "File" and then "Save project" from the toolbar. Then, you can select "Save project" or "Save project as...". Pick the document for your work when you click "Save project as...". Your project's file extension is ".aup". Then select "Save."
	CREATE PROJECT: 	**SAVE PROJECT:** 

2	**HOW TO ADD A SOUND CLIP?** You must first add a sound clip to your project in order to edit one.	**ADDING SOUND CLIP:** Click "File" and then "Import" in the toolbar. Then select "Audio." The desired sound fragment should be chosen in the newly opened window. To delete, select "Edit" from the ribbon and then "Undo."
	ADD A SOUND CLIP: 	
3	**A SOUND CLIP CUTTING, DELETING, COPYING, PASTING, AND DUPLICATING** When a fragment is chopped, the chosen part of the sound file is eliminated, and the remaining parts are momentarily stored. The piece can then be pasted somewhere else. The entire sound file is not altered when a fragment is copied, but the fragment is momentarily stored. The portion can then be pasted somewhere else. A fragment may also be duplicated or deleted. The term "duplication" refers to the practice of permitting the same piece to appear sound file.	**SELECT A SOUND CLIP:** Select the sound clip by clicking at its beginning. To choose the end of the sound clip, move the pointer there. **CUT:** Select "Edit" from the toolbar, followed by "Cut," to start. **DELETE:** Press ‘Edit’ and then on ‘Delete’ in the toolbar. **COPY A SOUND CLIP:** Press the ‘Edit’ and then on ‘Copy’ in the toolbar. **PASTE A SOUND CLIP:** Click on ‘Edit’ and then on ‘Paste’ in the toolbar. **DUPLICATE A SOUND CLIP:** Click on ‘Edit’ and then on ‘Duplicate’ in the toolbar.
	SELECT A SOUND CLIP: 	**CUT, DELETE, COPY, PASTE, DUPLICATE A SOUND CLIP:** 
4	**EFFECTS** To sound clips, several effects can be applied. Examples: You can use "undercut" or "fizzle" to gradually increase the volume of a sound clip at the beginning or decrease the volume gradually at the conclusion. A sound phenomenon that results from continuous echoes of audio after the sound source has stopped playing can be simulated with an echo.	**EFFECTS:** Decide which clip you would like to implement the effect to. Choose the appropriate effect from the selection menu by clicking on "Effect" in the menu.

EFFECTS:



PUBLICATION OF THE PROJECT

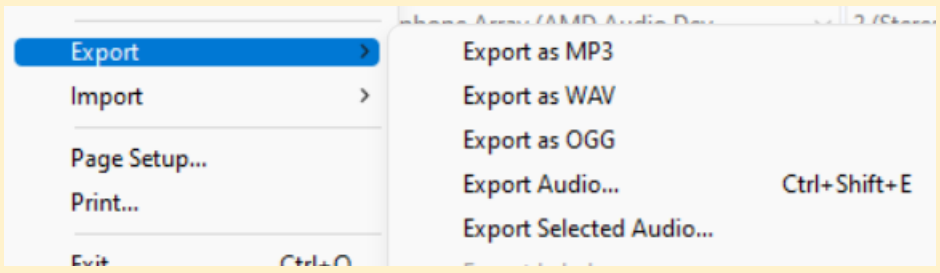
Only files with the ".aup" extension can be opened with the Audacity application. You must change the project's file type in order to make sure that any machine can open the altered sound fragment. Here, we prefer to utilize MP3.

PUBLICATION OF THE PROJECT:

Click "File" and then "Export" in the toolbar. Next, select "Export as MP3."Leave the file extension at ".mp3" and update the file name to the appropriate title.

5

PUBLICATION OF THE PROJECT



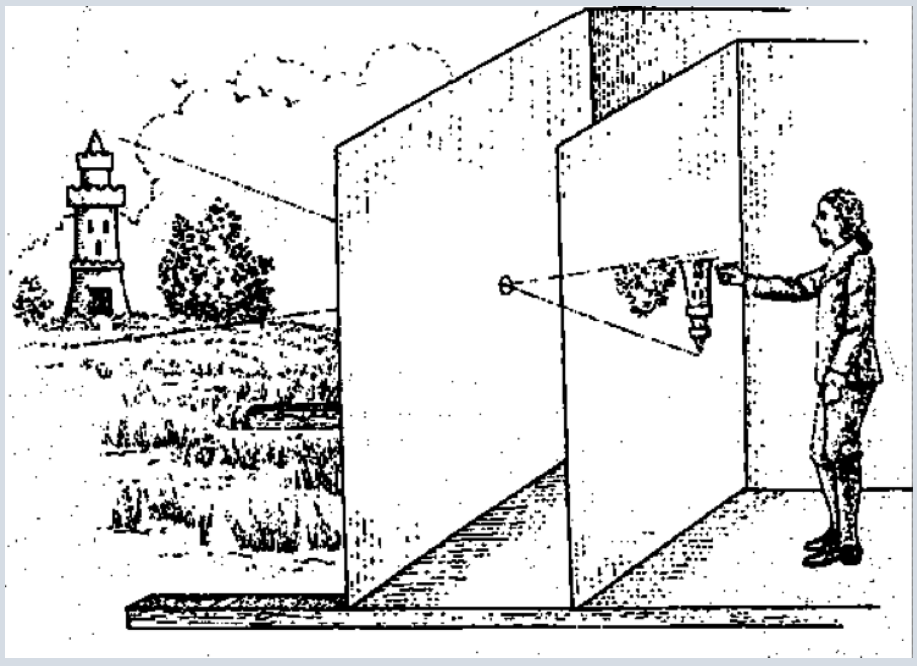
Chapter 2

Photography

1. History of Photography

The history of photography began in antiquity with the discovery of two principles: the camera obscura (dark room) or pin hole image, and the observation that some materials are physically affected by exposure to light. A camera obscura can project a reversed vision onto an opposite surface through a small hole. This principle could have been recognized and applied as early as prehistoric times. The camera obscura is mentioned for the first time in Chinese texts by Mozi, who lived in the 4th century BCE.

The first "cameras" were used to study optics rather than create images. Ibn Al-Haytham (945–1040), better known as Alhazen, an Arab scholar, is commonly considered with being the first to research how we see. To show how light may be used to project an image onto a flat surface, he developed the camera obscura, which was the ancestor to the pinhole camera.



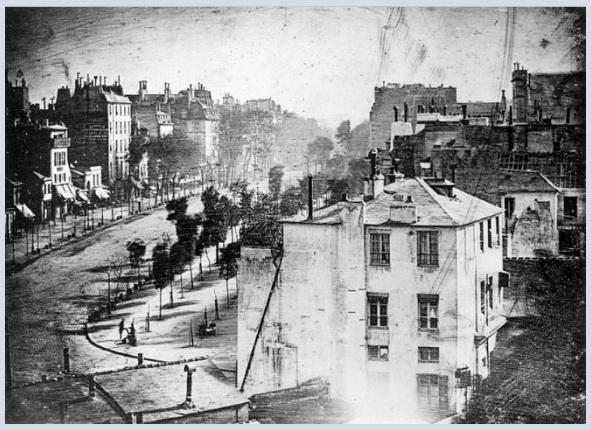
When finely made lenses were invented, artists began using the camera obscura to help them draw and paint sophisticated real-world scenes around the mid-1600s. At this time, magic lanterns, the forerunners of today's projectors, began to appear. The magic lantern, which worked on the same optical principles as the camera obscura, allowed people to project images, which were usually painted on glass slides, onto big surfaces. They quickly gained popularity as a sort of mass entertainment. Johann Heinrich Schulze, a German chemist, conducted the first studies with photo-sensitive materials in 1727, discovering that silver salts were sensitive to light. However, Schulze did not attempt with creating a permanent image with his discovery. That would have to wait until the next century.

The word "photography" is usually attributed to Sir John Herschel in 1839. It is based on the Greek word “phōs” meaning "light" and “graphê” meaning "drawing, writing", together meaning "drawing with light".

In 1827, French scientist Joseph Nicephore Niepce used a camera obscura to create the first photographic image. Niepce engraved a design on a bitumen-coated metal plate and then exposed it to light. He calls his method "heliography," which means "sun drawing." The dark areas of the engraving blocked light, but the brighter spots permitted light to react with the chemicals on the plate.

When Niepce soaked the metal plate in a solvent, a picture clearly evolved. These heliographs, also known as sun prints, are thought to be the first photographic image. However, Niepce's process required eight hours or even several days of light exposure to create an image that would soon fade away. The possibility to "fix" or "make permanent" an image appeared later. Louis Daguerre, a French painter and scientist, was also experimenting with ways to capture an image, and he formed a collaboration with Niepce in 1839 to develop the process Niepce had invented. Daguerre created a more practical and efficient technique of photography and named it "daguerreotype" after several years of experimentation and Niepce's death.

The procedure begins with the images being fixed to a sheet of silver-plated copper. He finally polished the silver and placed an iodine coat, creating a light-sensitive surface. After that, he placed the plate in front of a camera and exposed it for a few minutes. Daguerre washed the plate in a solution of silver chloride after the image was painted by light. This method produced a long-lasting image that did not fade when exposed to light.

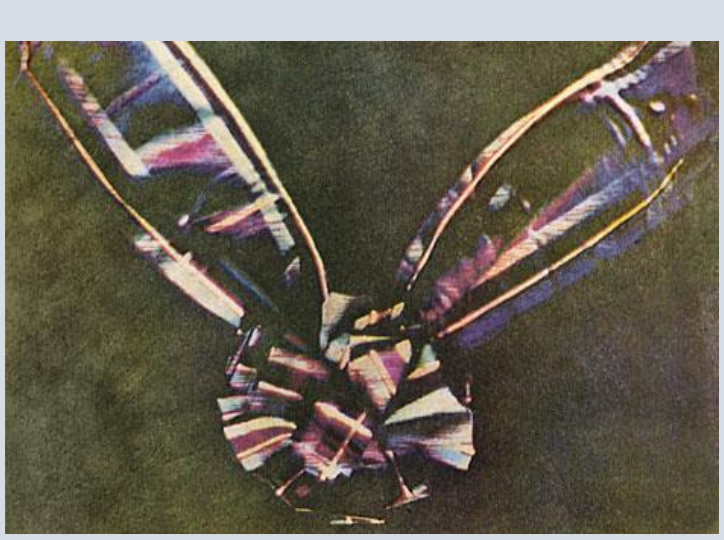


Louis-Jacques-Mandé Daguerre uses a camera obscura and his newly created daguerreotype method to shoot a Paris Street scene from his apartment window. Because of the long exposure period (several minutes), moving items such as pedestrians and carriages are not visible in the photograph. However, an unknown man who pauses for a shoe shine unintentionally becomes the first person ever photographed.

In 1839, Daguerre and Niepce's son sold the rights to the daguerreotype to the French government and released a booklet explaining the process. The daguerreotype immediately achieved popularity in Europe and the United States. In New York City alone, there were approximately 70 daguerreotype studios by 1850.

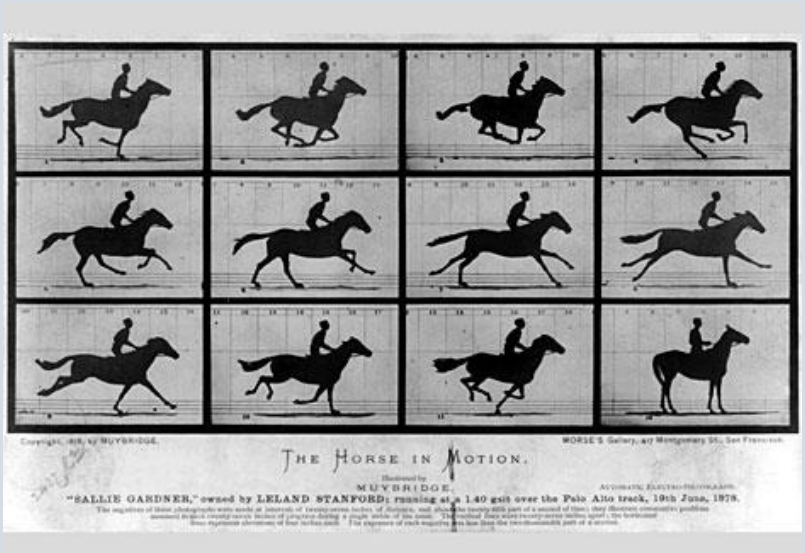
The disadvantage of daguerreotypes is that they can't be copied; each one is a one-of-a-kind image. Henry Fox Talbot, an English botanist, mathematician, and Daguerre's colleague, invented the abilities to create multiple prints. Talbot used a silver-salt solution to light-sensitize paper. The paper was then exposed to light.

Talbot's early silver chloride "sensitive paper" tests needed hour-long camera exposures. Talbot developed the calotype technique in 1841, which, like Daguerre's, relied on chemical development of a faint or invisible "latent" image to cut exposure time to a few minutes. In the camera, silver iodide-coated paper was exposed and processed into an opaque negative image. A calotype negative could be used to create a large number of positive prints by simple contact printing, unlike a daguerreotype, which could only be copied by photographing it with a camera. The background became black, and the subject was displayed in gradations of gray. This result was a "negative" image. Talbot made contact prints from the paper negative, inverting the light and shadows to create a detailed image. He completed the paper-negative process in 1841 and named it a "calotype," which means "beautiful picture" in Greek.



James Clerk Maxwell, a Scottish physicist, makes a primitive color image in 1861 by superimposing three black-and-white images onto a single screen, each processed through three filters—red, green, and blue. His photograph of a multicolored ribbon is the first to demonstrate the practicality of the three-color technique, which was previously only a theory, and it opens the way for future color innovation, particularly by the Lumière brothers in France.

Eadweard Muybridge, a photographer, begins shooting image sequences of animals and humans in motion using new emulsions that allow almost instantaneous photography. His 1878 photo series of a trotting horse creates a discussion about the camera's ability to study movement. Muybridge goes on to make hundreds of picture sequences featuring humans and animals. The origins of cinematography can be attributed to these photo series.



Talbot's developed-out silver halide negative method is still utilized by chemical film cameras today. George Eastman, a photographer and industrialist, invented film with a flexible, unbreakable, and rollable base in 1889. The mass-produced box camera was accomplished by emulsions coated on a cellulose nitrate film substrate, such as Eastman's. Kodak invented the 35 mm film that most people are familiar with in 1913 for the early motion picture industry. Leica, a German camera manufacturer, used this technology to develop the first 35 mm still camera in the mid-1920s. In the 1920s, Kodak and other manufacturers began using a celluloid base, which was fireproof and more permanent. Triacetate film was introduced later and was more stable, flexible, and fireproof. This technology was used in the majority of films until the 1970s. Polyester polymers have been utilized in gelatine-based films since the 1960s. The plastic film basis is significantly more solid than cellulose and poses no risk of fire.

Kodak, Agfa, and other film companies introduced commercially viable color films to the market in the early 1940s. These films used dye-coupled color technology, which involves a chemical process that connects the three dye layers together to provide an apparent color image. Color prints were initially problematic due to the usage of organic dyes to produce the color image. As the dyes faded, the image would practically vanish from the film or paper basis. Kodachrome was the first color film to generate prints that might survive a half-century, dating back to the first third of the twentieth century. New techniques are now being used to create permanent color prints that can stay up to 200 years. New printing technologies based on computer-generated digital images and highly durable pigments provide color photographs with permanence.

Edwin Herbert Land, an American physicist and inventor, invented instant photography. Land was already well-known for producing polarized lenses using light-sensitive polymers in eyeglasses. In 1948, he launched the Land Camera 95, his first instant-film camera. Land's Polaroid Corporation would refine black-and-white film and cameras that were fast, cheap, and surprisingly smart over the next several decades. In 1963, Polaroid introduced color film, and in 1972, it released the legendary SX-70 folding camera. In 1975, engineers at Kodak developed the very first camera creating a digital image. It used a cassette recorder to store data and took more than 20 seconds to capture a photo.

The roots of digital photography, which would revolutionize the industry, began with the development of the first charged-coupled device at Bell Labs in 1969. The CCD converts light to an electronic signal and remains the heart of digital devices today. The Nikon F-3 camera body is modified with a digital sensor and sold as a component of this incredibly expensive accessory, which is targeted toward photography professionals. The Nikon F-3 camera body is modified with a digital sensor and sold as a component of this incredibly expensive accessory, which is targeted toward photography professionals. In the following five years, a lot of manufacturers released models that were more affordable to consumers' budgets. Today, the market is filled with thousands of different digital still camera models and most mobile devices—particularly smartphones—have cameras built into them.

2. Choosing the Camera

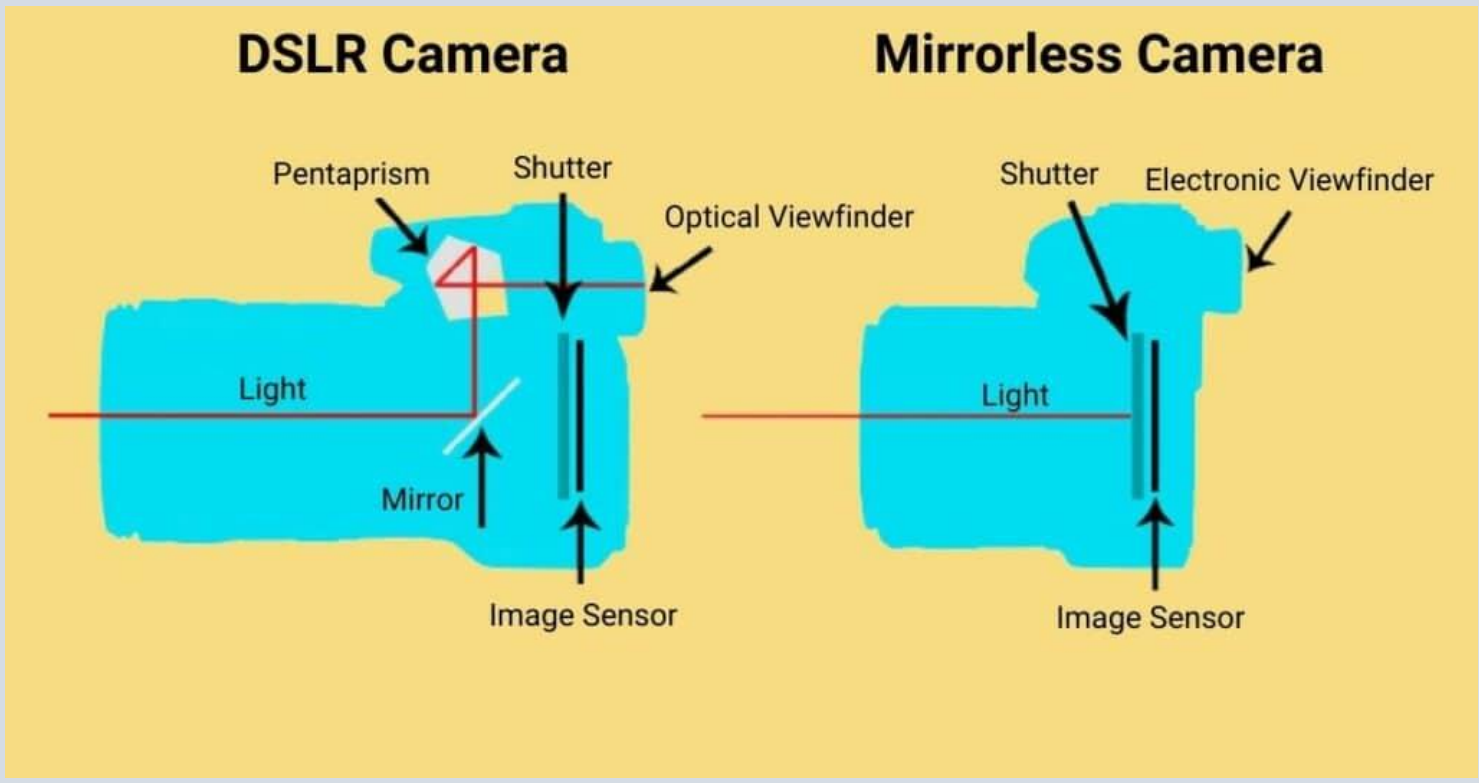
Today, we generally use digital cameras and smartphones to take photos easier and faster.

2.1. DSLR

Digital **S**ingle **L**ens **R**eflex camera, has a mirror inside the camera body. It allows you to see the scene through the optical viewfinder and the camera body that allows light to enter a single lens where it hits a mirror that reflects the light either upwards or downward into the camera's viewfinder. When you press the shutter to take the photo, the mirror flips up out of the way. You can add additional lenses to a DSLR camera. Even a 15-year-old autofocus or 40-year-old manual focus lens can be used, depending on your camera. You can turn it on very quickly and take a picture right after pressing the button. DSLR tends to be large and heavy have and it has a lot of motors and mechanics which make the same noise.

2.2. Mirrorless Camera

It has an electronic viewfinder and it does not have a reflex mirror; so, it retains mechanical shutter. That is why comparing to DSLR, mirrorless cameras are smaller, lighter and quieter due to elimination of the moving mirror. When the shutter button is pressed, a door slides up to cover the image sensor. The door will then slide down, exposing the sensor to light. After that, another door slides up to cover the sensor again, which stops exposure, taking the picture. When the light passes through the lens of a mirrorless camera, it appears directly onto the image sensor, offering a live view which then displays on the rear LCD screen. This image preview allows you to adjust settings like exposure, brightness, saturation, and contrast before snapping your photo. Without the mirror mechanism inside the camera body, the camera is less prone to shaking, so image quality is clearer and more professional. Fewer moving parts inside the camera system also means less noise, making it the best camera for quiet and discreet shots. With better focusing capabilities and high shutter speeds, mirrorless models make it easier for photographers to snap photos at a faster rate.

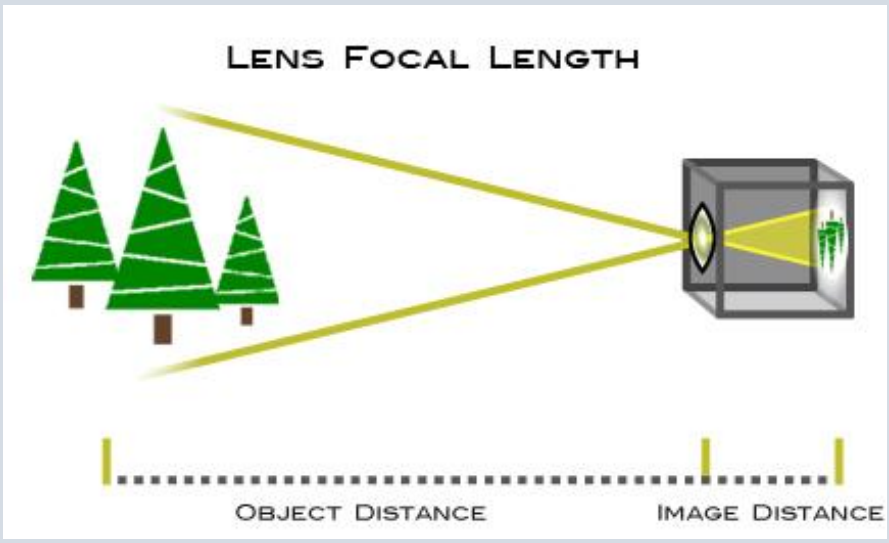


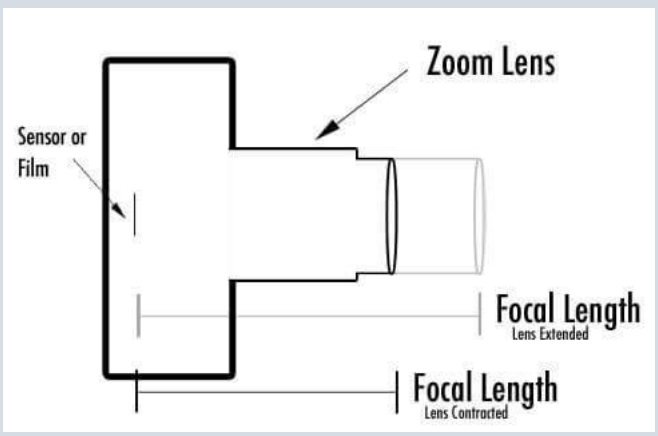
2.3. Smart Phone

Beside DSLR and Mirrorless Cameras, you can practice to improve your photography skills with a basic smartphone. Although Smart Phone Camera is quite amateur than DSLR and Mirrorless cameras, they provide you simplicity and mobility. But, while you can change the lenses of DSLR and Mirrorless cameras, you have to use the only lens on the smartphone camera.

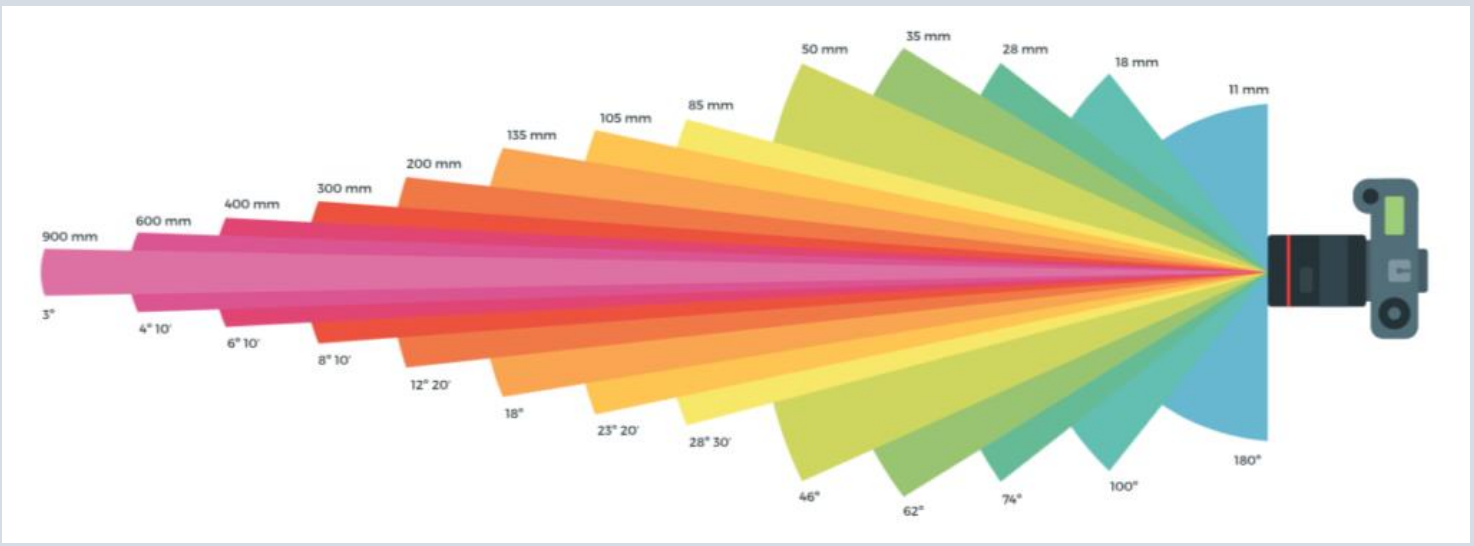
3. Choosing Lens

Before introducing camera lenses, we should know what is “focal length”? The most fundamental characteristic of a camera lens is its focal length, which is typically expressed in millimeters (mm). It is not a measurement of the length of a lens. Instead, it is a calculation of the optical distance from the point where light rays converge to form a sharp image of an object to the digital sensor or 35mm film at the focal plane in the camera. When a lens is focused to infinity, the focal length of the lens can be measured accurately.





The focal length of the lens gives information about the angle of view, or how much how much of the scene will be caught. When the focal length is longer, the angle of view is smaller and the magnification is greater. When the focal length is shorter, the angle of view is wider and the magnification is lower.



Now, we can understand better main types of camera lenses. The focal length of a lens is its most distinguishing characteristic; the bigger the number, the longer the lens. Use a longer lens with a long focal length when your subject is far away and you want to pull it in closer in the frame. This will allow you to get a better sense of scale. When you use a lens with a long focal length, you are able to focus in on a specific location in the landscape. On the other hand, when you use a lens with a shorter focal length, you are able to capture a greater portion of the globe and present a more panoramic picture. We can classify lenses into the following categories: prime, zoom, telephoto, wide angle, fish eye, and macro lenses.

3.1. Prime Lens

Prime Lens gives a fixed focal length. If you have a 35mm Prime Lens, the only focal length you will ever use is 35mm. The Prime Lens is often used in situations where the subject is relatively stationary and you, the photographer, can move around. These categories include Wedding, Portrait, Landscape, and Streetscape photography. Prime lenses offer various advantages to zoom-capable lenses, including a lower overall weight, superior performance in low-light and nighttime photography, and typically higher image quality. Prime lenses have some major drawbacks, along with the fact that you cannot zoom in even if you want to, the fact that you need to carry many lenses in most situations, and the possibility that you will miss a shot when switching lenses.

3.2. The Zoom Lens

It's possible that your zoom lens is your all-purpose lens. The Zoom Lens can be useful for you in a variety of settings in a circumstance that requires you to shoot both far away and up close. There are a few different focal length alternatives open for zoom lenses. In most cases, you will be able to find a Zoom Lens that has a range of 50mm to 200mm. The disadvantages of using a zoom lens include the fact that it is commonly heavier than a prime lens, that it is not quite as sharp as prime lenses of a similar price range, and that the aperture setting does not usually go as low, which makes it more difficult to take pictures in low light environments.

3.3. The Telephoto Lens

Telephoto lenses, which have longer focal lengths than standard lenses, are ideal for bringing distant things and situations into closer focus. They are available in prime (with a fixed focal length) and zoom (with variable focal lengths), just like wide-angle lenses. The word "telephoto" can also be used as a common phrase to refer to lenses that have focal lengths longer than 80 millimeters and produce a more limited field of view. However, they can be divided into the following three categories:

Short Telephoto	They have a diameter that ranges from 85mm to 135mm and are ideal for everyday usage due to their small size and low weight.
Medium Telephoto	They are larger in size, longer in length, and heavier in weight, with focal lengths ranging from 135mm to 300mm.
Super Telephoto	These types of telephoto lenses have focal lengths that stretch over 300 millimeters and offer magnification similar to a telescope. However, they are too weighty to be used for handheld photography.

Unfortunately, as the focus length increases, the image becomes darker. In order to bypass this issue, most high-end telephoto lenses have been designed with a larger maximum aperture or iris opening, which permits lighter to enter the lens. Additionally, they are wonderful for creating photographs that have a lot of bokeh in them (the blurry background).

3.4. The Wide Angle Lens

A wide-angle lens is a lens with a shorter focal length than a standard lens. Photographers use wide lenses' low focal lengths to increase the horizontal perspective of a camera photograph. Subjects closer to the camera will look larger than subjects further away when using a wide-angle lens, resulting in a tiny cylindrical distortion of the image. Unless your subject is very near to the lens, a wide-angle lens will keep almost everything in focus.

3.5. The Fisheye Lens

An ultra-wide-angle lens, often known as a fish-eye lens, can capture a full 180-degree radius and is frequently used in photography and cinematography to simulate perspective distortion. The Fisheye Lens is typically used when you want to see a lot of scenery in a single image.

3.6. Macro Lens

A macro lens is a specialized lens that enables you to focus on tiny things at a closer distance than usual. Some macro lenses are built for extreme magnification, allowing you to photograph insects and flowers up close. When capturing a small item, a macro lens provides great detail. Macro lenses offer extremely tiny minimum focus distances, allowing you to get up close and personal with your subject.

4. Setting Image Format

You should set your file format and size first so that all your photos have the desired quality.

RAW files provide uncompressed and unprocessed image data, letting photographers to collect almost every detail of the image which photographers can successively edit, resize, and convert into other forms.

JPEG is a shorthand for "Joint Photographic Experts Group." It is a standardized format for storing images that may be both lossy and compressed without losing quality. JPEG photos keep a quality that is acceptable, despite the huge reduction in file size. The majority of digital cameras provide you the option to select the size of the jpeg file that you want to save: large, medium, or small. You can always make large photos smaller; it's more difficult to do the opposite.

There are a lot of cameras out there that let you shoot in both RAW and JPEG formats at the same time. You can use the JPEG files as a quick preview, and then switch over to using the RAW files for editing. Keep in mind that you have to have enough place on your memory card for using both formats.

5. Setting Camera Modes

Now, let's discover deeper the four main types of camera modes that you can find in most digital cameras today:

Program (P)

Shutter Priority (Tv) or (S)

Aperture Priority (Av) or (A)

Manual (M)

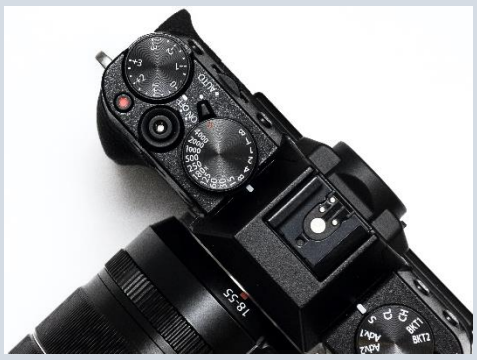
5.1. Program Mode

In "Program" mode, the camera selects the Aperture and Shutter Speed automatically, depending on the quantity of light entering the lens. This is the mode to engage for "point-and-shoot" situations, when you need to rapidly capture an image. The camera will seek to achieve a balance between aperture and shutter speed by raising or reducing the two dependents on the light intensity. If you aim the camera towards a bright place, the aperture will automatically widen while the shutter speed stays relatively fast. In order to preserve a faster shutter speed, the aperture will be decreased when the camera is pointed towards a dark region. If there is weak light, the lens aperture will simply stay at its widest level (maximum aperture), but the shutter speed will continue to decrease until the exposure is correct.

5.2. Shutter-Priority Mode

In "Shutter Priority" mode, you manually choose the camera's shutter speed and the camera choosing aperture depending on the amount of light entering the lens. This setting is supposed to be used to freeze or artificially blur motion. If there is an extreme quantity of light, the camera will adjust the lens aperture to a larger number, which will result in a reduction in the amount of light that is allowed to enter the camera. If there is not enough light, the camera will adjust the aperture to the smallest value possible, which will allow lighter to enter the camera via the lens. In Shutter Priority mode, the shutter speed stays constant (what you've set it to), but the aperture adjusts automatically dependent on the quantity of light. In addition, there is no control over subject isolation, since the depth of field is controlled by the camera.

5.3. Aperture-Priority Mode



In "Aperture Priority" mode, you manually choose the lens aperture while the camera chooses the necessary shutter speed for good exposure. You have complete control over subject isolation and can try with depth of field since you can adjust the lens aperture and let the camera calculate the correct shutter speed. If there is too much light, the camera will automatically raise the shutter speed, whereas if there is not enough light, the shutter speed will be decreased.

5.4. Manual Mode

"Manual" mode, as its name implies, allows for complete manual control of Aperture and Shutter Speed. In this mode, both the aperture and shutter speed may be modified manually to any level; the camera gives you complete control over the exposure. This setting is often required when the camera has difficulty determining the optimum exposure under extreme lighting conditions. For instance, if you are shooting a subject that has a very bright area, the camera may make an inaccurate calculation about the exposure and either overexpose or underexpose the balance of the picture as a result. In such circumstances, you may turn your camera to manual mode, check the quantity of light in darker and brighter parts, and override the camera's exposure settings. If you need to confirm that the shutter speed and aperture are constant throughout several exposures, manual mode is also helpful. In order to effectively construct a panorama, for instance, the shutter speed and aperture of all the images must be same. Aside from this, some photos will be darker than others. In manual mode, once the shutter speed and aperture are adjusted to the preferred values, your photographs will all have uniform exposures.

6. Setting The Exposure

Light is the most important element to capture while taking photographs. It is important to keep in mind that the original meaning of the term "photograph" was "light drawing," as we have discussed before. In order to create an image that we are able to see, we need to have full control over the quantity of light that is used as well as the sensitivity of the light. To begin, it is important that we have a solid understanding of what is called to as the "Characteristics of Light." Then, we should learn how a camera and lens work together to manage exposure by using what is generally referred to as the "Exposure Triangle."

6.1. Light

The quantity of light that hits the light-sensitive surface of the camera is what is supposed to be called to as the "light exposure." Your subject is always illuminated by a certain quantity of light in every single environment, regardless of whether the light coming from the scene is natural or artificial. This amount of light may be characterized. This quantity of light varies depending on four essential parts: the intensity, the duration, the distance between the light source and the subject, and the modifications to the light. The behavior of light is interesting because it has characteristics of both waves of energy and particles at the same time. The dual nature of light as a wave and a particle influences how it behaves both on the inside and the exterior of a camera and lens. Let's take a look at the light's intensity, duration, distance, and how it changes as it travels:

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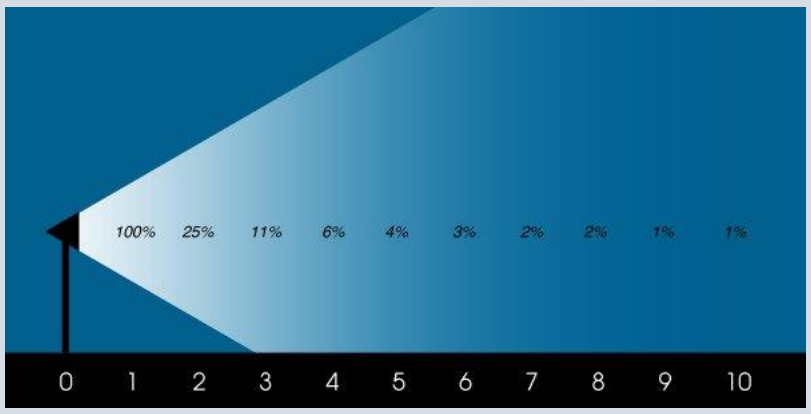
Intensity, or the degree to which the light is shone: Photons are particles of light that may be produced by a source of light; the more photons that are generated by a light source or reflected by an object. The number of photons that reach a sensor or piece of film influences the brightness of an image. The darker picture received less photon exposure than the brighter image.

6.1.1. Duration

The sun is a continuous light source and we often use sun light as natural light. But if the duration of sunlight is long, it may cause to have over exposed image. Artificial light duration is more able to be controlled. They can be turned on or off and some is emitted in a short-duration flash. If you keep longer the amount of time of light coming from a light source, photons number that are collected by the camera will increase. And the opposite; if the light duration is shorter time than it necessary, your image will be darker than it supposed to be.

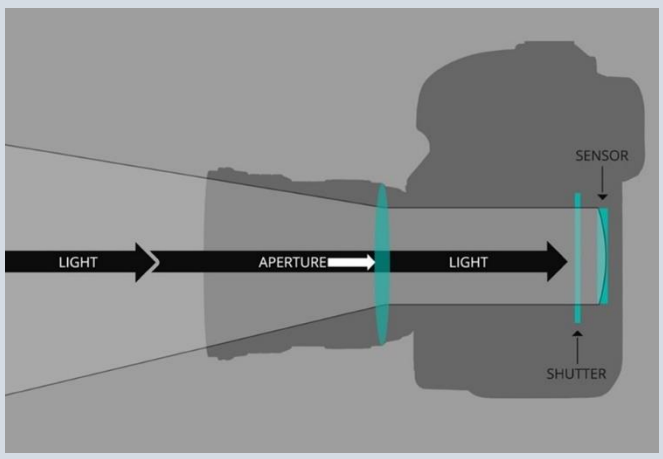
6.1.2. Distance



When you get closer to a light source, the number of photons that a camera is able to record increases. The longer the distance, the less photons you are able to collect. What happens if the distance from the light source is doubled? There should not be half as many photons and half as much light? Due to a phenomenon known as the Inverse Square Law, doubling the distance results in just a quarter as much light. This is due to the fact that we are discussing area rather than just distance. If the light source is not a laser, then the light will spread out in all directions as it is emitted from the most of the sources.

6.1.3. Modifications

When it comes to managing and sculpting light, whether it be natural or artificial, there is a limitless number of light modifiers possible. You are unable to make the sun less bright, but the clouds surely can. You may also shift your subject into the shadow or generate shade. To change light, you have a wide variety of equipment at your disposal, some of which are reflectors, diffusers, and gels.

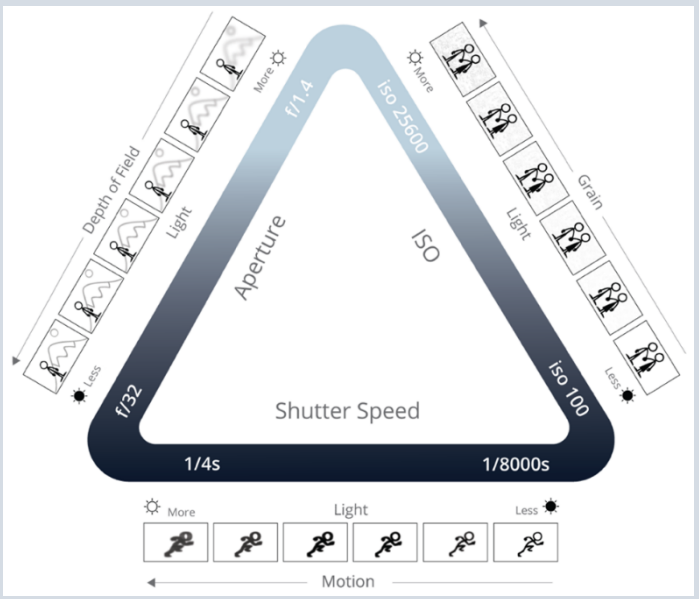


6.2. Measuring Light

We need to quantify light in order to evaluate its intensity, change our camera settings correctly, and then further modify them to brighter or darken a picture. This picture modification is what brings us to the mathematical idea of "exposure value," which is shortened as EV and is also commonly referred to as "stops." The intensity of light is its luminance, but even with a value given to luminance,

we have no interest in describing it since cameras can catch pictures in any kind of light, or even in total darkness. What we do care about is creating a reference, so that when we change camera settings, we are aware of how those changes will affect exposure and how to correct, if necessary.

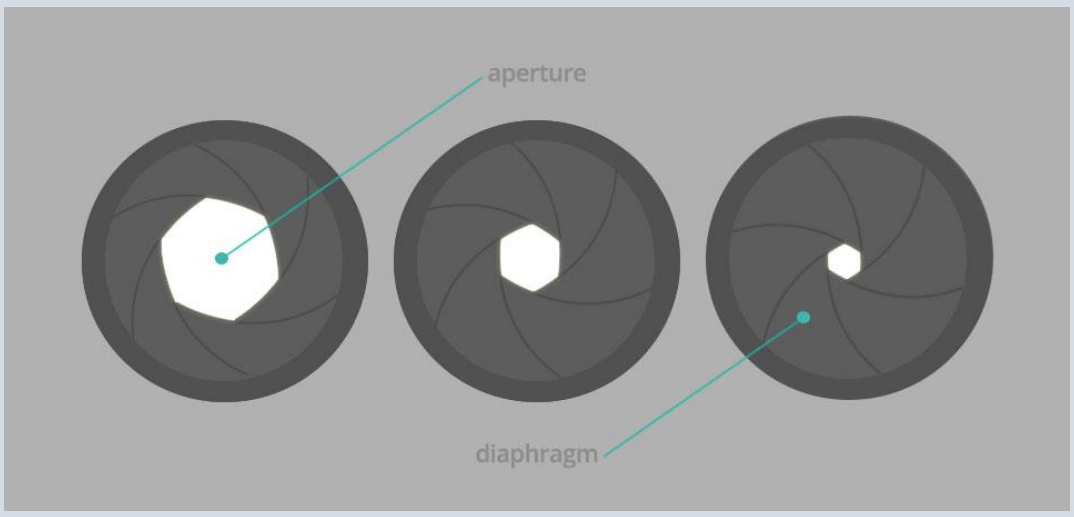
7. Exposure Triangle



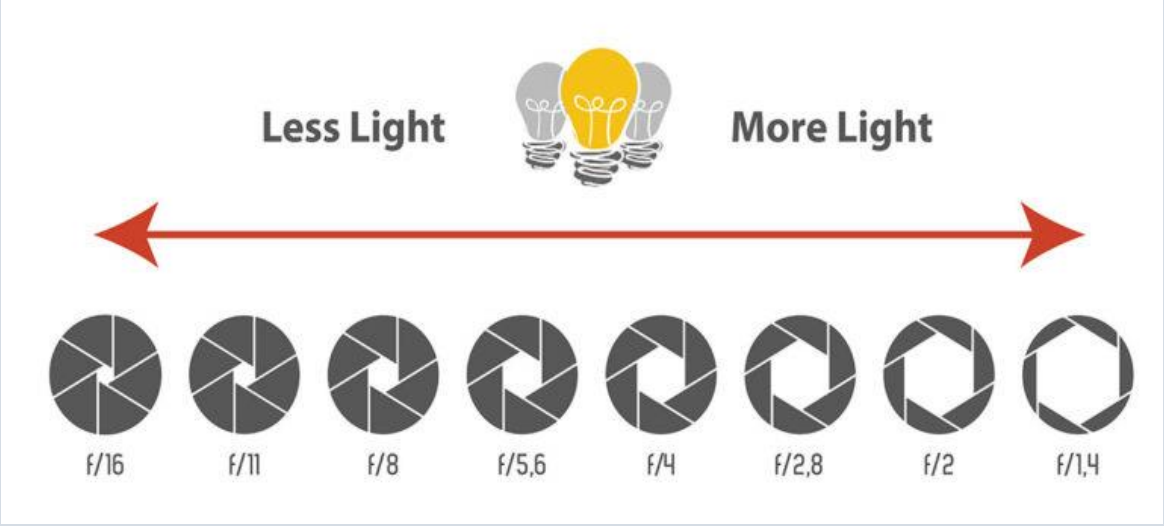
The three components that make up the Exposure Triangle are the Aperture, the Shutter Speed, and the ISO. Aperture, shutter speed, and ISO all work together to control the quantity of light that reaches the light-sensitive surface and the surface's sensitivity using these three camera and lens parameters (ISO). These three parameters not only have an influence on the light captured in an image, but they also also have their own distinct "side effects." Aperture regulates depth of focus, shutter speed blurs or freezes motion, and ISO may add or eliminate digital noise from a picture. Let's go even further into those three components now.

8. Aperture

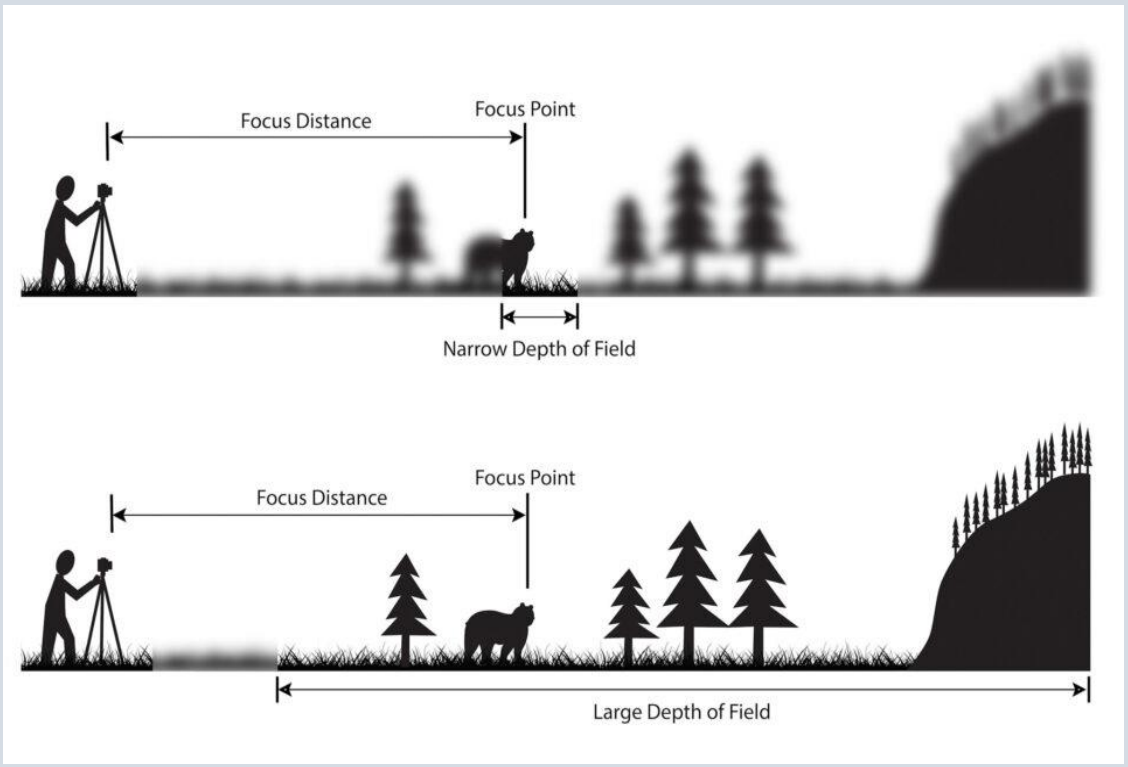
Aperture refers to the size of the lens's opening. Most camera lenses include variable apertures to manage the level of light that enters the lens. This aperture is controlled by a diaphragm composed of overlapping blades that may be adjusted to change the size of the opening through which light travels. The size of the aperture has a secondary influence on the shot, since the diaphragm modifies the angle at which light enters the lens. The aperture diaphragm, like the pupil in your eye, opens and closes to regulate the quantity of light entering the lens.



The smaller the number of apertures (f/2 or f/2.8) which will be represented by a smaller f/stop means the lens with larger opening barrel and more light entering to the camera. Standard f-stops, from largest opening to smallest, are: f/1.4, f/2, f/2.8, f/4, f/5.6, f/8, f/11, and f/16. The aperture size also controls the depth of field. Depth of field is a component of lens aperture size, lens focal length, the distance between the subject and the camera, and circle of confusion. When the f-number is decreased, such as to f/1.4, the depth of field becomes narrower. On the other hand, the depth of field will be larger when the number is increased (f/16). Additionally, it is affected by your focal length. When using a focal length that is greater than normal, the depth of field will be reduced.



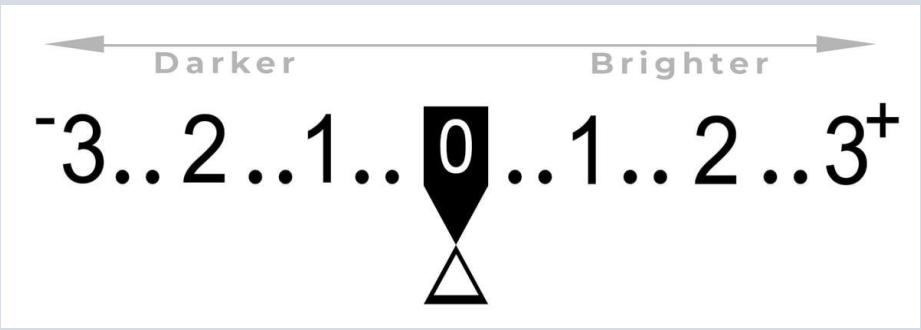
When you set the aperture on your camera to its widest setting, the range of the focal plane will be reduced to a very small distance. This result will vary depending on the camera and lens you choose. In the art of photography, this can be put to use to create unique compositions when shooting close-ups and, more commonly, to blur the background of a background that is further away while shooting portraits. It is important to keep in mind that certain camera and lens combinations will not produce noticeably narrow depths of field. Because of this, you should not believe that success an extremely shallow depth of field can be done simply by opening the aperture diaphragm all the way up to its maximum setting. The depth of that focus plane can be increased by adjusting the aperture diaphragm in the opposite direction, which brings it to its maximum narrow setting. This allows a great portion of the image to be in crisp focus.



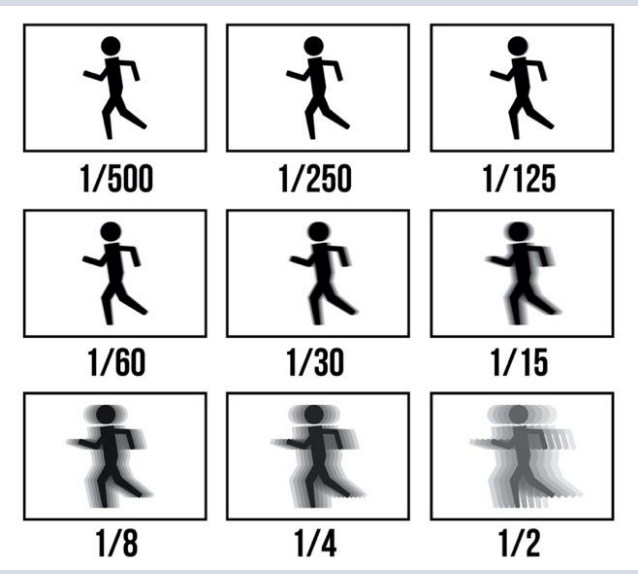
The aperture not only controls the amount of light that is allowed to enter through the lens, but it also affects the angle that light rays take as they go through the lens. To be clear, we are not discussing the way in which the lenses bend light; rather, we are discussing the way in which light is gently bent by an object when it passes by that item—in this case, the blades of an aperture diaphragm. This bending of the light is referred to as "diffraction," and it is a property that is associated with the wave nature of light.

Many photographers, when they first learn about aperture, believe that a small aperture is the key to maximizing sharpness because of the effect aperture has on depth of field. However, this is not true due to diffraction. By decreasing the size of the aperture, you will be able to get a larger depth of field; but this will result in an increase in the amount of diffraction present in the image, which will cause the image to become less sharp. When the aperture diaphragm is opened all the way to its maximum size, the lens receives the highest amount of light possible; as a result, it also receives the maximum number of distortions possible. You may eliminate these aberrations and boost the sharpness of the image that is formed by the lens by "stopping the lens down," which is another way of saying that you can reduce the size of the aperture diaphragm. The zone between f/4 and f/11 where aberrations are minimized and diffraction is controllable is known as the lens' "sweet spot". This sweet spot aperture is where you will receive the maximum performance of the lens in terms of sharpness and decreased aberrations, as well as getting a depth of focus that is near the middle of the range of possible values.

When taking a picture, how do you know how much light you'll need? Your camera already has a built-in light meter. You will either see an exposure signal in the viewfinder of your camera or on the display of your camera. This signal will tell you if the exposure of your photo is adequate, too dark, or too light. You need to get your indicator as close as possible to 0. If it appears that the photograph will be too dark, you have the option of either opening the aperture further, using a slower shutter speed, or increasing the ISO level. If it is too light, you should adjust it in the opposite direction.



9. Shutter speed

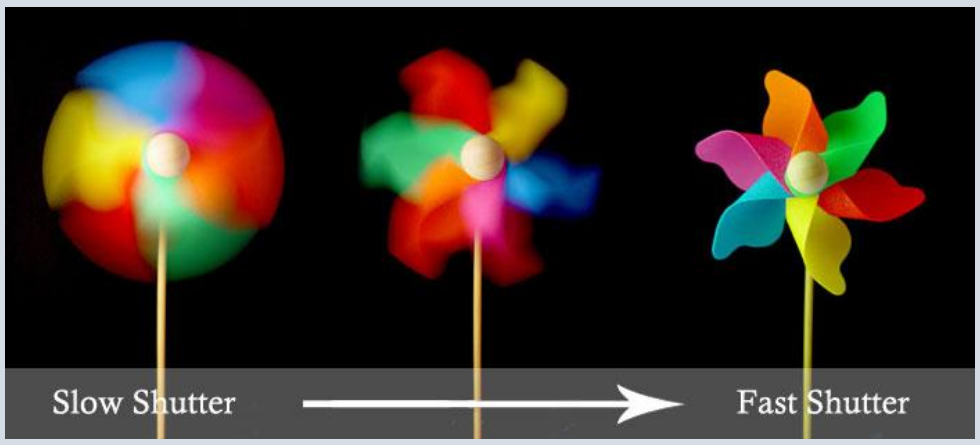


Shutter speed is a measurement of how long a camera's shutter is open, allowing light to reach the digital sensor after passing through the lens and aperture diaphragm. In other words, shutter Speed is the length of time an image is exposed to light, which can range from milliseconds to minutes. In contrast to the complexities of aperture and its relationship to light and optics, shutter speed is way easier. The longer the shutter is open, the more light enters the camera, so doubling the shutter's open time will double the amount of light entering the camera. By decreasing the shutter speed from 1/30th of a second to 1/15th of a second, for example, the amount of light entering through the shutter will be doubled. This doubling of light is the same as the doubling of light that happens when the aperture is opened, but it is done in a different way. This is a +1 EV shift. Changing the shutter speed from 1/2000th of a second to 1/4000th of a second results in a -1 EV shift and a reduction of the quantity of light entering the shutter.

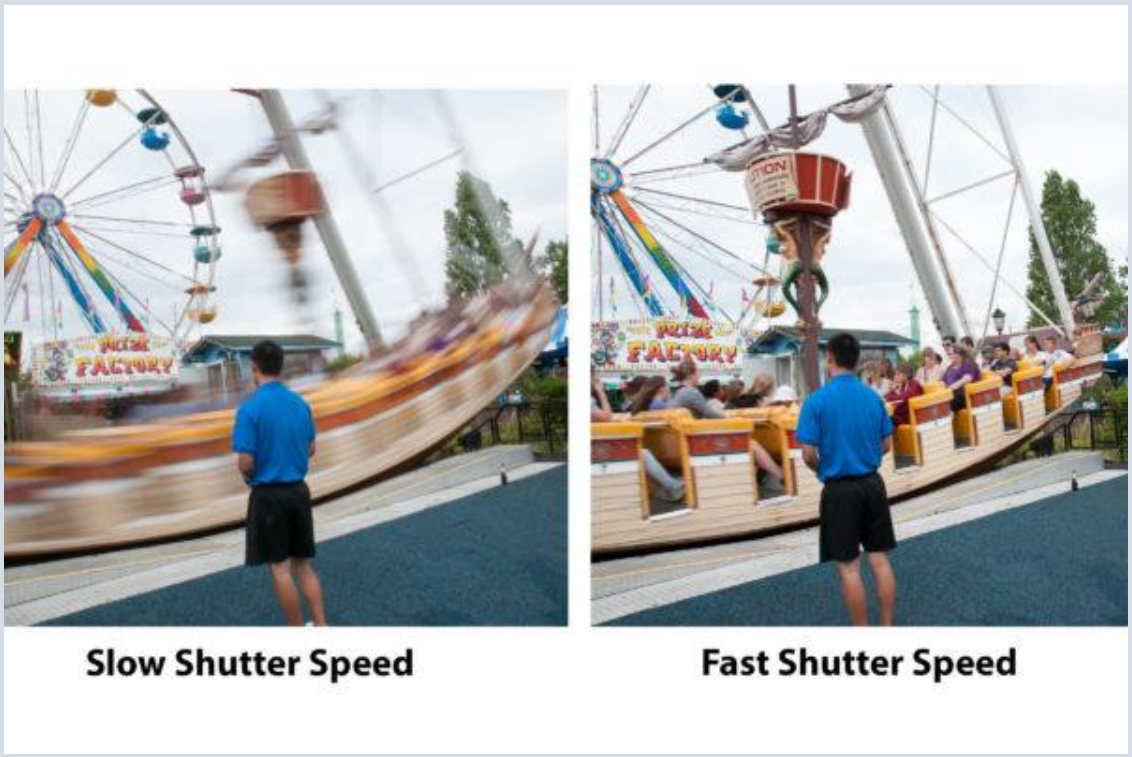
It is common practice to list shutter speeds in either complete seconds or fractions of a second. The maximum shutter speed of the most of SLR cameras is thirty seconds. If your camera is equipped with a shutter release that includes a timer, you can use the bulb (B) or time (T) capabilities to shoot photos lasting longer than 30 seconds. While the shutter release is depressed, the bulb function opens the shutter. The time function opens the shutter with the first press and closes it with the second press.

Shutter speed has also many "side effects." Slow shutter speed shows that the shutter remains open for an extended amount of time. Low-light and nighttime photography necessitate a slow shutter speed to ensure that sufficient photons reach the sensor or film. The camera is often supported by a tripod, and shutter speeds of very long durations can catch photographs in extremely dark environments or even trace the stars as they move across the night sky as the Earth spins. It is quite difficult to hold a camera absolutely still for any period of time, especially for a few seconds. Therefore, an image captured with a handheld camera for any duration will be blurred due to camera shake. Keeping this in mind is crucial while photographing with slower shutter

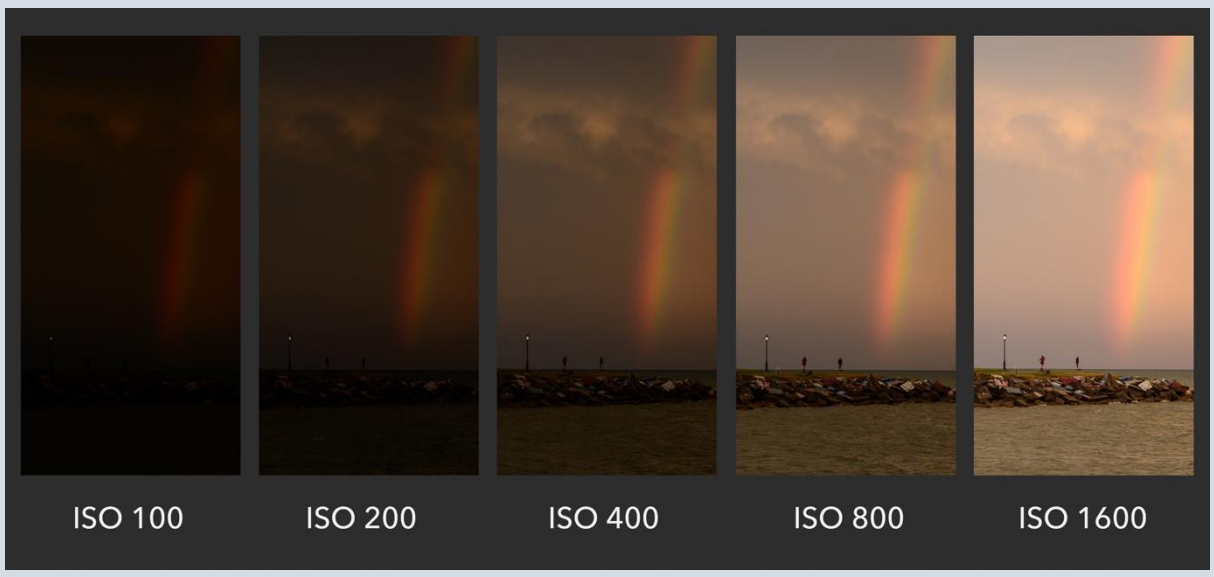
speeds. Slow shutter speeds permit motion to be captured in photographs. This includes movement of the camera as well as the subject or subjects. A slow shutter speed will allow cars, runners, animals, etc. to shift position during the period of a photograph. This movement will appear as motion blur on the frame and can be a fantastic creative touch in a photograph. Intentional panning of the camera, or simply random camera movement while the shutter is open, is an additional creative technique for slow shutter speeds.



A fast shutter speed means that the shutter is not stayed open for an extended period of time. This is useful for capturing fast-moving subjects, such as sports and other activities. The subject's velocity and closeness to the camera affect the shutter speed required to freeze it. With a faster shutter speed, it is possible to freeze the action of speeding cars, diving swimmers, racing animals, naughty children, and more. Fast shutter speeds are more difficult to use because the shutter must be released at the precise moment the motion you wish to capture happens.



10. ISO



ISO, which means as International Organization for Standards, is a measurement of a digital sensor's light sensitivity. A bigger number signifies greater sensitivity and the capacity to capture more light. ISO settings can range from 100 to 6400 depending on the specific camera used. ISO 100, ISO 200, ISO 400, ISO 800, ISO 1600, ISO 3200, and ISO 6400 are the most popular ISO settings found in digital cameras. When you double the ISO speed, the brightness of your photographs will likewise double, indicating that the values are relative to one another.

When we change ISO, we do not change the size of the pixel; rather, we electronically increase its sensitivity, or, in other words, we increase the voltage to the sensor. Internally performed by the camera's software and sensor, changing ISO is comparable to increasing the gain on a microphone.

Shutter speed : 1/400 s Shutter speed : 0.5s

On a sunny afternoon, you won't have any light problems, so you can set your ISO to a much lower number. Between taking pictures during the day and at night, you will have to play around with the ISO values to find the best balance between exposure and image noise. Here is a basic reference for common ISO values based on lighting conditions:

- Bright, sunny day outside: ISO 100 or 200
- Cloudy days, indoors, or window light portraits: ISO 400
- Indoor photography without flash: ISO 800
- Reserved for very low light conditions: ISO 1600

Digital noise is an unfortunate side effect of increasing ISO. The higher the ISO, the greater the amount of digital noise added to the image. Because you want your photographs to have the maximum amount of clarity, you need to pay attention to the ISO setting. Keep in mind that the higher the ISO, the lower the light level your camera can tolerate, but the higher ISO will also increase the amount of visible noise or graininess. Find a balance between how dark it is and how much noise you can tolerate in your photographs without damaging them. Also, be sure to have a tripod on hand if you will be photographing in low-light conditions in order to reduce the movement that could cause the image to become blurrier. You will want to do everything possible to achieve sharpness, even if it means increasing the ISO.

11. Composition

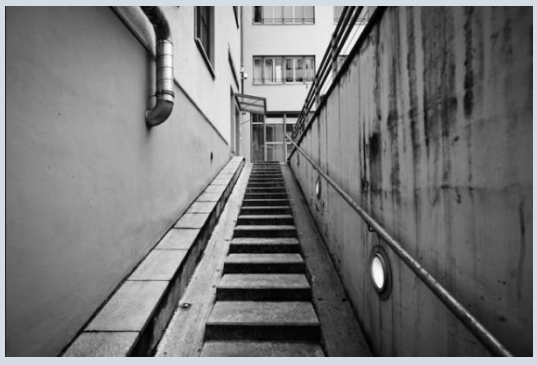
First and probably most important, there are no photography norms that you or anybody else must follow to! There are no clear guidelines or formulas that guarantee a proper shot. However, there are some principles that, if followed, might potentially make your photographs more attractive. It is important to keep in mind, however, that these principles are not anything more than beginning points or ideas. You should begin by taking pictures of things that fascinate you. A excellent picture is one that grabs the viewer's attention, keeps it, and makes them think. Composition is the art of arranging parts of a picture in such a way that they all work together to deliver a message or tell a story. All good photos have this characteristic. The act of looking at something, giving it some thought, and then selecting what you want your images to convey is what defines composition. It's one process to bring order to life's chaos, but it's also one of the most challenging areas of photography to perfect. Mastering great light, focus, and exposure is something that almost everyone can do, but understanding how to compose pictures in a way that looks good takes time, effort, and honest analysis of one's own work.

11.1.Rule of Thirds

Even though composition depends on the photographer's eye, the rule of thirds is the most popular composition technique. Since the time of the Renaissance, painters have used the "rule of thirds" as a tool to improve significantly the composition of their works. You will see an image below divided in three both vertical and horizontal. It is a compositional rule that directs you to position your subject or locations in the direction of lines or intersections. It's fine to put your subjects front and center, but more often than not, off to the side is a more effective compositional choice. When a viewer looks at an image, their eye is trying to pick out certain areas or things that are formed of lines or intersections. This principle of composition will become natural and easy to you after you have practiced with many images. The grid feature is an option that is available on most cameras and even some smartphones, and it assists the user in locating the subject of the photograph.

11.2.Leading Lines

Photographers apply "leading lines" composition method in a lot of ways to frame their photos. However, the most popular purpose of leading lines is to bring the user's attention to the image's actual topic. However, leading lines are sometimes used to bring the viewer's eyes deeply into the image. It remains one of the most effective methods for capturing interesting photos, allowing the viewer's eyes to follow a line and explore the image.



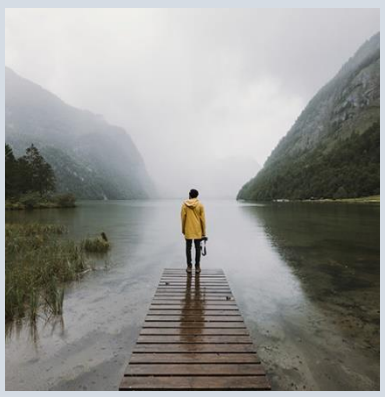
11.3.Negative Space

Negative space photography refers to the empty spaces surrounding the subject of a photograph. To put it another way, the space around the object itself is one of the factors that helps define the positive space (or main focus). In other words, in this sort of composition, the subject is generally referred to as positive space photography.

Both positive and negative space have the potential to describe the composition of your picture if they are handled intelligently and in collaboration with the rule of thirds.

Negative space art is an easy way to make beautiful, minimalist photos that have a big impact. Large amounts of empty space can really draw people in. At the same time, holding on to strong feelings.

11.4.Balance



Compositional balance in photography refers to the way in which the various elements in your shot relate to each other within the frame, considering their individual visual appearances and guaranteeing that equilibrium is preserved. In a composition that is balanced, some visual elements have better visual weight than others. Because of this, it is necessary to maximize a balance between the colors, shapes, space, and other compositional factors. Symmetry is one way to catch balance when you try to create composition.

The concept of symmetry, which refers to the perfect similarity of shape on both sides of a dividing line, is intimately connected to the idea of aesthetics. It's impossible to miss a perfectly symmetrical design. You'll notice an improvement in the quality of your compositions if you add symmetrical elements into them. Symmetry or dynamic symmetry is something we've seen since we were babies, so our brains have become accustomed to and expect it. As a consequence, this law cannot be ignored under any circumstance. When you see a scene with symmetry, you shouldn't just ignore it. You should do your best to capture the scene in a way that highlights and balances the elements in the shot. Breaking the apparent symmetry will result in the creation of an unbalanced picture that is unpleasant to look at for a human being.

11.5.Rule of Gaze / Space

The rule of gaze / space linked with the direction of subject that you shooting in movement. For example, you are taking the photo of a person who is biking. This rule says that you should leave more space in front of the person than behind though his direction. It is the same in some situation as animals or cars in movement. According to common idea of people, making this composition in photo gives the imagination of movement immediately.

When taking a portrait of a person, if the subject is facing away from the camera rather than straight into the lens, it is preferable to leave more empty space in the direction in which they are looking rather than in the area right behind them. This rule can even be used for things that aren't moving and aren't really looking. For example, if you were to take a picture of a flower, you might notice that the blossom seems to "face" in a certain direction. In the same way, if you were to take a picture of a person, it would be preferable to have more space in front of the person than behind them.to have more space in the direction in which they are looking, rather than behind them.

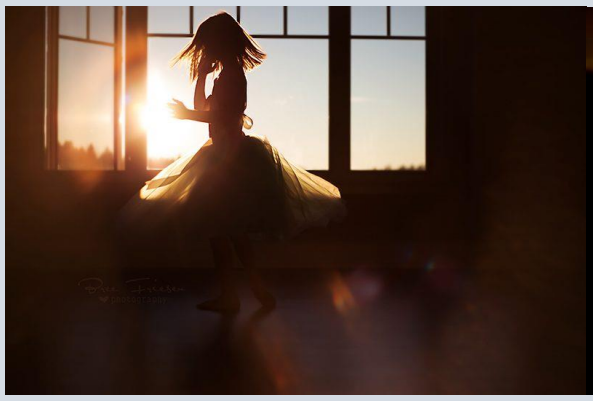
12. Importance of Light

Lighting is one of the most important parts of making a good image. Light is what makes it possible for an image to show information and, more interestingly, emotion. Once you know how light works, you'll be able to make a wide range of creative pictures. Along with light and dark, it sets the mood and atmosphere. There are two main types of light sources in photography: natural light and artificial light. The term "natural light" refers to any form of light source that occurs without the intervention of humans. This type of light can be the direct light of the sun on a day with clear skies, the diffused light made by a day with clouds or fog, or even the light of the moon when it is nighttime.

If you wish to make an image using natural light throughout the day, you need be aware of the sun's angle, as it will immediately affect your image. Most of the time, the light during sunrise and sunset is softer than the light during the middle of the day when there are no clouds. If you're taking a picture inside, put your subjects near windows to get more light from the outside.

Artificial light is any light source that can be moved and modified to suit your needs, such as flashes, lamps, and candles and also mostly can be controlled by photographers. Natural or artificial light can come from a variety of sources. In practice, photographers are aware of the directions and determine their position through the objects they capture. In most cases, the light should be coming on the object from the front in order for it to be more noticeable. However, the light should also be coming from the back in order to create a different atmosphere.

Back light source comes from behind the subject. This can create silhouette and long shadows in your photography. But if you still want to see some detail on your subject, then you can choose to add various light sources in front as well.




We are surrounded by a wide variety of natural and artificial (man-made) sources of light, and we have the ability to manipulate this light in many ways to produce a lot of emotions and settings in the photographs we take. There are four basic types of light.

Transmitted light	Transmitted light is visible light emitted by its source. This indicates that the light source is visible in the image. Such examples include candles and even the sun. Additionally, it is light that has passed through something before to reaching the target. This may be glass, water, or even the atmosphere.
Reflected light	This type of light is created when light reflects off of the object that you are illuminating. Almost every shot we take uses reflected light. Sometimes, transmitted light can also be observed in the same scene. For instance, a landscape photograph capturing the setting sun would have both transmitted and reflected light. However, if the sun was not visible in the picture, just reflected light would be present.
Hard light	Light that comes from a small apparent light source, such as a light bulb or the sun on a clear day. Hard light is also known as direct light. It often produces very dark and strong shadows as a result. Hard light can be useful for showing the textures of items (when used correctly).
Soft light	Soft light is a type of light that generates light that is low in contrast and has few shadows. It can come from any source of light that appears to be a large source from the perspective of your subject. The light from the sun is softer on days when there is cloud cover because the clouds serve to diffuse the light, which causes it to be spread out over a much wider area and so makes it appear to be a larger source of light.

The direction, hardness or softness, and temperature of light can all affect the mood and atmosphere of a photograph. For example, side light produces emotions of romance and nostalgia, whereas light from underneath produces emotions of fear. Hard shadows are more dramatic than soft shadows, and cool hue tones create more negative feelings than warm light.

13. Photo Editing

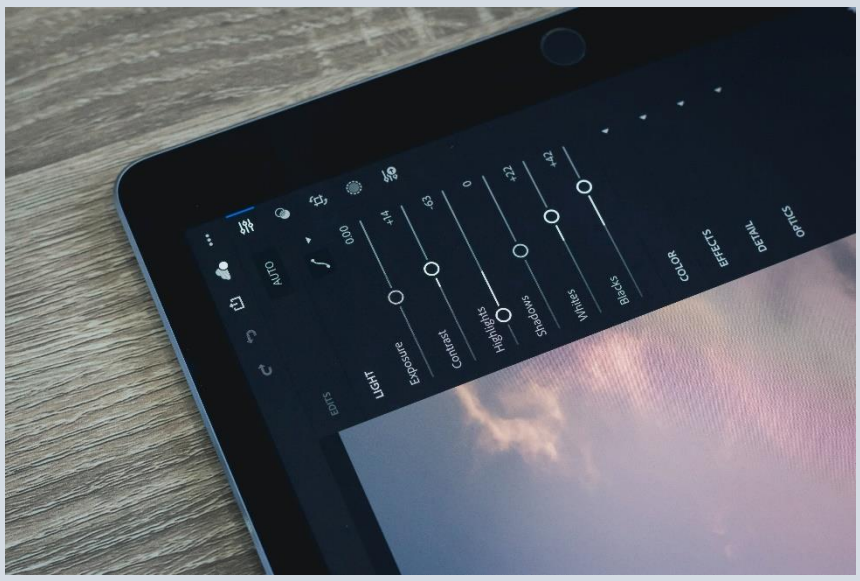


Photo editing means more than simply applying an eye-catching filter to a photograph. It's a technical process, but mastering picture editing is a crucial ability that will help you transform good photos into great ones. Let's start the editing process by choosing the right images. Any photographs that are unfocused or blurry can be deleted, and this is especially important to do if the subjects' eyes are blurry in the picture unless your purpose was not to create a blurry image. You should also check the exposure of the photographs, and if any of them are either too dark or too light, you should get rid of those as well. But if you have a frame of anything very fantastic that is dark, you shouldn't throw it away right away. A dark photo can sometimes be transformed into a beautiful image through the use of digital processing. When you have completed the beginning stages of limiting down your list, you will be able to focus on selecting the best images. We take a lot more pictures with digital technology than we ever did with film, so it's important to be picky when you edit. The editing process will help you become a better photographer because it shows you what you skipped in the field and what to collaborate on in your next shoot. When you are satisfied that you have selected the best images, you may begin to make necessary adjustments to multiple parts of your images, such as the brightness, temperature, grain, frame, and so on.

Adobe Photoshop and Adobe Lightroom are important tools for professionals and more expert photographers. Recently, Adobe Photoshop online version is free for every kind of users. You may take this advantage to improve your editing skills with using Adobe Photoshop online version. There are many further free photo editors that are easy to use and available for mobile devices. Here is a short list of some useful photo editors to keep in mind.

Photo Pad for Mac	**Pixlr (Android, iOS)**
PicsArt (Android, iOS)	**Adobe Lightroom (Android, iOS)**
Snapseed (Android, iOS)	**LightX (Android, iOS)**

There are many ways to change an image with photo editor software. Many photo editors have common tools to edit a photo. But, some of them has limited options affect general modifications to your image and others allow you to make more changes and adjust the parts of the image. When you know the common tools of photo editors, editing process will be shaped according your eyes and your will. Sometimes

images can be totally right exposed, good white balance and perfect framing but as you are the photographer, still you can adjust your images how you desire or imagine. Here are some of the photo editing tools you'll use for basic editing:

13.1.White Balance

White balance is adjusting colors to match the color of the light source so that white objects appear white. When the different light sources like sunlight, bulbs, fluorescent hit the subjects may reflect different colors than it supposed to. Despite the fact that these various light sources look colorless to the human eye, they really release light in a variety of colors. The image sensor of a digital camera will represent these color variations just as they are, with the consequence that without extra processing the color of the shot will appear to change according to the light source. For example, photos shot under incandescent lamps are automatically made bluer to correct the reddish color that comes with this sort of illumination, thanks to auto white balance. White balance provides you to adjust colors so that the image looks more natural. Adjusting white balance is very simple with any kind of photo editor software, but also you can do it in your camera settings manually with choosing some features as auto white balance, daylight, cloudy, etc.

13.2.Exposure

Exposure as we mentioned a lot before is giving you the amount of light of picture. Adjusting of exposure is all about the brightness or darkness of the image. Adjusting to the highlights of the image control just the brighter parts of the image and similarly, adjusting shadows control only the darker locations of the image. Adjusting “whites” make the brightest points of the images more shinny and “blacks” make the darkest point of the images darker.

13.3.Contrast

Contrast means the level of difference between the lighter and darker portions of the image. When you add contrast to your image, it causes the darks to get darker and the lights to become brighter. When you reduce the contrast to your image, result is dark and bright parts get close each other and then image fades.

13.4.Clarity

Clarity has effect to improve the appearance of the texture of the image if you add it. On the other hand, if you reduce clarity, it will affect to your image less sharpness and dreamy ambience.

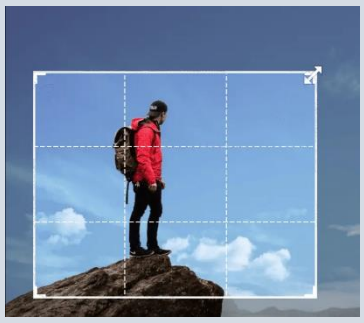
13.5.Saturation

Saturation shows you the amount of color of the image similarly to vibrance. If you add saturation to your image, colors will be more. If you reduce saturation, colors will be faded and the minimum level of saturation is only black and white.

13.6.Noise Reduction

Noise occurs in high ISO usage or underexposed shooting generally. Noise reduction provides to correct noise smoothly in the photo.

13.7.Crop



While you edit your images, you may notice that you shoot the image unbalanced, not straight or out of composition. You may solve with cropping all this shooting errors. You may make straight as much as supposed to be. You may create a composition that you could not do it while in photo shooting. But remember that while you cropping the photos, you reduce the quality of image due to increasing number of pixels.

13.8.Lens Corrections

Wide angle lenses create some distortions as we mentioned before. Lens correction tool can adjust these distortions made by the lens when capturing the image. Because of every lens distortion is different, you need to select the lens you used in photo editors like Lightroom, for adjusting automatically.

13.9. Radial Filter

Radial Filter provides you to effect of exposure, highlight, shadows and etc. in a specific location inside (or outside) of a circular or oval shape.

13.10. Graduated Filter

Graduated Filter is the same as the radial filter, but it makes the adjustment with a straight line instead of a circle.

13.11. Brush Tool

Brush tool allows you to adjust specific points of the image helping by a “brush” that you can control with mouse or pen tablet.

Chapter 3 Digital Storytelling Creation

1. Digital Storytelling Creation

This chapter covers the instructions on how to begin creating your own digital story.

Digital storytelling is a compact, simple version of digital media production. It is a creative process for people to share their personal stories. Digital stories are usually formed combination of images, videos, music, recorded audio narration and text. It does not have to use all the items simultaneously, but visual and auditory must reflect your point of view to the audience.

Digital stories' length can be between two and ten minutes, it depends on the storyteller and the story itself. The topics can be about a personal feeling, memory or idea, historical event, abstract concept, or a fantasy world, whatever you desire to express. The limit is your imagination. These stories can be shared in the web or with people in projects.

You can watch some digital story examples:

1.1. Choosing a Topic

Digital storytelling can take many different shapes and it is the art of telling a story digitally. All digital stories share the same element: the narrator conveys the story from their perspective. Digital storytelling frequently entails sharing a personal experience, viewpoint, or event. There are many other types too, including invitations, historical events, etc. Your audience will be more captivated by your narrative the more vividly you tell it. However, how can you convey your concept such that it will stick in others' minds and spread to others? Selecting a theme is the first step. This subject may be one you pick on your own or one that is related to an assignment.

We'd be pleased to inspire and encourage you to select a subject for your digital narrative if you're unable to do it yourself. The topic you select in this paragraph will provide the foundation for the subsequent phases.

Here is a collection of potential ideas for a digital story's guidelines that may serve you as an inspiration.

A story	• You may utilize digital storytelling to convey a narrative. Both a true narrative and fiction are possible with this. • Several illustrations include the introduction, a fairy tale, a day in the life of a hero, and a mathematical story... • An illustration of a computerized superhero story
An occurrence in history	• A historical or private event can also be shared through digital storytelling. • Examples include innovations, new pets, school activities, and global conflicts. An illustration of a computerized narrative regarding the birth of Jesus.
Providing a viewpoint	• Digital storytelling makes it simple to include one's viewpoint because it is conveyed from the perspective of the storyteller. • Several examples include expressing an opinion about a claim, debating... • An illustration of a digital tale portraying a death penalty viewpoint
Tutorial	• Tutorials are another component of digital storytelling. This can be delivered by a teacher and the students to supplement or take the place of "live" instruction.

	• Examples include a step-by-step guide, directions, the features of a rose, etc. • A sample of a tutorial video that demonstrates “how to create a tutorial video”
Presentation	• Digital storytelling may supplement or substitute in-class "live" presentations. • Options include a writing assignment, a discussion of personal development, observation, etc. • An illustration of a digital story where an adolescent displays their creative side:
A call to action	• You may utilize digital storytelling to invite guests to an activity. Examples include a celebration, music event, sleepover, and a student club. • An illustration of a digital story inviting people to a gathering
So many more	• Obviously, there are a variety of different uses regarding digital storytelling; get crafty!

1.2. Choosing the right message

After you have decided on a subject for your digital story, you need to decide how you will organize your thoughts. It's crucial to take the impact of storytelling into account while crafting your message.

You can start to write a draft to find some answers to those questions:

- What is the point of the story?
- Who are you telling the story to?
- Why are you telling the story now?
- How you will map to your story? Is it in the past, or present or it has a timeline?
- How it starts, how it ends? Is it keeping the focus until the end?

While you are writing the draft, you will create a frame of your story and in a while, you can add or remove some parts. Before you complete your script, you can read aloud and record your voice to hear how it sounds. Also, this will give you the length of the story. Even if it is not obligatory to use your own voice to tell your story, it is always keeping the focus easier to follow the story if there is a teller's voice.

The following are the stages of effective storytelling.

1.2.1. Recognize the target audience

Even if you are enthusiastic about a topic, if you don't modify it for the intended audience, the message may be utterly misunderstood. Therefore, adjust the story for the intended audience so that they can genuinely comprehend the message you're trying to convey. This stage is critical because it establishes the length of the story, the vocabulary and terms you need to use, the visuals you need to use, and the platform on which you would like to publish your digital story.

1.2.2. Develop a good relationship with the target audience

You need to be sympathetic toward others if you want to persuade others of your beliefs, solutions, or goods. In any case, it is difficult at times, particularly if you cannot observe the target audience. Even though your digital story is going to be on the internet thus not in real-time, the connection is still very much feasible.

The audience wants something in exchange for the hours they spend reading, listening, or watching your work. Use a quotation, figures, photos, or something else pertinent to get their attention. Bonding might also entail winning over the target audience's loyalty or amusing them with humorous material.

So, attempt to engage with your audience rather than being such a professor who does not pay attention to their target audience.

Your digital tale must leave the audience with something they can use, ideally piquing curiosity in even more of your material. This is how you make sure you have established a relationship with the audience

1.2.3. Be aware of the purpose of the story

People usually automatically pause to consider the objective before deciding on a specific decision. Without having a specific aim, what good does it do to blindly and randomly come up with market strategies? This is also true with the narrative. Each story that is told has the potential to serve a function, and those functions might vary greatly. Decide on the story's conclusion beforehand, and then structure the plot to achieve it. Be certain of the message you wish to convey beforehand. Afterward, you incorporate several details into the story which will support your argument. Of course, you can also do it the opposite way too. And on occasion, it will succeed. But the majority of the time, you will have a story that is disjointed, illogical, and unclear in its purpose.

1.2.4. Support your digital story with examples and data

You may utilize supplementary material in the story in the same way that you use gestures, slideshows, or songs in presentations. Charts can be used, for instance, to show patterns or transformations. It will make the point you're trying to make in the story much clear. Alternatively, you might support your statement with motivational quotations or images. Ensure the data is accurate, the plan is to utilize it in the story. If not, you'll have the direct opposite results and lose the trust your audience has for you. So doing some preliminary study is undoubtedly necessary. Since, admittedly, there is a ton of conflicting information available on the internet. Make sure your resources are reliable. Although it takes some effort, the result is a more convincing story that is significantly more credible.

1.2.5. Incorporate excitement into the stories.

Avoid making your tale uninteresting. You may be sure that the audience won't read your article all the way through, missing the important lesson that was ready to be conveyed. Keep it interesting, then. It is not possible to accomplish it through a few statistics and a few attractive visuals scattered throughout.

During the plot, use tension. You may do this by assigning the protagonist of the story a task or by inventing a foe. You also might open the story with a startling, absurd, or touching circumstance. The audience is curious about how the story's protagonist will survive.

You may also add some stereotypes or hunt for plot twists to make the story extra fascinating. Although the audience will be aware that things are not always either black or white by bringing up contentious topics sometimes, you may pique their curiosity and make them desire to learn more.

Never once will you hear anyone claim that telling a story is simple. However, if you can successfully convey your story, it will make a profound impact. We wish you well and we are excited to see your storytelling put to use!

1.3. Making the storyline and planning the plot

The subject is set, and it is considered how you want to convey your ideas. Within that phase, it is crucial to consider the optimal ways to organize the message to create a satisfying totality for your digital story. A storyline may be created to accomplish this.

Begin by documenting some thoughts as you conduct some thinking. Talk to your loved ones about your thoughts. Imagine a basic story that can be acted out.

Make a rough draft of the screenplay that will be recorded yourself reading it. Do not however give in to the need to tell a story entirely through pictures and sounds. People seek out personal voices. Be confident in your tone; everyone thinks they sound strange on the recording.

Stay close. Ignore all you have learned regarding speaking in a cold, serious, academic paper tone. It's not a writing competition. They want to understand the story you are telling. So, speak. You have to tell your story from your perspective.

Produce mediocre initial drafts. Avoid editing as you get further. When a person writes and edits, the different regions of the brain are being used. Allow it to flow. Write down the main points of your story, then revisit them to edit.

Keep it short, you will be astonished at the message you can convey just in a few words and with a few essential pictures if you write efficiently.

Maintain your wording basic and alleviate using complex terms. (Like “alleviate”) Then, read the text aloud.

You have to achieve depth and complexity, and often that is only done through telling hard realities, and personal truths, so just don't withhold. Nevertheless, in the end, you must decide what information you would like to reveal and to whom in a very private way.

Consider the story's plot line. Every story has a start, development, and conclusion, including a 2-minute story. The story's concept is revealed at the start, which also establishes the tension and excitement that ought to last the entire length of the narrative.

The conclusion is the point at which a minor revelation, enlightenment, or insight is made apparent. Although no one we know uses it, this is occasionally referred to as the desire-action-realization model. You will not have enough room for diversions in a 2-minute story. Meet the gratification the audience desires.

Improve your speed. Numerous people believe that pace is the real key to an effective narrative. The pace and flow of a story are what keep the public's attention.

Believe in your speech. Each of us has a unique way of narrating stories. Embrace your way.

Once you believe your story is complete, read it aloud to a companion. Frequently, your close associate will highlight obvious errors, improve a part's phrasing, or assist you in discovering your authentic voice.

It is possible to get began by asking yourself the subsequent questions:

- What sort of photographs are you looking for?
- How do you arrange the pictures?
- What must be mentioned in relation to each picture?
- What graphics, visuals, etc. can you employ?

1.4. Choosing Media for your Story's Audiovisual Elements

It's crucial to consider the materials you'll want before you begin producing visual and audio content. You may purchase or rent equipment like photographers, cameras, laptops, tablets, speakers, video screens, music equipment, etc., based on what you wish to utilize. This could be incredibly time-consuming, however, please note that it is possible to currently generate an infinite number of digital stories using only a smart cellphone.

1.4.1. Choose your photos carefully!

How many images do you need? Where you will start? Who you will work with? How much time will photo shooting last? All those details will be depended on your project content. You do not need to do perfect shots from the beginning. Until you are satisfied with the photos, keep trying. Give yourself time to get used to being inside of the creative process and try to be aware of new angles, lights, objects, and moments during photo shooting to inspire you.

Once you have all the images, you should upload them to your computer and choose the photos that you need to use in your project. After you make a selection, you can adjust your photos in photo editing platforms if it is necessary. You can adjust your photos of exposure, highlight, shadow, white balance, saturation, or vibration. Another adjustment might be the cropping. When the image is not straight enough or you would like to create a better composition, you can crop your photos.

A flatbed scanner is required when using ancient photographs. Make a unique file on your PC and scan all documents. You'll likely have to transfer any old 16-mm film footage to a facility that focuses on conversions of analog films to digital video files so keep in mind the digital photographs you use are in the

Utilizing current photographs is fantastic since it increases the likelihood that they were in digital form from the beginning. Acknowledge the video you will use has a horizontal format and then adjust your cropping. Don't turn vertical visuals into horizontal ones, but be aware that there will be darkness on both edges in large vertical forms.

1.4.2. Record your voices!

When you have all the photos you need, the next step is to record your sound while you read your script. The recording process is easy with any kind of smartphone application like Voice Recorder etc. Before you record your voice, practice to read loud your script to understand the required tones, emotions, and how long it lasts. Because even if you are reading a text, actually you are telling a story. It must be sincere and fluent. Whenever you are ready, open the application and start to read your script. You do not have to read at once all the script but be sure to keep feeling tonnage if you need to record in many parts. You can repeat how many ever you need. Listen to your records after you finished all to be sure you have proper voices.

1.4.3. Include music!

Frequently, it is best to add music. Select songs that reflect the pacing and flow of the story. This is typically the most straightforward step in the procedure. Most people have music playing in their brains that reflects the tone of the tale they are trying to tell. The best songs are frequently vocal-free instrumentals, such as classic, atmospheric, rustic, or jazz music.

Music is an option for digital stories. It is up to you to use it as background. You can create your own music or you can find license-free music that suits your story. Even if digital stories are considered better with a voice record of the storyteller, you can do without your voice but only background music. Then, your story has to have only the text on your images and it might cause you to follow difficult the story.

1.4.4. Think about ownership rights!

You might not want to put the complete music file in the story if you intend to post it online. You might wish to utilize copyright-free audio; for a large number of songs that will not cause any legal problems, check out Socialbrite - Free Music Directory and Youtube. Even if you are not earning money from your narrative, copyright rules still apply.

1.5. Choosing the Visual Materials Technique

1.5.1. Single-Shot

You can use one only image for your story if you think that image is the most effective one and you can tell all your story with that image. That perfect and exact image must present point of view of your story and at the same time, it must be impressive to keep the attention until the end. Story teller voice and sounds and texts can help to keep focus. Also, you can give some motion this one single shot image in post-production like getting closer or slide.

1.5.2. Photo Series

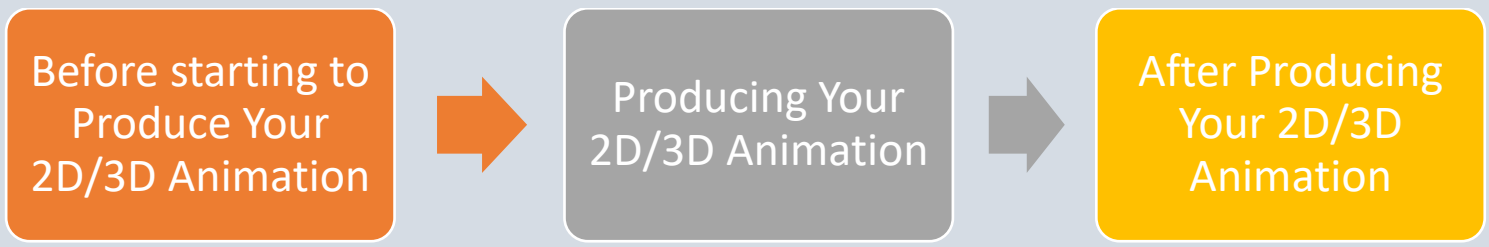
Photo series contain several photos for your story in a row. The image has to be related what is in your script. If you decide to use this technic, you can start to divide your text into parts for understanding how many and what kind of photos you should take. Later you will unite them all (photos, sounds and texts) with or without motion in post-production.

1.5.3. Stop Motion Animation

Stop motion is a technique to animate to still objects / images. With every image you create a small movement and when you edit, pictures will create a motion. Generally creating a stop motion requires good preparation before start your project. Even though stop motion has many levels in animation world, you can take this idea in a very simple way for your digital story. You can work with the objects/people/text to make them moving. You will need a good tripod to locate camera in a very certain point. For the lighting, you should consider each photo could expose differently, then you can try to be indoor with artificial lighting or you can choose a cloudy day or shadows to have more diffusion if you need to be outside. When your camera, tripod and Object / Subject are ready, start to take photo and move slightly and take another photo and again move slightly through the direction you planned and take another photo. You can repeat this until you complete the motion you planned. After you finish all your photos, you need to unite each still images in video editing program. Generally, human eye recognizes the movement fluently 25 frames still images in every 1 second. In stop motion, there is no rule for frame per second but it always gives good result if you create 25 frames image per second. That is why, take your time, be slow, make your object small movements when you take photos to create as many images as you can.

1.5.4. Animation Production

Having technical knowledge about animation production will help with digitizing your story. In this part, you will be guided to prepare your animation in three steps. These steps include;



- **Before starting to Produce Your 2-D/3-D Animation**

For the production process to start, you need to have your story decided. After preparing your story, planning is needed. The planning stage is where you decide how many characters are there, whether will they interact with one another, where the animation is taking place, the music playing, the sound effects, etc. according to the plot. You make all the decisions at this point, including whom you will work with and the applications you will use to exploit the data. The script needs to be broken down into parts. The broken parts are called scenes. You need to eliminate unnecessary scenes or select what is beneficial to use. This process is called “storyboarding”. Here is a description of the animation frames that we designed for the scenario. Making a storyboard is writing down the mental images that correspond to the scenario you are viewing on paper. In these essays and illustrations, your scenery is starting to shape. Everything that has to be in the scene is up to you, including the feelings you wish to convey via your characters, the camera angles appropriate for the scenario, the character's position, and the scene's items.

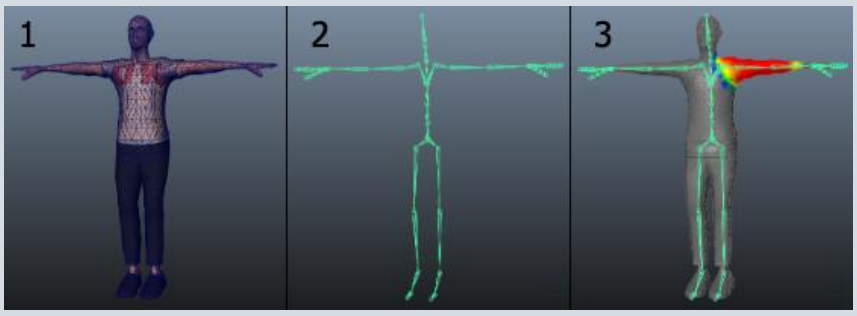
- **Producing Your 2-D/3-D Animation**

After having done your storyboarding, it is time for designing. This is the key to creating animation. This process is called “modeling”. You should work out the specifics in this stage, such as designing your characters and the settings where the animation will occur and decorating the 3D models in accordance with colors and textures. You may use a variety of free programs for this. There are some that will enable you to do the best quality work without any knowledge or money. You can get the best results with the program called Blender. If you want to use this program for modeling your story, you can click the link for the tutorial:

- **CG Geek - “How I Create 3D Animated Characters with Blender in 15 Minutes”**
- **https://www.youtube.com/watch?v=hXd4KEqrYEE**

Then the most important part of an animation which is movement is the next topic. Adding movement to a modeled character is called “rigging” and “skinning”. The simpler your character is, the fewer mistakes you will make. Rigging can be described as moving the skeleton of your character. After deciding how the skeleton of your character will move, you need to do skinning, which will help your character move more smoothly.

- **For these two processes, we encourage you to watch these two YouTube videos:**
- **Character Rigging - Blender 2.80 Fundamentals**
- **Blender 2.8 Tutorial: Rig ANY Character for Animation in 10 Minutes!**



Modeling Rigging Skinning

After completing this step, it is time for the animation process, you will decide how your character is going to move, how it will breathe, etc. Be patient during this process, as it will not be as easy compared to other steps. For this, we recommend watching tutorial videos.

- **You can check out the tutorial of the program CG Geek prepared, which is called “Become a PRO at Animation in 25 Minutes | Blender Tutorial”:**
- **https://www.youtube.com/watch?v=_C2ClFO3FAY**

After the animation process, you have completed the hardest parts. Now it is time for the “rendering”. Both in 3D animations and 2D animations, you need to do the rendering. This process means separating the frames for each scene. The purpose of rendering is to create a video clip or a collection of discrete frames based on pixels. For this process, do not be a perfectionist, remember you are just starting to learn this skill. If you want to have a detailed and more qualified scene, you will need to do more rendering.

- **For this process, you can check out Blender Guru’s video called “Part 6, Level 1: Rendering - Blender 2.8 Beginner Tutorial”**
- **https://www.youtube.com/watch?v=ZTxBrjN1ugA**
- **After Producing Your 2D/3D Animation**

After having completed your animation, it is time to add the finishing touches. For this process, you need to add your visual effects, color retouches, music, and your voice recording. For this step, you can use the program called After Effects. After giving it a final look, you can upload your animation on your preferred platform. If you need a guide during this step, you can check out Tonika Pantoja’s video called “How I use After Effects for my Animation Work”:

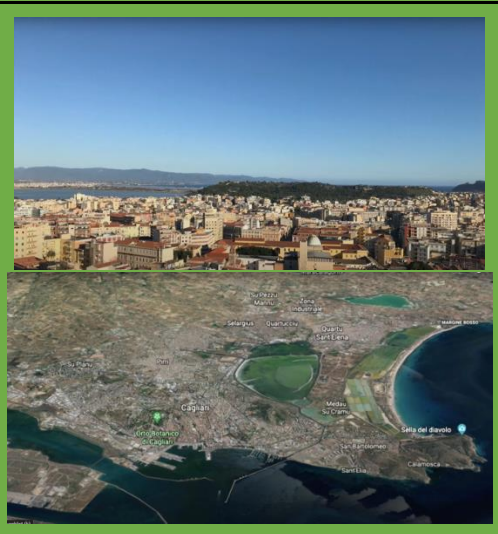
2. Storyboard

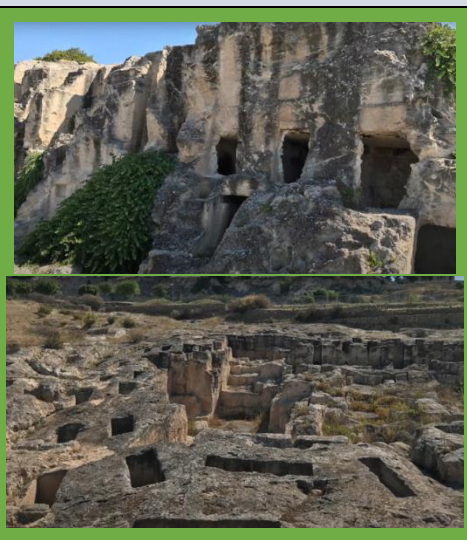
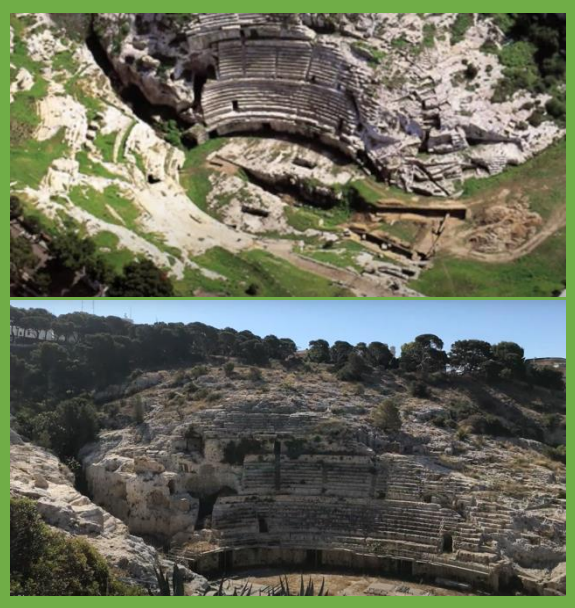
Story board is a guide for matching scripts scenes and images while you create and edit the story. It is very helpful to make path and frame before you start the project. There are two columns in the chart. Left column is for writing the scenes of scripts and right one is for which kind of image you want to design for this part.

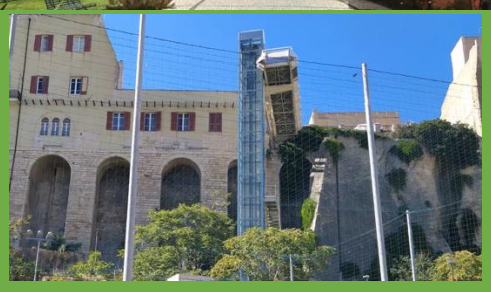
This chart will guide you to match your recorded voice and taken photos in editing your story.

Story Board Chart		
	Script Scenes **You can write down here the scenes of your script.**	**Images for Scenes** **You can describe as text or draw the image that you want to create right here.**
1		
2		

An Example Digital Story Board Chart: This chart will be filled from the images of a digital story that is completed already. Even though there are result images in this chart, this can give you an idea for your project. You can write down to the right column what you have in your mind or draw basically. Do not forget this chart will just guide you when you start editing your video. You can add or remove every kind of item anytime you decide.

Story Board Chart		
	Script Scenes **You can write down here the scenes of your script.**	**Images for Scenes** **You can describe as text or draw the image that you want to create right here.**
1	Cagliari is the capital city of Sardinia an Italian island in the middle of the western Mediterranean Sea.	
2	City’s multi-layered history is still visible in different areas	

3	like the Punic necropolis called Tuvixeddu whose tombs were used as shelters during WWII	
4	or the roman amphitheater partially excavated in the rock and whose fully capacity is estimated in around 10.000 people	
5	or the medieval towers built in the early 14th century the highest of them used by General la Marmora in the 19th century as one of the highest points in the island in order to create an accurate map of Sardinia.	
6	But Cagliari also presents a number of scars resulting from the bombing of the city in 1943.	
7	Some of the scars have become new spaces in the city's current layout but others are still waiting for their new role in people's lives particularly in the historic district called Castello.	Images from Castello 
8	The area is chosen for my research was once the site of Palazzo San Placido a 16th century building next to the royal palace in Castello owned by a wealthy family bombed in 1943 and eventually demolished in 1972	

9	nowadays the site is a small square where people can enjoy a stunning view over the eastern part of the city and the gulf.	 
10	This is one my favorite places in Cagliari although popular among tourist. This is a quiet space where you can sit for a coffee or quick lunch while enjoying the view.	
11	Through an elevator this space is also connected to the outdoor sport facilities in the plain below into an eaten urban garden.	 
12	What remains of Palazzo San Placido today is a single wall and was my curiosity about the history of that wall that triggered my research.	
13	What's the relationship between the community living and working in Castello in that space is it considered heritage and what is heritage to them?	
14	This research will try to answer such questions engaging with the community in Castello through interviews and workshops to explore their perception of the spaces they're familiar with but through different perspectives.	

3. Some programs for preparing and showing digital storytelling

PowToon

It is a tool that allows you to create an animation using many materials such as speech bubbles, shapes, pictures, characters. PowToon has both paid and free options. Requires membership. It is a program that provides English usage. It can be used on computers, tablets, or smartphones.

Storyjumper

It is a platform that allows creating digital stories through a website. The program offers fairy-tale environments, characters, objects and pictures. Users can both publish their own stories and read other users' stories. It allows to add voiceovers to the stories. It provides free service. You can log in using a phone, tablet or computer that can be accessed to the web platform.

Slidely

It is an app lication that allows to create slideshow videos using pictures and music. It can be used by logging in with a Facebook account or e-mail address. It can be used via computer.

Tellagami

It is a mobile application that can be formatted according to the scene and character and can be spoken by recording a voice over this created character. It is available for iOS and Android operating systems. In addition to being free, it is required to pay for extra features.

Moovly

It is a web-based presentation program that works with drag-and-drop logic, which can make various visual presentations such as animated videos, banner ads, video presentations. Animation content can be created. It is easy to use. The first 30 days usage version is free. There are free templates and stock images. There is an additional fee for adding videos.

iMovie

iMovie is a video editing software by Apple for Mac and iOS (iPhone, iPad, iPad Mini and iPod Touch). Since 2003, iMovie has been included for free with all new Mac computers. iMovie captures video to a Mac using the FireWire (IEEE 1394 interface) on most MiniDV format digital camcorders or the computer's USB port.

Animoto

Animoto is a cloud-based video creation service that produces video from photos, video clips, and music into video slideshows, and customized web-based presentations. It consists of paid and free sections. You must be a member to use the program.

Aurasma

Aurasma has augmented reality software. Augmented reality is an interactive image creation technology that we can watch on the screen of a technological device by placing a digital object, material, or any living thing on a real-life image with a technological device (Smartphone, Tablet) camera. Aurasma application can work on phones and tablets with Android and Ios operating systems.

GoAnimate

It is a browser-running animation maker with which you can create animated videos, infographics, presentations, or digital stories. The free usage period is limited to 14 days. To use it later, it must be purchased with monthly tariffs.

Pixton

Pixton is a website that allows users to create their own comics with a variety of comic layouts, numerous character and background options, and a host of creative options. Its language is English.

4. The Importance of Teamwork in Digital Storytelling

Students can benefit from a potent 21st-century educational environment using digital storytelling that takes advantage of their aptitude for and curiosity about computers. Students have the chance to practice project management abilities like planning, multitasking, communication, creativity, tenacity, and collaboration while directing the process of generating a compelling digital story. In order to build and cultivate a pleasant and effective team atmosphere, successful collaboration depends on synchronizing all teammates by creating an atmosphere where they are motivated to contribute and engage. Teammates need to be adaptable enough to function in collaborative contexts where teamwork and social interdependence are prioritized over personalized and competitive aims. Digital storytelling in the classroom can help students strengthen their communication and collaborative abilities. Since it raises students' interest, it has been referred to as a pedagogical reform and an "effective learning atmosphere to stimulate interaction and co-construction of value" in education. The art of storytelling is regarded as the foundation of digital art. This is so that it may successfully connect with people by integrating many elements of a larger tale. Utilizing internet technology including short videos, graphic art, graphic novel graphics, and motion, it accomplishes this by smoothly fusing together storylines. Digital storytelling and collaboration go hand in hand because effective storytelling should stem from dialogue and audience input. The digital storytelling method is significantly enhanced by teamwork.

4.1. Easy and Difficult Aspects of Teamwork in Digital Storytelling

4.1.1. The easy parts of doing teamwork.

Since there is a wealth of ideas in group work, it is beneficial for digital storytelling in terms of innovation and diversity. The group thinks together while working together. It becomes easier to come up with ideas. When team members focus on their own part in line with their own skills, the quality of the resulting project increases. For example, some group members may be better at writing scripts, while others may be better

at identifying characters. This makes the division of labor easier. Or some group members may be good at voice-over while others may be better at finding and combining pictures. It also adds value to the project if, when dividing up tasks, each person is specialized in his or her own area of expertise. Distributing work with the group can also shorten the production time of the project.

- Task sharing
- Providing a diversity of ideas
- Creating a fun working environment
- Having like-minded friends
- Increasing motivation
- Assistance
- Thinking together
- The fast pace of work
- A combination of different talents

4.1.2. The difficulties of teamwork.

One of the common problems about teamwork challenges in digital storytelling can be said to be the inability to agree on the same idea. Sometimes there can be a conflict of ideas within the group. Another problem is that team members are not available at the same time. In this case, it can be said that the time management part is necessary. Conflict of ideas and time incompatibility can lead to incompatibility and loss of time within the team. Another problem is the lack of sense of duty among team members. Each team member should have a good sense of duty. In addition, the group leader needs to be decisive in some conflicts of opinion, the group leader needs to lead the group well in indecisive situations and intra-group discussions.

- Not being able to get together at the same time.
- Conflict of opinion/disagreement.
- Some members are unwilling/uninterested.
- Failure to fulfill their duties on time.
- Prolonged disagreement.
- Being criticized.