



Multimedia Communications

| Marie Rutherford

MULTIMEDIA COMMUNICATIONS

MARIE RUTHERFORD



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ACCESSING AND USING MULTIMEDIA COMMUNICATIONS

Welcome

Welcome to ***Multimedia Communications***. This resource is designed to offer foundational knowledge and practical application of multimedia concepts. It aims to introduce learners to the essential principles, tools, and techniques used in multimedia communications. This open education resource (OER) is a comprehensive compilation of knowledge, and curated from a diverse array of reputable sources.

In today's digital age, the way we communicate has evolved substantially. The development of multimedia has transformed the way information is shared. Multimedia encompasses a ranged of formats and technologies combining text, audio, video, graphics, and interactive elements to share information in a dynamic and engaging manner.

The resource is organized in a chapter format with the chapters divided into subchapters/parts, making it easier for the reader to navigate and focus on a key segment of the chapter content. Each chapter begins with identified learning outcomes and concludes with end of chapter activities (explore, practice and apply) and key chapter terms.

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|-------------|-------------|--------------|
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| • Chapter 2 | • Chapter 6 | • Chapter 10 |
| • Chapter 3 | • Chapter 7 | • Chapter 11 |
| • Chapter 4 | • Chapter 8 | |

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- Check for printing costs at a local print shop (Staples, etc)
- Printing a large document is often significantly less expensive at a print shop than it is to print on your home printer or at the Library
- Ask about binding or 3 hole punching when you order, as this is usually low cost and will make your textbook easier to use

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ACCESSIBILITY STATEMENT

Accessibility features of the web version of this resource

The web version of *Multimedia Communications* has been designed with accessibility in mind by incorporating the following features:

- It has been optimized for people who use screen-reader technology.
 - all content can be navigated using a keyboard.
 - links, headings, and tables are formatted to work with screen readers.
- All images in this guide are described fully in the text, alt-tag or in an image description section for complex images.
- Information is not conveyed by colour alone.
- Pressbooks has built in features such as the ability to change font size.

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Known accessibility issues and areas for improvement

This book's adapters have attempted to improve upon existing features from the original sources and improve these materials for all users.

While we strive to ensure that this resource is as accessible and usable as possible, we might not always get it right. Any issues we identify will be listed below. If you encounter issues with this text, please notify your Professor.

List of Known Accessibility Issues

Location of Issue	Need for Improvement	Timeline	Work Around
APA formatted references (throughout the book)	APA references require the location of resources to be listed as a full URL	Wait for APA update	Reference entry URLs are not “linked” but the full URL is listed in text. Plan to optimize using tagging for next update.
Video Captioning	All videos have accessible CC & transcripts via YouTube or other provider, but may not have transcripts that fully describe non-speech content.	unknown	Current provisions meet AODA requirements.
PDF version of book	PDF version of book may not be fully accessible, as it was generated using Pressbooks export.	unknown	Text versions of interactive activities added. Work on-going.
.ePUB version of book	.ePUB file is generated in full colour. e-Readers with monochromatic display may have less than optimal contrast for content in textboxes.	unknown	Work on-going to further develop the .ePUB stylesheet.

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The web version of this resource has been designed to meet AODA requirements (<https://www.aoda.ca/the-act/>), along with the Web Content Accessibility Guidelines 2.0 (<https://www.w3.org/TR/WCAG20/>), level AA. In addition, it follows all guidelines in Appendix A: Checklist for Accessibility (<https://opentextbc.ca/accessibilitytoolkit/back-matter/appendix-checklist-for-accessibility-toolkit/>) of the *Accessibility Toolkit – 2nd Edition* (<https://opentextbc.ca/accessibilitytoolkit/>).

This statement was last updated on December 5, 2024.

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ACKNOWLEDGEMENTS

Land Acknowledgement

We wish to acknowledge and honour indigenous history and in the spirit of reconciliation, we convey our respect to First Nations, Métis, and Inuit people. Georgian College campuses are situated on the traditional land of the Anishnaabeg people. The Anishnaabeg include the Odawa, Ojibwe, and Pottawatomi nations, collectively known as the Three Fires Confederacy.

Multimedia Communications

This OER was first published on December 13, 2024.

This OER, ***Multimedia Communications*** is a collection of resources adapted by **Marie Rutherford** and program **faculty** and **students** to meet the needs of students in Office Administration courses at Georgian College. In most sections of this OER, updates have been made to the existing content to improve usability and accessibility, incorporate interactive elements and improve the overall student experience. This collection reuses content from the following key resources:

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Thanks and Gratitude

To all the contributors who have made this Multimedia Communications resource possible your expertise, and collaborative spirit have been invaluable in creating a comprehensive and engaging learning resource. We sincerely thank all the contributors whose efforts have made this Multimedia Communications resource a reality. Your dedication and hard work are deeply appreciated.

A heartfelt thank you to **Jen Booth**, OER Librarian from the OER Design Studio at Georgian College, for her persistent dedication in content curation, developing H5P interactives. We are also deeply grateful for her exceptional skills in copy editing, proofing, and ensuring accessibility compliance.

Our deepest gratitude to **Diane DeCunha** for her invaluable contributions to this textbook. Your meticulous review of the content and for assisting with the creation of engaging end of chapter exercises have significantly enhanced the quality and effectiveness of this resource.

We would like to extend our gratitude to our program students **Emma Needham** and **Krishma Krishma** who have played a crucial role in the development of this resource. Your enthusiasm have been invaluable in bringing this project to life.

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CHAPTER 1 MULTIMEDIA DEFINITION AND APPLICATION

Multimedia Communications by Marie Rutherford

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Please visit the web version of Multimedia Communications (<https://ecampusontario.pressbooks.pub/multimediacomm/>) to access the complete book, interactive activities and ancillary resources.

Learning Outcomes

- Define multimedia and explain its application
- Outline the main components involved in multimedia communications
- Explain the evolution of digital and social media and describe its interconnectivity with multimedia
- Explore online engagement behaviours and digital footprint concepts
- Practice and apply multimedia concepts
- Identify and define key chapter terms

To open this chapter, watch the following video from Helen Morris-Brown on ***The Psychology of Communicating Effectively in a Digital World (16 mins)*** on YouTube. (<https://youtu.be/3aPaRWUqO-w>)

Introduction to Multimedia

Multimedia is a form of communication which combines diverse elements of communication formats. These elements include text, sound, audio, and video. The combination of these elements provides an opportunity to present content in an **interactive** and engaging manner. Multimedia is an effective communication method as it enhances the presentation of information and if designed effectively it often captures the attention of the audience.

Digital media communications encompasses the exchange of information through digital technologies. Multimedia is a **subset** of digital media

Multimedia technology is often computer assisted tools or computer based applications which allow the developer to present content. Through the use of multimedia technology a creator can develop, manage, and manipulate multimedia elements to customize a presentation.

Application of Multimedia

Multimedia is everywhere. Its usage and application is found in entertainment, education, social media, website and webpage design, virtual reality, and in many business sectors. Organizations use multimedia presentations for training, onboarding, advertising, marketing, product promotion, and much more.

Categories of Multimedia

Multimedia is placed into two category types based on how users interact with it.

Linear. This is a non-interactive format of multimedia where the ability for the user to interact with the content is not presented. The user also has little or no control over how the information is presented.

Non-Linear. This is an interactive format of multimedia where the opportunity is presented for the user to engage in some way with the multimedia presentation. Interactive features can include; hyperlinks, buttons, games, surveys, tutorials, simulations, and games. **Hyperlinks** are added to a presentation to take the viewer to another location within the document or outside of the document. While interactive **buttons** are added to transform the presentation into an interactive activity and engagement tool.

Enhancing Engagement: The Power of Multimedia

Multimedia presentations are powerful as a communication tool. A presentation can simplify complex concepts and make them easier to digest. Multimedia leverages the human desire for visual appeal by incorporating images, videos, sounds, and graphics. These elements can capture attention and engage the

viewer. Adding clickable buttons and interactive elements like quizzes enhances the end user experience, by often associating a deeper meaning to the content.

Compared to text alone, videos and sounds can elicit an emotional response. These response can support an association with the content to make it more memorable for retention.

Creating Multimedia

Creating a multimedia presentation involves several key steps to ensure it is effective and engaging. Throughout this resource these steps will be revisited and explored further.

1. **Preparation:** Identify your audience, define the purpose, and gather content.
2. **Planning:** Outline your presentation and storyboard multimedia elements.
3. **Design:** Choose a presentation tool and integrate multimedia elements.
4. **Content Development:** Write your script and edit your content.
5. **Technical Setup:** Check software/equipment and test multimedia elements.
6. **Practice:** Rehearse, time your presentation, and get feedback.
7. **Delivery:** Engage the audience and be prepared for questions.

This chapter explores the evolution of communication media, tracking its development from traditional print to interactive multimedia formats and digital platforms.

Attribution & References

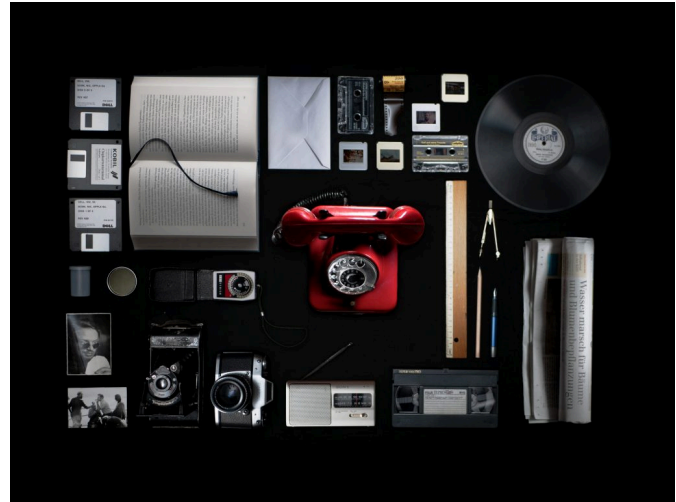
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1.1 HISTORICAL CONTEXT OF COMMUNICATION

History of Communication

Over thirty years ago, if you wanted to research a topic for a class assignment, you turned to printed books, multi-volume encyclopedias, and periodicals such as journals and newspapers. The only way to access these sources was a trip to the library. Sources like multi-volume encyclopedias were expensive, took a long time to produce, and quickly became out of date. After you found your resources, you either took notes on them at the library, or trudged home carrying heavy books to flip through later. Now, of course, a quick Google search on your phone from the comfort of your own bedroom will produce the books, newspapers, and journal articles you need for your assignment. Some will ask you to pay for access, but others (often through your library) are free.

The way we convey information to one another has evolved: from oral traditions to the printed book; from the first overseas telegraph to the Internet. When you look at the research scenario above, you can see the impact of the Internet on your daily life as a student. In this chapter, you will see how each stage of the evolution in communications created a profound impact on personal life and on society as a whole. Before the Internet we were mainly consumers of information, now we can be the creators; before the Internet we had to wait long periods of time for updates and revisions, now information is updated frequently, sometimes within seconds. We invent something that changes our way of communicating, and it in turn changes how we act as a society. Or as Marshall McLuhan said and J. M. Culkin (1967) summarized, “We shape our tools and then our tools shape us” (p. 70).



A collection of media – books, computer disks and chips, vinyl record, phone, newspaper, cameras, radios. **Source:** Image by Julius Drost, Unsplash license

From Oral to Print Culture

As a student you have no doubt read a newspaper article, book, or possibly an academic article (either in hard

copy or online) for a class assignment. Distilling important information onto stone tablets, scrolls, and eventually in printed books and journals has been the way certain societies have conveyed information for centuries. When you think about the information contained in the books and periodicals you have read, it has probably ranged from purely entertainment, like what you might read in some magazines, to an in-depth research paper with data that you read for class. This is thanks to publishing technology that allows us to produce mass numbers of periodicals and books each day.

Writing things down was our first revolution in communication. Before writing, our first form of communication, oral, allowed us to pass down our knowledge, art, ideas, and culture from one generation to another through speech or song. Our oral traditions are still evident when we listen to or read folk tales, ballads, chants, prose, or verses (Vansina, 1985). Oral traditions made it possible for a society to transmit oral history, oral literature, oral law, and other knowledge across generations without a writing system. When cultures started to write down their knowledge it changed the way society communicated.

Writing produces information in a static way such that it can be passed along to someone as nearby as our neighbour or as far away as across the ocean without the message changing and without the need to memorize it. The information in written works can be preserved and passed down for generations. Today, we can go to the library and find a book on psychology published in 1911 alongside one published in 2024. With oral communication, you rely on a person and their memory for information, but with a writing culture, access to information is through a scroll or a book. While oral communities rely on elders or those designated to remember information, books allow readers to work independently to learn on their own.

How the Printing Press Changed Society



Antique printing press made of wood. **Source:** Printing Press by Andrew Plumb, CC BY-SA 2.0

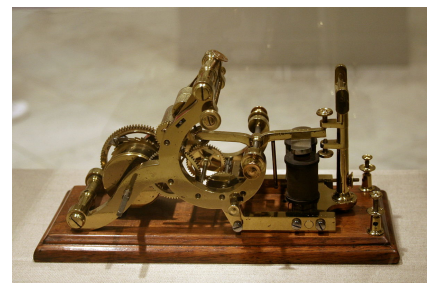
In 1447, Johannes Gutenberg created a printing press in Mainz, Germany; this press revolutionized the way we communicate. Gutenberg's printing press was not the first machine to print books and pamphlets. In fact, Chinese monks were applying ink to wooden blocks and pressing them onto sheets of paper using a technique called block printing, about six hundred years before Gutenberg's printing press (Palermo, 2014). Gutenberg's invention, however, was an improvement on the presses that came before. His movable blocks of type (letters) were made of a mix of metals that proved to be the perfect combination, at that time, for mass printing books and pamphlets. Also, his invention came at a perfect time in Europe; literacy rates were on the rise and those with money were buying more and more books. Therefore, there was a commercial market for book production and this is why the printing press took off in Europe before other societies (Graff, 1987).

Of course in 1447, Gutenberg and his fellow citizens had no idea what far-reaching effects this new way of communicating would have on world history, just as we have no real idea how the Internet is affecting us. The effects of the printing press are still being felt today for better and for worse. Neil Postman (1994) calls this the "Frankenstein Syndrome," a situation in which technology is developed for a limited and specific purpose (p. 21). "But once the machine is built, we discover—sometimes to our horror, usually to our discomfort, always to our surprise—that it has ideas of its own" (Postman, 1994, p. 21). The print medium has given people the ability to widely share different opinions and theories; this has both positive and negative aspects.

The Next Wave: Electronic-Media Communications

The next great revolution in communication came in 1843 with the telegraph, the first electronic messaging system. It used Morse code to send messages across wires laid between towns and even across oceans. By the mid-twentieth century, we had various electronic ways to communicate throughout the world: the telephone, movies, radio, and television (Naughton, p. 125).

As with the print revolution, the electronic-media revolution meant



Antique automatic telegraph receiver made of metal and wood. **Source:** Automatic Telegraph Receiver by Cliff (<https://www.flickr.com/people/28567825@N03>), CC BY 2.0

we had new ways to communicate. Like print, it affected how we act as a society. We could now convey emotion and powerful images to get our message across. In our living rooms we could see the true horror of war or famine and be prompted to do something about it. On the negative side, we were also bombarded with ads that influenced us to ask our parents to buy that new Barbie Dreamhouse.

Ownership of Information Before the Internet

By the mid-twentieth century, information production was supported by large-scale infrastructure. Across the globe, people read newspapers, went to see blockbuster movies, and read bestselling books. Information had become a money-making commodity that could be bought and sold every day. By 1995 (when the Internet took off), large media conglomerates like News Corp (<https://newscorp.com>), owned by Rupert Murdoch, owned newspapers from across the world.

The push to industrialize the production of information in the twentieth century meant information became part of what Yochai Benkler has called “the industrial information economy” (as cited in Naughton, 2014, p. 84). For the average citizen, writing up your ideas with a pen and paper, and making photocopies and posting them around town as flyers was still a way to communicate your opinion, and maybe you could get access to airtime at your local community TV station, but overall, information was produced and disseminated by large corporations. While freedom of the press and alternative and independent printing houses meant that dissent and new ideas still emerged, there was an air of closed professionalism when it came to traditional print and media (Naughton, 2014).

Why the Internet Represents a Communications Revolution

Consider

1. How many digital devices do you own that allow you to access the Internet?
2. How often do you post something to a platform where more than ten people can see it?

You will likely notice that you own more than one device connected to the Internet and spend hours creating

and posting work or comments for dozens if not hundreds or thousands of people to see. Just like the people of Johannes Gutenberg's time, we are living in the midst of something new and if we reflect on it, we can see that it is changing not only the way we communicate, but also the way we function as a global society. The perfect combination of the arrival of both the affordable personal computer and the opening of the Internet to the public in the 1990s created the current communications revolution.

In technical terms, according to InternetSociety.org, "The . . . internet consists of tens of thousands of interconnected networks run by service providers, individual companies, universities, governments, and others. Open standards enable this network of networks to communicate. This makes it possible for anyone to create content, offer services, and sell products without requiring permission from a central authority" (Internet Society, n.d., para. 1). Thanks to open standards, the Internet is not owned by one global company. The Internet is a carrier of information in the forms of websites, email, files, videos, VoIPs, and files yet to be invented (Naughton, 2014; Leiner et al., 1997). The Internet has facilitated a revolution in how we communicate because it allows information to be stored, created, and distributed to large numbers of people, across the world, in a matter of seconds. Or to put it another way, billions of pieces of information, including the digital artifacts of our human history, plus our own creations, can now be accessed at the touch of our fingers.

In over thirty short years, the Internet has become, for many, as commonplace as electricity and running water. The Internet is a truly global revolution in communications. According to another survey, of thirty-eight countries, by the Pew Research Center, the majority of citizens polled consider free expression in cyberspace, without government control, to be a fundamental right (Wike, 2016).

The Internet, like the printing press, is an example of what Professor Clayton Christensen (2003) called disruptive technology. Christensen was primarily concerned with how a new technology can significantly alter the way that businesses or entire industries operate. Just like companies, society is also forced to alter the way it acts. We can already see a few disruptive changes the Internet has made to the way we communicate:

- Global spread of information quickly and for little cost. Information now spreads faster and wider for little cost.
- Reliance on the Internet. We no longer seek out traditional sources to quickly find information.
- Reliance on the Internet for information is disrupting traditional forms of relationships, like asking our friends or seeking out experts in our local community.
- We broadcast ourselves. Everyone can be a producer of information and production cost is low (Naughton, 2014).
- E-commerce. We now shop online for everything from airline tickets to groceries.

Who Controls the Internet?

From the very beginning, the Internet ran on the revolutionary principles of neutrality and openness. Of

course, to connect to the Internet, we need to pay an Internet service provider (ISP), so accessing the Internet has never been free. But net neutrality means that once you are online, you can access any website, upload your own works, and participate in any social media platform of your choice. You may need to pay for apps or memberships, but with neutrality, it is your right to choose, for instance, between Netflix and any other streaming service. It has also created platforms for people to express their views and for other people to learn about these views. Important social movements and even political revolutions are now played out online.

While neutrality and openness sound utopian, the reality is that the Internet is in a constant battle with larger forces who want to control it and censor its content. Censorship of content is controlled by the government on a country-by-country basis. While most democratic countries have only moderate Internet censorship, other countries go so far as to limit the access of information such as news and to suppress discussion among citizens (Murdoch & Roberts, 2013). Internet censorship also occurs in response to or in anticipation of events such as elections, protests, and riots.

Case Study: The Role of Social Media and the Tunisia Revolution

On December 17, 2010, demonstrations erupted in Tunisia. A few weeks earlier the website WikiLeaks had released classified information from the US diplomatic service around the world, making it, according to WikiLeaks, “the largest set of confidential documents ever to be released into the public domain (https://en.wikipedia.org/wiki/Public_domain)” (WikiLeaks, 2011, para. 1). Included in the online documents was evidence of corruption against the Tunisian government of Zine al-Abidine Ben Ali, who had been in power since 1987. That day, a desperate act by an unemployed fruit seller was all the catalyst that was needed. The Tunisian people had finally had enough of corruption, high unemployment, and lack of political freedom, such as freedom of speech (Anderson, 2011). The Internet played a significant role in organizing the protests and demonstrations that followed, and in disseminating news and pictures to the rest of the world. Reporters and civilians on the ground used Twitter to send out up-to-the-minute reports. Protesters used Twitter and Facebook to organize and set the times and places for their demonstrations. They also used the two social media platforms to warn one another about and to keep one another safe from the military and the police (Anderson, 2011).

Soon after the protests began, the government ramped up its attempts at controlling the Internet. These started simply enough with site blocking, but soon turned more sinister. Tunisia’s Internet Agency started to harvest the passwords and usernames of bloggers, reporters, political activists,

and protesters by injecting hidden JavaScript into the login pages of many popular sites, like Facebook (O'Brien, 2011). They then subsequently logged into these sites using the stolen credentials, and deleted the protesters' Facebook groups, pages, and accounts. They also used the information to arrest and jail those involved (O'Brien, 2011). The demonstrators prevailed anyway, and twenty-eight days later, on January 11, 2011, Ben Ali fled to Saudi Arabia. The successful revolution in Tunisia inspired what would become known as the "Arab Spring," a revolutionary wave of both violent and non-violent demonstrations, protests, riots, coups, foreign interventions, and civil wars in North Africa and the Middle East. For the first time in history, social media and the Internet were key players in an uprising.

Questions

1. Marshall McLuhan (1967) said of the print revolution that it "created national uniformity and government centralism, but also individualism and opposition to government as such" (p. 235). What role does social media play in allowing opposition to the government but also in facilitating government centralization?

Online and Digital Media

In the last 25 years, online and digital media has grown in leaps and bounds to become a fixture in the daily life of most people in Canada. Prior to the turn of the century, traditional media, which consisted of mainly print, radio, and television/movies, was limited to a few places and had a somewhat limited presence in lives and societies. For example, in the 20th century radio and television grew to become features in the home. Movies were primarily enjoyed in theaters until VCRs and DVD players brought them into homes. The closest thing to a portable mass medium in the 20th century was reading a book or paper on a commute to and from work.

Digital media in the 21st century are more personal and more social than traditional media. A small device that fits in your pocket has the ability to connect you with the world, from anywhere and at any time. It has changed the way you communicate, and in particular the way you approach communication in business. In this chapter, you will learn more about the evolution of digital media, consider how people engage with digital media, and how you can begin to use digital media as a business professional.

Becoming a Digital Citizen in the New World

We are living in a time of revolution in methods of communication. Using the Internet allows us to share our

information and creations. It also provides a platform for the inclusion of both mainstream and marginal voices and it creates a space for us to participate within our chosen society (Mossberger, Tolbert, & McNeal, 2008). However, we need to act as informed citizens when using these new ways of communicating.

In the next chapters, you will learn how to conduct yourself as a digital citizen on the Internet. This means remaining critical of what you read and carefully considering how you conduct yourself online. As connected users we need to be aware that while sharing videos, images, and memes can give us instantaneous positive feelings, uncritical use of social media can also lead to poor decision-making and life-altering consequences (Alvermann, 2017).

Attribution & References

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1.2 EVOLUTION OF DIGITAL AND SOCIAL MEDIA

Digital Media

Digital media, is a general term used to describe all types of **electronic data** such as text, images, audio and video. Digital media may also refer to the electronic devices that store data. As well, digital media is the communications methods that transmit the data, consider email, text and messaging, video calling as digital media. From a technical perspective digital media are composed of and/or are designed to read numerical codes (hence the root word ‘digit’). The most commonly used system of numbers is binary code, which converts information into a series of 0s and 1s. This shared code system means that any machine that can decode (read) binary code can make sense of, store, and replay the information.



A snippet of binary code, green computer-font lettering on a black background. **Source:** Binary code by Christiaan Colen, CC BY-SA 2.0

Analog media are created by encoding information onto a physical object that must then be paired with another device capable of reading that specific code. In terms of physicality, analog media are a combination of mechanical and physical parts, while digital media can be completely electronic and have no physicality; think of an MP3 music file, for example. To make recordings using traditional media technology, grooves were carved into vinyl to make records or changes were made in the electromagnetic signature of ribbon or tape to make cassette tapes. Each of these physical objects

must be paired with a specific device, such as a record player or a cassette deck, to be able to decode and listen to the music. Digital media changed how most people collect and listen to music. Now music files are stored electronically and can be played on many different platforms, including tablets, computers, and smartphones. Many people who came of age in the digital revolution are now so used to having digital music that the notion of a physical music collection is completely foreign to them.

In news coverage and academic scholarship, you will see several different terms used when discussing digital media. Other terms used include new media, online media, social media, and personal media. In this chapter these items will be combined and referred to as **digital media**.

Digital media and technology are now changing faster than ever before. In short, what is new today may not be considered new in a week. Despite the rapid changes in technology, the **multiplatform compatibility** of much of digital media paradoxically allows for some stability.

Key to digital media is the notion of **technological convergence**. The ongoing digitalization of traditional media allows them to circulate freely and be read/accessed/played by many digital media platforms without the need for conversion (Siapera, 2012). This multi-platform compatibility is relatively new. In the past, each type of media had a corresponding platform. In the past, the human eye was the encoding and decoding device needed to engage with analog forms of print media. In the present you can read this textbook in print, on a computer, or on an e-reader, tablet, smartphone, or other handheld device. Another characteristic of new media is the blurring of lines between producers and consumers, as individual users now have a more personal relationship with their media.



A close up photo of controls for a video cassette player. **Source:** VCR Detail by Petr Kratochvil, CC0/PDM

Consider

1. Do you have access to any single-purpose media devices?
2. What are some advantages and disadvantages to being able to consume numerous types of media on one device, such as a tablet, smart phone, or laptop?

Major Digital Media Organizations

Several organizations have evolved to be considered leaders in the digital media universe and they include>

- Google leads primarily based on its digital advertising
- Amazon leads in streaming content and digital advertising
- Facebook (Meta) leads with social media sites Facebook, Instagram and What's Up
- Spotify leads in streaming music and offers podcasts as well
- Netflix leads in streaming services offering movies, TV shows and original content

Social Media

Media and mass media have long been discussed as a unifying force. The shared experiences of the Russia-Canada hockey series in 1972, or following the terrorist attacks of September 11, 2001, were facilitated through media. Digital media, in particular, is characterized by its connectivity. In the past, a large audience was connected to the same radio or television broadcast, newspaper story, book, or movie via a one-way communication channel sent from one place to many. Today, digital media connects mass media outlets to people and allows people to connect back to them via the internet. Technology has allowed for mediated social interaction since the days of the telegraph, but these connections were not at the mass level they are today.



Read the following web article on Social Media Statistics in Canada (<https://madeinca.ca/social-media-statistics-canada/>)

The most influential part of the new web is **social networking sites (SNSs)**. A social networking site is an online platform that allows users to create a public profile and interact with other users. Social networking sites usually allow a new user to provide a list of people with whom they share a connection, and then allow the people on the list to confirm or deny the connection. After connections are established, the new user can search the networks of connections to make more connections (Rouse, 2022). Although SNSs have existed for over a decade, earlier iterations such as

Friendster and MySpace have given way to the giant that is Facebook.

Facebook, as of April 2018, has more than 2.23 billion users worldwide (Statista, 2018). More specific SNSs, like LinkedIn, focus on professional networking. The ability to self-publish information, likes/dislikes, status updates, profiles, and links allows people to craft their own life narrative and share it with other people. Likewise, users can follow the narratives of others in their network as they are constructed. The degree to which we engage with others' narratives varies based on the closeness of the relationship and situational factors, but SNSs are used to sustain strong, moderate, and weak ties with others (Richardson & Hessey, 2009).

Social media enable interactivity between individuals that share a social network and also allow people to broadcast or ‘narrowcast’ their activities and interests.

You might conceptualize social media in another way—through the idea of collaboration and sharing rather than just through interpersonal connection and interaction. The growth of open source publishing and Creative Commons licensing also presents a challenge to traditional media outlets and corporations and copyrights. Open source publishing first appeared most notably with software programs. The idea was that the users could improve on openly available computer programs and codes and then the new versions,

sometimes called derivatives, would be made available again to the community. Crowdsourcing refers more to the idea stage of development where people from various perspectives and positions offer proposals or information to solve a problem or create something new (Brabham, 2008). This type of open access and free collaboration helps encourage participation and improve creativity through the synergy created by bringing together different perspectives and has been referred to as the biggest shift in innovation since the Industrial Revolution (Kaufman, 2008).



Image showing colourful 3d blocks with various social media icons on them **Source:** Social Media Mix 3D Icons – Mix #2 by Blogtrepreneur, CC BY 2.0

Watch the video: The Evolution of Communication: From smoke signals to digital age and beyond ! (1 min) on YouTube (https://youtu.be/Quye56Y_0TY?si=CA30HHDyKofe6X5b)

Attribution & References

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1.3 ONLINE ENGAGEMENT BEHAVIOURS

Online Engagement

The key differentiating factor between traditional and digital media is the ability to interact, or engage with the communicator, and others in a community. Think back to the basic process of communication: the messenger (encoder) sends a message through a medium, which is received and decoded by an audience. In traditional media, the process was primarily one-way. In digital media, users have the ability to interact and respond to the message — in other words, they can ‘engage’ with the message and messenger.

But why are people drawn to digital communication? For the answers to this question, you might consider Maslow’s hierarchy of needs, which provides you with an understanding of the motivation that might be behind online engagement. Although engaging online doesn’t really satisfy physiological or safety needs, it certainly speaks to the other categories in the hierarchy as see in Figure 1.3a.

Examples from social and digital media paradigms:

- Love and belongingness needs: engaging online can provide a tremendous feeling of being accepted. Online communities grow friendships, intimacy and a feeling of affiliation.
- Esteem needs: Engagement from friends, colleagues and even strangers can feed the desire to improve one’s reputation or gain respect.
- Self-actualization needs: Digital media is full of examples of people who are working to realize their personal potential, “to become everything one is capable of becoming” (Maslow, 1987, p. 64).

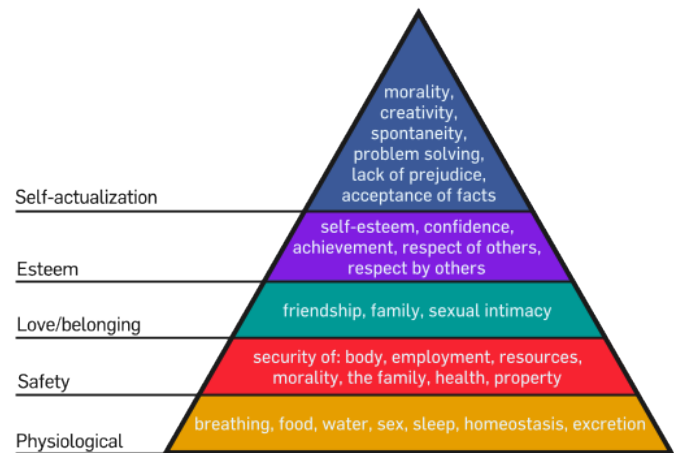


Figure 1.3a. Maslow’s hierarchy of needs in a triangle illustration. The bottom of the triangle is physiological needs (breathing, food, water, sex, sleep, homeostasis, excretion), the second level up is safety (security of: body, employment, resources, morality, the family, health, property), the third level up is love/belonging (friendship, family, sexual intimacy), the fourth level up is esteem (self-esteem, confidence, achievement, respect of others, respect by others), and the top of the triangle is self-actualization (morality, creativity, spontaneity, problem solving, lack of prejudice, acceptance of facts). **Source:** Maslow’s Hierarchy of Needs by Factoryjoe, CC BY-SA 3.0.

Social Media Engagement Behaviour Typologies

New research is emerging to explore how and why users engage online, particularly in business. A study by Dolan, Conduit, Fahy and Goodman (2015) broke down customer (user) experiences with social media, based on intensity of activity (low/passive to high/active), and the valence, or emotional force, of the contributions (negative to positive).

- **Co-creation:** this is the highest level on the matrix, in which users are earning, sharing, advocating, socializing and co-developing. They are actively collaborating and developing content and engaging with others.
- **Positive contribution:** users are engaging with content and others, but not necessarily adding content. They may 'like' posts, repost, mark as a 'favourite' or post a positive comment.
- **Consumption:** this is a passive form on engagement, where users are reading and watching, primarily using social media as a source of information.
- **Dormancy:** these users may have previously been engaged online, but may occasionally be described as 'lurkers'. They make no contributions nor do they engage online. They have passively disengaged.
- **Detachment:** detached users have actively disengaged with a social media platform, person or brand. They will 'unlike' or adjust settings so they do not see information or content.
- **Negative Contribution:** users will make negative active comments to try and influence others to change their feelings or opinions about a brand, subject, person or platform. Negative contributors are often seen posting comments on news articles that will contradict or slander the author (known as 'trolls').
- **Co-Destruction:** users will create new negative content with the aim of diminishing the reputation, trust or value of a person/brand/platform. For example, videos or posts created to highlight negative attributes of a politician would be considered co-destructive.

You may notice your own behaviour patterns listed here — and noted that your behaviours change based on multiple factors. As a business professional, you will have to consider your own behaviour type(s), and how you might encourage others to actively and positively contribute to your own brand, organization or company.

Consider

1. Have you ever disengaged with a particular platform, person or brand based on their social media content?
2. What factors contributed to your decision?
3. What could that platform, person or brand have done to retain you as a follower or subscriber?

Social Media and Multimedia

Both social media and multimedia are intertwined. Social media platforms allow for creativity as many are built around audio and video components and users can share content in a dynamic way. The increased reach of social media allows content creators to share their content with a wider audience. Multimedia creators share their ideas more effectively, while entertaining the viewer, and it creates a perceived personal relationship. Many utilize social media to share their story personal or business related. Posted videos tend to have a longer shelf life long after they were originally posted. Consider further, the real-time engagement social media offers, the broadcaster can live stream and responds to questions from viewers immediately.

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1.4 DIGITAL FOOTPRINT CONCEPTS

Digital Identity, Footprint, and Professional Contexts

As digital technology has become more common, affordable, and portable, more and more people from all parts of society are starting to increase their online and digital participation. Understanding the new opportunities, rules, and potential pitfalls of the digital world doesn't necessarily come automatically with long-term use. Not everyone using digital technology knows how to handle the range of available tools to their best extent, and even experienced digital technology users can fall prey to hackers, lose control of how they are represented online, or otherwise fail to maintain their **digital identity** in an optimal manner.

It used to be that applying for a job was fairly simple: send in a résumé, write a cover letter, and call a few references to make sure they will say positive things. However, there is a new step that is now a common part of this application process—hiding (or at least cleaning up) your virtual self, or your '**digital footprint**'.

The ubiquity of digital media allows anyone to easily start developing an online persona from as early as birth. Although this footprint may not accurately reflect the individual, it may be one of the first things a stranger sees. Those online photos may not look bad to friends and family, but your online digital footprint may be a hiring manager's first impression of you as a prospective employee. Someone in charge of hiring could search the internet for information on you even before calling references.

Consider: Your Digital Footprint

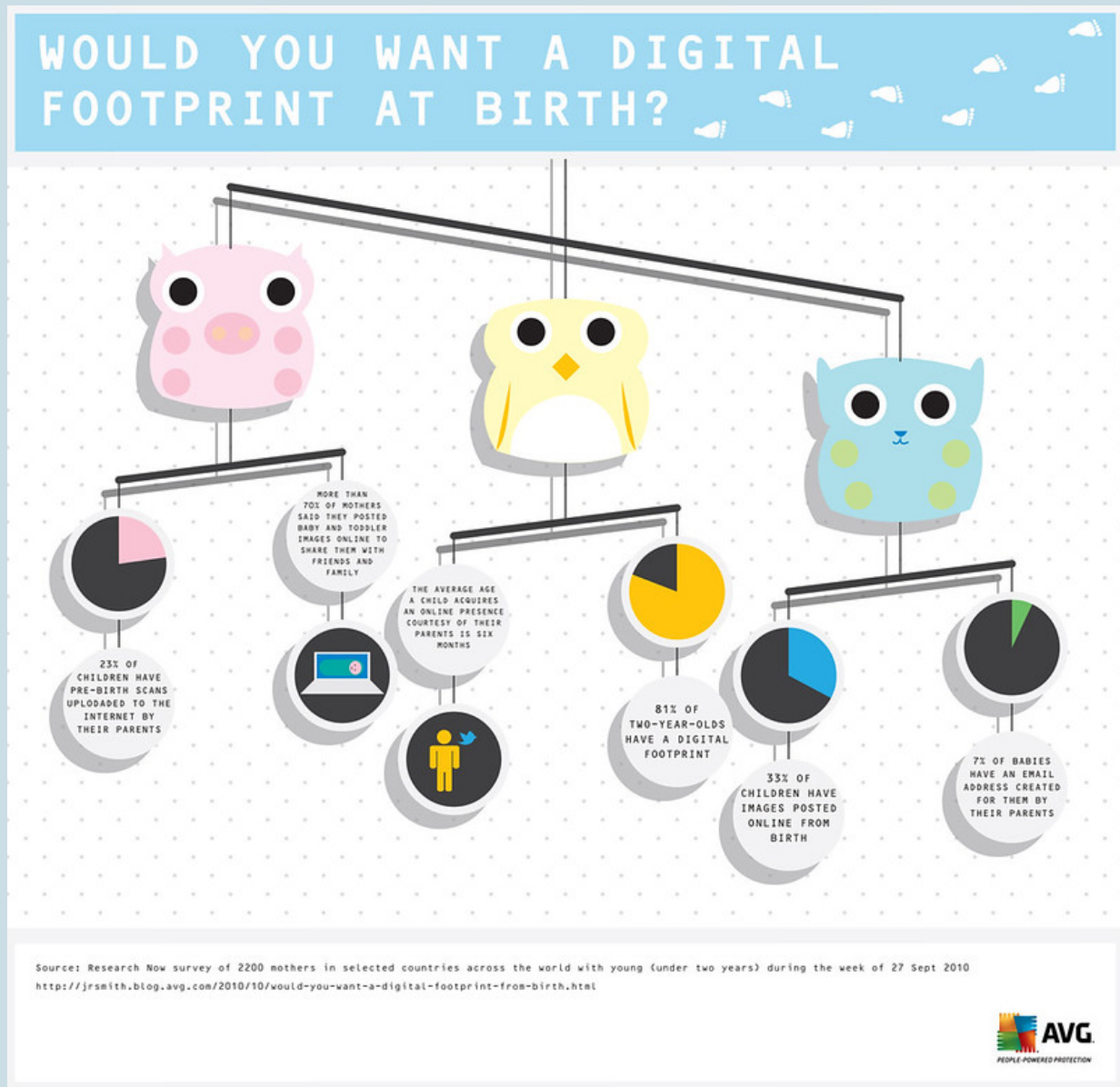


Figure 1.4a: Would you want a digital footprint at birth? Image described below. AVG Digital Footprint by Official AVG, CC BY-NC-ND

As noted in the image above, A Research Now survey of 2200 mothers in selected countries across the world with young (under two years) during the week of 27 Sept 2010 (Smith, 2010) noted that:

- 23% of children have pre-birth scans uploaded to the internet by their parents
- more than 70% of mothers said they posted baby and toddler images online to share them with friends and family
- the average age a child acquires an online presence courtesy of their parents is 6 months
- 81% of two year olds have a digital footprint
- 33% of children have images posted online from birth
- 7% of babies have an email address created for them by their parents

Reflect

- Do you think that children's digital footprints have increased or decreased since this study was published?
- What sort of digital footprint do you have?

First impressions are an important thing to keep in mind when making an online persona professionally acceptable. Your presence online can be the equivalent of your first words to a brand-new acquaintance.

While it's possible to deactivate your **social media** accounts, once something is online, it's impossible to delete it completely. Photos, videos and posts will likely outlive you. As a business professional, you'll need to begin to carefully curate what you post online, and what has already been posted.

This doesn't mean you should delete everything: in fact, employers and clients want to see that you have interests and connections outside of work. However, be aware that their first impression of you may be digital – you'll want to put your best 'foot' forward!

5 Ways to Improve your Digital Footprint

1. Google yourself. This is the best way to see what a potential employer or contact will see first, if they decide to do a search on you.
2. Edit your own posts, including photos, video and multimedia. Content that involves drugs, alcohol, illegal activities, strong political views, or any other controversial activity should be removed.



Read the article
Strengthen Your
Professional Presence
on Social Media (<https://hbr.org/2022/08/strengthen-your-professional-presence-on-social-media>)

3. Ask friends and family who have posted controversial content to take it down.
4. Set up professional accounts on one or more platforms, such as LinkedIn. This will increase the chances of employers/clients seeing your professional side first, and is an inexpensive way to build your professional network.
5. Keep it positive with future posts and contributions. That will greatly reduce the chances that you will post something that could get you into trouble down the road.

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1.5 EXPLORE, PRACTICE AND APPLY

Overview: Explore, Practice and Apply

Activities found on this page are designed to provide opportunities to explore, practice, and apply concepts presented in chapter 1.

Explore

Explore Activity 1

Think about all the ways you use technology in your personal life (e.g. for entertainment, shopping, sharing photos, communicating with people, etc.). Who do you interact with digitally, and how do you do this (i.e., what applications/websites do you use and for which purpose)? Now think about yourself as a student and the ways you use technology for learning? Make a list or draw a diagram of your activities, noting the groups or networks you interact with digitally and thinking about how you use digital technology in the various spheres of your life. Make a drawing of your digital self on paper using the image shown here.

My Digital Self

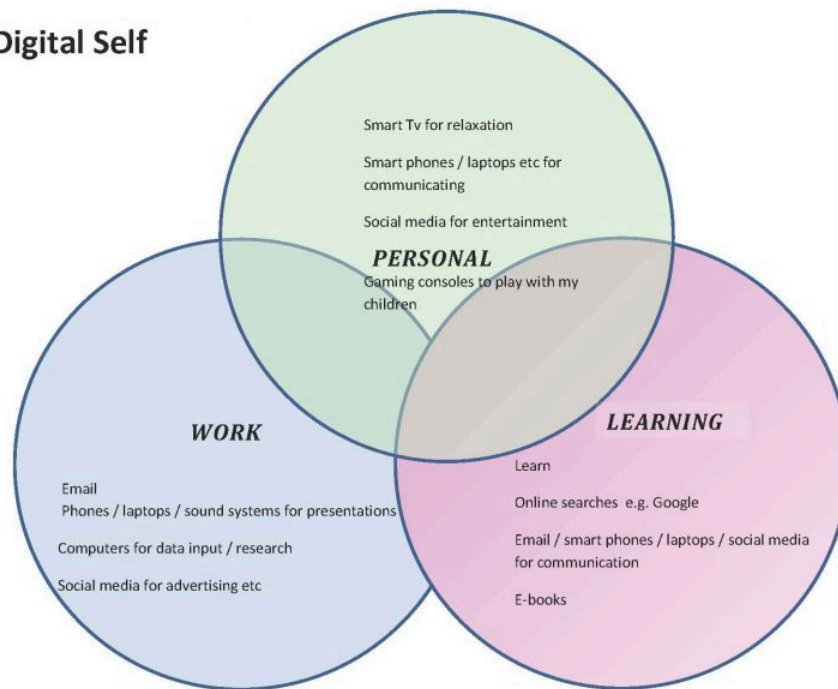


Figure 1.5a: My digital self example. In this Venn diagram, the use of digital technology in your personal, work and learning life is explored. Personal use might include smart tv for relaxation, smart photos or other devices for communication, social media for entertainment and gaming consoles to play with kids. Work use might include email; phones, laptops and sound systems for presentations; computers for data input or research and social media for advertising. Learning uses might include online searches/Google, email, smart phones, laptops and social media for communication and e-books. **Source:** *Digital Citizenship Toolkit*, CC BY 4.0

Practice

Practice Activity 1

Assessing Multimedia Elements. Interactive timelines are visual representations which allow users to interact with and to get more information and learn more about what the timeline is depicting. A sample collection of 15 timelines are found by navigating to Visme Blog. (<https://visme.co/blog/interactive-timeline-examples/>)

Complete the following steps:

- Select one of the 15 available timelines and review the elements included in the timeline.
- Using word processing software start a new document. Using your document, list the title of the timeline selected.
- Identify the main elements used in the timeline. Elements can include text, images, graphs. List these elements in your document.
- Now analyze the elements and list three ways the timeline is an effective multimedia presentation.
- List any suggestions for improving the timeline for the reader.

Practice Activity 2

Discussion questions. Review the questions listed and provide a response for each.

1. What elements of a multimedia presentation are important to you?
2. What influence do you think multimedia?
3. How could multimedia presentation be viewed in a negative way?

Apply

Create a short slide deck presentation – My Hobby

Objective:

To create a short presentation that showcases your favorite hobby using various multimedia elements such as text, images, audio, and video.

Materials Needed:

- A computer or tablet with internet access
- Presentation software (e.g., PowerPoint, Google Slides, or Canva)
- Access to images and/or other media (video)

Steps:

1. **Choose Your Hobby:**

- Select a hobby that you are passionate about and would like to share with others.

2. **Research and Gather Content:**

- Collect information about your hobby. This can include its history, why you enjoy it, and any interesting facts.
- Find images online that represent your hobby.
- Locate a short video demonstrating your hobby

3. **Create Your Presentation:**

- Slide 1: Introduction
 - Title: “My Favorite Hobby”
 - Your name and a brief introduction to your hobby.
- Slide 2: About the Hobby

- A brief history or background information about the hobby.
- Include a relevant image
- Slide 3: Why I Love This Hobby
 - Write a few sentences about why this hobby is important to you.
 - Add an additional multimedia element
- Slide 4: Demonstration
 - Locate a video that covers information about your hobby
 - Insert your video demonstrating the hobby.
- Slide 5: Conclusion
 - Summarize what you've shared and encourage others to try the hobby.

4. **Review and Edit:**

- Go through your presentation to check for any errors or areas that can be improved.
- Make sure all multimedia elements (images, audio, video) are working correctly
- Be sure to save your slide presentation.

Attribution & References

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- Explore Activity 1 from Introduction to Digital Literacy In *Digital Citizenship Toolkit* by Cheryl Brown, CC BY 4.0

1.6 KEY CHAPTER TERMS

Chapter 1 Terms

Analog Media:

It means methods of mass communication that includes non- digital and analogic media such as broadcasting, radio and tv, records and tapes.

Buttons:

Clickable features on a GUI which will launch a program when clicked or touched usually for physical or online applications.

Co-creation:

The procedure by which several stakeholders join forces in order to produce content, merchandise, values, etc.

Co-destruction:

Happens when a combination of the user and platform interactions lead to the loss of value.

Decoding:

The act of making meaning or understanding out of a communication by the receiver.

Digital Footprint:

Internet activities which many people leave behind while interacting with the internet.

Digital Identity:

The virtual persona of a person together with his/her personal information existing on the cyberspace.

Digital Media:

Information that appears in webpages, social networking sites or applications that are accessed through the Internet.

Digital Platforms:

Web 2.0 applications or platforms for the distribution of content, including YouTube, Facebook or e-commerce applications.

Dormancy:

A situation whereby the various accounts, content or platforms one has online are suspended but not closed.

Dynamic Content:

Content which may be in the form of interactive content, product/service offerings or anything that adapts its content in relation to the user activity.

Electronic Data:

Any data collected and sent through electronic means, inclusive of writing, voice or pictures amongst others.

Hyperlinks:

Hypertext links that are embedded into the material read by a user as clickable spots linking to other documents, Web sites, or media.

Interactive:

Media or tools that enable users to interact and respond, for example, games or quiz.

Linear:

Content that is presented in a temporal way that will be expected from a conventional movie or a lecture.

MP3:

An MP3 format of transmitting and storing sound files popular due to its usage of lesser space in its compression.

Multimedia:

The integration of writing, speaking, showing and informing all combined in a single project or presentation.

Multiplatform Compatibility:

The facility by which content or applications are, capable of running on different smartphones or operating systems.

Negative Contribution:

Activities that negatively affect the quality or feel of a platform or community; sending unsolicited messages or posting fake information.

Non-linear:

Material which is composed loosely and does not have to be consumed in a linear way, such as an

interactive story.

Social Media:

Media that allow the users to generate, access, modify and share information, content and audiences over the internet.

Technological Convergence:

This is where one technology integrates various types of technologies to form a single product for instance; smartphone comprises a camera, global positioning system and internet.

Virtual Reality (VR):

A newer form of project involving the creation of advanced computer generated environments that give the user the sense of experiencing real or fictional places or events.

Attribution & References

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CHAPTER 2 TEXT ELEMENTS

Multimedia Communications by Marie Rutherford

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Please visit the web version of Multimedia Communications (<https://ecampusontario.pressbooks.pub/multimediacomm/>) to access the complete book, interactive activities and ancillary resources.

Learning Outcomes

- Describe the importance of document design recognizing the power of words and text selection for multimedia
- Describe legibility and readability of text in multimedia communications
- Explore fundamentals of typographic characters and font styles
- Examine effective visual notetaking techniques for translating ideas and concepts
- Practice and apply
- Key Terms and References

The Role and Importance of Text in Multimedia Communications

Text refers to any written or printed material designed to convey information and meaning to the reader. Text is a primary form of communication and it sets the stage for sharing of ideas, knowledge, and findings. Understanding and engaging with text can enhance an individual's ability to communicate and learn.

Text serves as a guide when used with other media elements such as audio, video, and images. Think of text as the connection between other media elements and the supports the message of the multimedia presentation. Well designed text enhances the overall quality of the multimedia presentation. Studies have

shown the addition of text in a multimedia presentation assists with greater memory retention, as well as making it more accessible.

Using text in multimedia presentations does come with challenges. Ensuring text is readable across several platforms and devices can present various difficulties. Consider also how text can create an information overload perspective when too much information is conveyed in a single presentation. Text alone is not always enough to capture interest and boost engagement; it is essential to find ways to integrate text in an interesting way to keep the attention of the audience.

This chapter explores the pivotal role text plays in within document design, and multimedia communications.

Chapter Organization and Preview

- Effective Document Design and Multimedia
- Combining Text with Visual Elements and Media
- Visual Language and Sketch-noting
- Explore, Practice and Apply
- Key Chapter Terms

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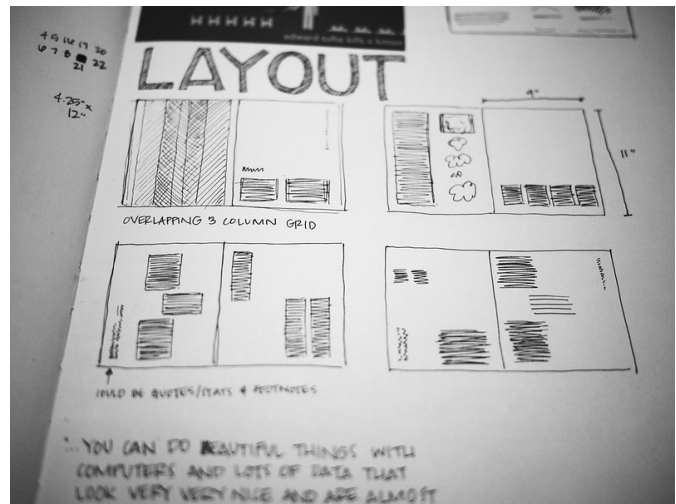
2.1 EFFECTIVE DOCUMENT DESIGN AND MULTIMEDIA

Text in Document Design

The responsibility of a writer to produce reader-friendly documents extends to layout, design, and organizational elements surrounding the words themselves.

If an email or report were simply a wall of undifferentiated text running for several screens or pages, any reader would be daunted by the prospect of having to scale that wall. Fortunately, writers can use document templates that make those design choices for them with established styles so that writing a document becomes a matter of just filling in the blanks; if you work for a company that uses templates for certain documents, of course you will use them also for consistency and your own convenience.

Even without templates, however, you can use several techniques to help guide your readers' eyes across the page or screen to easily find what they're looking for. Rather than being optional nice-to-haves, such techniques are crucially important to how well your document is received.



A sketch of 4 different potential layouts for a document, including columns and graphics. **Source:** Sketchbook by Lauren Manning, CC BY 2.0

Titles

Almost every document that exists as a standalone unit must have a title that accurately represents its contents in a nutshell. It's the first thing a reader looks for to understand what a document is all about and should thus be easily found centered at the top of the first page of any small document, and prominently placed on the cover of larger documents. Though some documents represent exceptions to this rule (e.g., business letters lack titles, and many lack subject lines), any document that brings with it the expectation of a title but omits it is like a grotesquely decapitated body; readers just won't know what to make of it. Even emails and memos

have titles in the form of subject lines. In whatever document you find it, a title's following characteristics make it essential to your reader's understanding of the whole:

- **Topic summary:** A title is the most concise summary possible of a topic while still making sense. If you glance at a news website or newspaper, for instance, you can get a reasonably good sense of what's going on in the world just by reading the headlines because they are titles that, in as few words as possible, summarize the narratives told in the articles that follow.
- **Conciseness:** Aim for a length in the 2- to 7-word range—something that can be said repeatedly in one short breath. One-word titles are appropriate only for art (e.g., for books, films, songs, albums, etc.), but most other professional documents use a reasonable number of words to give a sense of the topic, albeit streamlined to the point of having no words that don't absolutely need to be there. In scientific papers, titles can be quite long and carry plenty of detail, though you can expect that their audiences will rarely pronounce the full title.
- **Capitalization:** Capitalize the first word no matter what, as well as all major words (nouns, verbs, adjectives, adverbs, pronouns, etc.) thereafter.
- **Structure:** Use a noun, verb, or adjective phrase rather than a complete sentence.
 - **Main title:** If your title comes in two parts with a main title and subtitle, the main title establishes the general context of the topic, perhaps with catchy or clever phrasing, and ends with a colon (:) with a single space after it but none before.
 - **Subtitle:** The subtitle follows the main title with a more specific and detailed summary of the document topic.
 - **Position:** Centre the title at the top of the page and include 1-2 empty lines below it to separate it from the opening text.
 - **Typeface:** Use bold typeface to help draw the eye towards the title, as well as colour if appropriate.

Headings and Subheadings

After the main title of a document, using headings and subheadings as titles for sections and subsections helps guide the reader around a document's breakdown of topics. Especially in reports, headings and subheadings that stand out in bold typeface flush (or close) to the left margin and follow a consistent numbering system, exactly as you see in this textbook, help a busy reader quickly locate any specific content they seek. Even a routine email that covers a topic in so much detail that it could be internally divided—without being so big that its content should just go into a document attachment—would benefit from bolded headings.

If your drafting process follows the guide in this chapter, then you would have already drafted your headings and subheadings (and possibly numbering if necessitated by the size of the document) in your outline. The drafting process of fleshing out that outline may suggest tweaks to those heading and subheading titles. As titles, headings must be properly phrased and capitalized like main titles.

When using a word processor such as Microsoft Word, you can achieve additional functionality by using “true headings.” From the Home menu tool ribbon, heading styles are available as options in the Styles section. If you prefer to design your own styles of headings, you can click on the downward triangle at the bottom right of the style examples field and select “Create a Style.” Doing this allows you to see your entire document at a glance on the left and quickly jump to any section you wish by clicking on the Navigation Pane checkbox in the Show section of the View menu tool ribbon (or Alt + w, k), then clicking on the heading for the section you want. This is especially useful in larger documents like reports. Additionally, using such headings makes your document accessible to audiences with assistive technologies such as screen readers (see the section below on AODA compliance).

Font

A **typeface** is a group or family of graphic characters which often include many type sizes and styles. Type sizes are expressed in points. A point is approximately 1/72 of an inch or 0.0352777778 centimeter.. A **font** is characters of a single size aligning with a specific typeface. Font selection is an important consideration because it determines how the audience will receive a document. Font involves decisions concerning the style of type, size, and even colour. Font styles are bold and italic.

Font Type

Times New Roman

Garamond

Arial

Verdana

Comic Sans

Papyrus

COPPERPLATE

Figure 2.1a Font samples showing the styles of Times New Roman, Garamond, Arial, Verdana, Comic Sans, Papyrus and Copperplate. **Source:** *Communication at Work*, CC BY 4.0

textbook) or Verdana achieve a more clean and modern look, especially on computer screens where serif fonts appear to whither away at the thin part of the stroke and are thus harder to read. In the appropriate format, all the fonts mentioned above make a document look respectable. **Comic Sans**, on the other hand, is appropriate for documents aimed at children, but undermines the credibility of any professional document.

Anticipate that audiences might care about font choices, especially if the font clashes with the content like the example above. To anyone who considers the effects that fonts have on an audience, even going with the Microsoft Word default font of **Calibri** has its dangers because it comes off looking lazy, being the non-choice of those who never consider the importance of font. Even if they look nice, however, the receiver opening the document on the other end may not have that font in their word processor program, requiring that program to substitute it with another font, which may look worse or mangle layouts arranged around that font. The safe bet, then, is always to go with familiar, respectable-looking serif or sans serif fonts like those identified at the top of this subsection.

Writers considering typeface must choose between two major style categories depending on how they would like to accommodate their reader. **Serif fonts** like Times New Roman and Garamond have little perpendicular crossline “feet” or “hands” at the ends of letter strokes, as well as variable thickness in the strokes themselves depending on their horizontal/vertical or curving position, which altogether help readers distinguish between similar letters or combinations of letters, such as *m* and *n*,

which almost look like the same letter in a non-serif font. Serif fonts are ideal for printed documents, especially those with smallish font sizes such as newspapers. Without serifs, **sans-serif fonts** like Arial (the one used in this

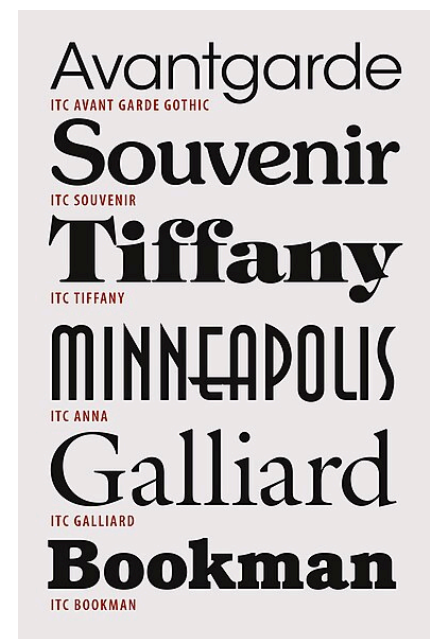


Figure 2.1b Font samples showing ITC Avantgarde, Souvenir, Tiffany, Minneapolis, Galliard and Bookman. **Source:** Image by Zietz, CC BY 4.0

Consider

Review Figure 2.1a and Figure 2.1b, which show some sample fonts.

1. Which fonts do you find easiest to read?
2. Can you identify whether or not the fonts are serif or sans-serif?
3. Are there any fonts in these images that you would avoid using, if you were creating a professional document?

Font Size

Size is another important consideration because readers depend on text being an ideal “Goldilocks” size for readability and are frustrated by font sizes that are bigger or smaller than that. In a standard written document, for instance, a 12-point Arial or Times New Roman is the Goldilocks size. If the MS Word default size when you open a blank document is 11-point, it’s worth increasing it for the sake of those who have slight visual impairment. Increasing the size much past 12-point has a similar effect as using the Comic Sans font type: it makes your document appear to be targeting an audience of children. Of course, situations where you want to increase the font size abound, such as for titles on title pages so that the eye is drawn immediately to them, and any time readers are required to read at a distance, such as posters on a notice board or presentation slides. The ideal font size for bullet points in a PowerPoint is in the 30- to 35-point range, whereas a 12-point font will appear microscopic on a projector screen, if not invisible, from across the room. **Kerning** is the process of adjusting the spacing between characters in a proportional font. **Leading** refers to the vertical space between lines of text.

Occasions for going smaller with your font size include footnotes in a report or source credits under images in a document or PowerPoint presentation. Decreasing font size to 8-point merely to get all your text to fit into a one-page résumé, however, would undermine the document’s purpose because, by frustrating the hiring manager trying to read it, it runs the risk of prompting them to just dump it in the shredder and move on to the next (hopefully reader-friendly) résumé. In such cases, choosing the right font size becomes a major life decision. Whatever the situation, strike a balance between meeting the needs of the reader to see the text and design considerations.

Font Colour

A choice of colour may also enter into document design considerations, in which case, again, the needs of the reader must be accommodated. Used appropriately, a touch of colour can draw the eye to important text. Colouring your name red at the top of your résumé is effective if few or no other elements in the document are so coloured because your name is essentially the title of your document. Likewise, colouring the title of other documents is effective if there are no expectations of doing otherwise (some style guidelines forbid colour).

Any use of colour for text must be high-contrast enough to be readable. The gold standard for high-contrast readability is black text on a white background. Grey-on-white, on the other hand, sacrifices readability for stylishness depending on how light the shade of grey is. A light-yellow text on a white background is nearly impossible to read. In all cases, the readability of the text should be considered not just for those with perfect vision, but especially for those who find themselves anywhere on the spectrum of visual impairment. For this reason, colour should always be used to enhance a document that is already perfectly organized without it; never use colour-coding alone as an organizing principle in a document read by anyone other than you because you can never be sure if some readers will be colour blind or have other visual impairments that render that colour coding useless as a cause for confusion.

Boldface, Italics, and Underlining

Boldface, *italics*, and underlining serve various purposes in focusing audience attention on certain words. Boldface type is especially helpful in directing audience eyes towards titles, headings, and keywords as you can see at the beginning of this paragraph and throughout this textbook. Highlighting in this way is especially helpful to anyone who is visually impaired in any degree. Of course, overusing boldface undermines its impact, so it should be used sparingly and strategically. Likewise, italics and underlining have very specific purposes.

Cases

Different methods of capitalizing text can also have an effect on document design.

Sentence case

A mixed-case style in which the first word of the sentence is capitalised, as well as proper nouns and other words as required by a more specific rule. This is generally equivalent to the baseline universal standard of formal English orthography. Example: “The quick brown fox jumps over the lazy dog”.

Title Case (capital case, headline style)

A mixed-case style with all words capitalised, except for certain subsets (particularly articles and short prepositions and conjunctions) defined by rules that are not universally standardised. **Example:** “The Quick Brown Fox Jumps over the Lazy Dog”

Upper case (ALL CAPS)

A unicast style with capital letters only. This can be used in headings and special situations, such as for typographical emphasis in text made on a typewriter. With the advent of the Internet, the all-caps style is more often used for emphasis; however, it is considered poor netiquette by some to type in all capitals, and said to be tantamount to shouting (Hambridge, 1995). ALL CAPS headlines can also be problematic for accessibility. **Example:** “THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG”.

Camel case

Spaces and punctuation are removed and the first letter of each word is capitalised. If this includes the first letter of the first word (CamelCase, “PowerPoint”, “TheQuick...”, etc.), the case is sometimes called upper camel case (or, illustratively, **CamelCase**), Pascal case in reference to the Pascal programming language (Abrams, 2004) or bumpy case. **Example:** “theQuickBrownFoxJumpsOverTheLazyDog” or “TheQuickBrownFoxJumpsOverTheLazyDog”.

Line Spacing

Single-spaced lines are common to most documents because they accommodate the reader’s need to dart quickly to the next line to continue reading a sentence. The gap between 1.0-spaced lines is just enough to clearly separate one line from another so the hanging elements at the bottom of letters like *j* and *g* don’t interfere with the tops of uppercase letters on the line below. Some documents such as academic manuscripts are double-spaced to give readers, who are usually the instructors or teaching assistants grading them, enough space to write comments and editorial marks between the lines. Because doubling the line spacing also doubles the number of pages in a print version, avoid double-spacing documents for audiences who don’t explicitly require it.

Justification of Text

Justification should ideally be left as the default left-aligned or “Left-justified / ragged right.” This means

that all lines are flush to the left margin and the lines end wherever the last full word fits before the right margin sends (or “wraps”) the next word down to the next line, making each line vary in length so the right margin looks “ragged,” as you can see throughout this textbook. This is usually preferable to “justifying” both the left *and* right edges of the text so that they align perfectly along both the left and right margins. While this may look clean like newspapers often do with their orderly columns, it does so by adding extra space between the words within each line; since every line varies in length without justification, every line with it will vary in the amount of space added between words. Some lines that would be short without justification look awkward with it because the space between some words is greater than the span of small words.

Lists

Another technique that helps the reader skim and easily find sought-after content is numbered or bulleted lists for a series of discreet but related items. Whether you use numbered or bulleted lists depends on your organizing principle.

Use Numbered Lists for:

- An unprioritized collection of related points
- Sentences under a heading in an email or note-form points on a presentation slide (e.g., PowerPoint) for easier readability

Use Bulleted Lists for:

- A step-by-step **procedure** such as a set of instructions
- A description of a **chronological sequence**—a series of events unfolding in time
- **Rankings** that arrange items in priority order

Whichever list type you use, ensure each has the following:

- A **sentence or phrase** introducing and explaining the list and ending with a colon before delivering the list immediately below it as you can see in the sentence that introduces this list
- **Capitalization** of the first letter in each point
- **Periods** ending each point only if it is a complete sentence on its own, whether it be in the declarative, imperative, or any other mood; a list of nouns or noun phrases, on the other hand, doesn’t end in periods
- **Parallelism** in the sense that each point in a list follows the same grammatical pattern, such as only full sentences, only noun phrases, or only verb phrases. The need for parallelism extends also to lists within a

sentence.

Visual Aids

The cliché that a picture is worth a thousand words holds true because images are excellent aids to understanding when placed near the messages they illustrate. Just as the visual elements in this textbook support and reinforce the content, so photos, graphics, charts, and graphs provide readers something that can be understood and remembered at a glance—as long as those visuals are used appropriately. Of course, the main criterion for usability is if the image helps the reader understand the text better. If the image is complementary, it can only help. If it is unnecessary, confusing, or contradicts the text, however, the image isn't worth the time and effort it takes to add it to your document.

Consider

When considering using an image, ask yourself:

- **Aesthetic considerations:**

- Does the image look good?
- Are the colours complementary?

- **Technical considerations:**

- Is the image resolution of sufficiently high quality?
- Or is it too pixelated to use?

- **Legal considerations:**

- Does the image's copyright licence permit or forbid use by others?
- Am I using the image for educational or commercial purposes?

- **Design considerations:**

- Is it big enough to see?

- Is it placed appropriately?

The ideal size depends on the resolution, detail of the content, relative importance, and the use to which the document will be put. The following guidelines help ensure that the images you use will meet aesthetic, design, technical, and legal expectations:

- **Aesthetic guidelines:**

- Choose images that look like they were produced by professional photographers, illustrators, or graphic designers—the sort you would see in a magazine or professional industry website.
- Professionals usually produce images with a limited palette of colours that work well together.
- Use images that are in focus and well-framed with the central image clearly visible rather than too far in the background or so close that important aspects are cropped out.

- **Design guidelines:**

- An image or graphic that is crucial to the reader’s understanding and is highly detailed really deserves to stretch across the text block from margin to margin.
- An image that is more ornamental and relatively simple can be inset within the text either on the left or right margin, or centered on the page without text on either side.
- Important images, especially those labelled as figures, must be placed as near as possible to the text they support and even referred to in the text (“See Figure 2 for an illustration of . . .”)
- Ensure that the text and corresponding image aren’t separated by a page break if the text is close to the top or bottom of the page. The reader’s eye must be able to move between the image and corresponding text in the same field of view to seal their understanding.

- **Technical guidelines:**

- Screen resolution must be at least 72dpi (dots per inch), the internet standard; anything less than 72 may appear pixelated even on the screen, especially if maximized in size across the page.
- Images in documents that will be printed should be 300dpi to avoid appearing pixelated on paper.
- Preferred image file types include JPEG (.jpg) and PNG (.png). The latter includes the possibility of contouring so that the image doesn’t necessarily have to be a square or rectangle. You can make a PNG image file of your handwritten and scanned signature, for instance, by erasing the white background around the pen strokes in Photoshop and saving the image as a PNG. That way, you can drag and drop your signature onto a signature line in an electronic document and it won’t block out the line underneath if your signature typically sprawls out over lines.

- **Legal guidelines:**

- To stay on the right side of copyright legislation, searching online for images that are free to use is

easy by including licensing status in an advanced Google Image search. From the Google Images search screen:

1. Click on the Settings spring-up menu at the bottom right.
2. Select Advanced Search.
3. Scroll down and click on the “usage rights” dropdown menu at the bottom.
4. Select “free to use or share” or whatever licensing status suits your purposes.

Adding images to your document

With modern word processors, placing an image is as easy as dragging and dropping the image file from a folder into a document (or copying and pasting). Sometimes you will need to be a little craftier with capturing images, however.

Once your image is in your document, use the layout options to place it where appropriate. Clicking on it may produce a layout icon near the top right that you can click on to open the dropdown menu (alternatively, you can right-click on the image and select the Wrap Text option from the dropdown menu). The default setting left-justifies the image and displaces the text around where you put it, but other layout options allow you to place it elsewhere on the page so that your text wraps around it (“Square,” “Tight,” or “Through”) or so that text doesn’t move around it at all (“Behind” or “In front of text”), which gives you the freedom to move the image anywhere.

Interactive Elements

Another aid to understanding that can benefit readers of an online or electronic document is a weblink that provides them with the option of accessing other online media. Hyperlinking is easy in modern word processors and online applications such as websites and email simply by highlighting text or clicking on an image and activating the hyperlinking feature.

Users prefer links that open new tabs in their browser rather than take them away entirely, so seek out that option when hyperlinking. By doing this for an image of a YouTube video screenshot, for instance, you enable readers of a document (including a PowerPoint presentation) to link directly to that video in YouTube rather than embed a large video file in your document. You can additionally link to other areas within a document, as the document version of this textbook does with links to various sections like the one in the previous sentence.

Balancing Text and Whitespace

Another consideration that helps a reader find their way around a page is the balance of text and whitespace, which is simply a gap unoccupied by text or graphic elements. The enemy of readability is a wall of text that squeezes out any whitespace, whereas a well-designed document uses whitespace to usher the reader's eyes towards units of text. Whitespace margins frame the text in a document, for instance, as well as give readers something to hold on to so that they don't cover up any text with their thumbs. Margins should be 3cm or 1" (2.54cm), which are the default margin sizes in most word processors' (e.g., Microsoft Word's) blank 8.5"x11" document. Margins also focus attention on the text itself, which makes any crowding of the margins an offense to good design. An attempt to cram more information into a one-page résumé by edging further and further into the margins, for instance, follows the law of diminishing returns: the hiring manager might take your sacrifice of the document's readability as a sign of selfishness—that you place your own needs above that of your audience, which suggests you would do the same to the customers and management if it suited you.

Making Accessible, AODA-compliant Documents

The Accessibility for Ontarians with Disabilities Act (2005) (<https://www.ontario.ca/laws/statute/05a11#top>) sets out guidelines for how workplaces can help people with disabilities, including accommodations that extend to document design. Many of the recommendations covered in the sections above, such as font size and colour, are justified as accommodations to people with even mild visual impairment. Someone with colour blindness, for instance, may be confused if you use coloured text alone as an organizing principle, which is why you should use colour only to enhance text readability while using other means of organization such as boldface type. Not only must you accommodate such individuals, but also those whose severity of impairment requires that they use assistive technologies such as screen readers that convert text to automated voice. The more straightforward your text is presented, as well as formatted with “true headings” that a screen reader can identify as headings, the easier a person with a disability can hear and understand your message when it's read out by a screen reader.

Once you are done drafting your document, you can begin to check for any accessibility issues and act on them right away. In MS Word, just to go to File and, in the Info tab, select the “Check for Issues” button in the Inspect Document section. It will identify accessibility problems in your document as well as suggest fixes (watch the video below for a demonstration). For instance, if you have a photo without alt text, it will prompt you to write a caption by right-clicking on the image, selecting “Edit Alt Text...” from the dropdown menu, and writing a one- or two-sentence description of the image so that users with screen readers will be able to hear a description of the image they can't see very well or at all. See the Resources for Creating Accessible Documents (<https://www.algonquincollege.com/accessibility-resources/resources-for-creating-accessible-documents/>) (Algonquin College, 2013) for more on how to make your documents AODA compliant.

Watch Using the Accessibility Checker (2 min) on YouTube (<https://youtu.be/mSY2EyA0rH4>)

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- Cases section is adapted from Letter case In *Wikipedia*, CC BY-SA 4.0

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2.2 COMBINING TEXT WITH VISUAL ELEMENTS AND MEDIA

Graphics

Graphics can be very beneficial in supporting text: A good graphic can help you separate numbers from text or can help you reduce the number of words you need to describe something. But graphics can ruin a document if not used correctly. Consider purpose of the following types of graphics.

- ***Objective graphics depict reality.*** When you look at an objective graphic, you clearly see the object you are depicting. Photographs are the most obvious form of object graphic. Most of the time, photos show the reader a clear image of what the writer is providing. They are good for helping to reduce the amount of descriptive words in a document: a picture says a thousand words, after all. Illustrations can also be objective, but remember, they have to visually represent the object they are portraying.
- ***Symbolic graphics, naturally, symbolize reality.*** That's why illustrations don't always have to be objective. A graphic artist can distort an illustration to emphasize a point. Caricatures, for instant, do not depict reality. They resemble people, but noses or eyes or ears stand out to symbolize a point. Maps are examples of symbolic graphics. The lines for states and roads and cities are all symbolic of what is really there. Topographic maps, however, that actually show the terrain and not human-made objects, are more objective. Legends are often symbolic. In a map of Lake Champlain depicting marinas, the marina locations might be symbolized by a triangle.
- ***Abstract graphics, in a nutshell, are everything else.*** More specifically, abstract graphics are charts, tables, graphs, graphics that pull numbers out of text. They are very useful because lots of figures in text can become confusing and lost. A pie chart or bar graph, used correctly, can do wonders in presenting figures clearly.

The placement of graphics is important, as they can ruin a document if they are not done well.

Tips for Graphic Placement

Use graphics that are *perceptible*.

They should be separated from the text with white space. Some kind of border, ruled lines perhaps, can help

keep graphics separate from text, so they can be easier to see and understand. They should be large enough for your audience to understand. I once saw a photo in the local newspaper depicting about 100 former Oscar winners. The picture was so small that you couldn't make out any of the faces. It was basically a wasted photo.

Make your graphics *accessible*.

They should be as close to the text that they are referring to as possible. They should always be on the same page as the related text, unless you are dealing with a folded text (like a book) and the graphic is on the facing page. If you are using many graphics in a document, you should use an appendix to place them all in one section.

Clearly label your graphics.

Study graphics in textbooks, newspapers and magazines and see how objects in graphics are labeled. Lines are neat and definable and clearly point to the objects they are defining. Language used is not complex but easy to understand upon viewing the graphic.

Integrate your graphics into the document.

Callouts should be used in the text, and the graphic should be labeled clearly. Labels used in the graphic should match wording in the text. If you call it an antenna in your text, don't refer to it as a aerial receiver in the graphic.

Use graphics that are *easy to understand*.

Plenty of bad graphics are made by professionals who did not do a good job with explaining the content of the graphic. Don't let jargon from your field overwhelm the graphic. Use simple, clear language.

Choose graphics that are *relatively easy and inexpensive to prepare*.

Remember, you're creating these documents for organizations, and cost is always an issue. Don't let the graphic overwhelm the project.

Think About Audience

Whether you're presenting information, designing a document, giving a demonstration, creating a poster, or trying to change people's minds, your goal is to get your message across to your audience. For that reason, it's important to remember that they may not interpret the information you are presenting exactly as you have. It's your job as a presenter to explain your ideas using specific details, succinct and clear wording (avoid jargon), vivid descriptions, and meaningful images. As you organize your message, keeping this imaginary audience in mind can help you gauge how much background information and context to provide.

Choosing effective document design enhances the **readability** or **usability** of your document so that the target audience is more likely to get the message you want them to receive, and your document is more likely to achieve your intended purpose. Designing a document is like designing anything else: you must define your purpose (the goals and objectives you hope your document achieves, as well as the constraints—such as word count and format—that you must abide by), understand your audience (who will read this document and why), and choose design features that will best achieve your purpose and best suit the target audience. In essence, you must understand the **rhetorical situation** in which you find yourself: *Who is communicating with whom about what and why?* What kind of document design and formatting can help you most effectively convey the desired message to that audience? You want to use the most effective rhetorical strategies at your disposal; document design is one of those strategies.

Consider

Think about a presentation you're working on for this, or one of your other classes

1. Who is your audience for the presentation?
2. What document design features would help that particular audience understand your message?

Choosing Media and Format for Visual Aids

Perhaps you've heard the phrase "Death by PowerPoint" to explain that all-too-familiar feeling of being slowly bored to death by a thoughtless presenter who's droning on and on about boring slide after boring slide. If

you'd like to know what the experience is about, and you have time for a laugh, watch the following video, starring stand-up comedian Don McMillan. McMillan pokes fun at bad presentations, but he has some very sound advice about what *not to do*.

Watch Life After Death by PowerPoint (4 mins) on YouTube (<https://youtu.be/MjcO2ExtHso>)

You may consider using PowerPoint for your presentation, and that's perfectly fine. PowerPoint can be a very effective tool with the right organization, layout, and design. Below is a list of five common pitfalls that you can and should avoid, and doing so will go a long way toward making your PowerPoint presentation successful:

1. **Choosing a font that is too small.** The person in the very back of the room should be able to see the same thing as the person in the front of the room.
2. **Putting too many words on a slide.** Remember it's called PowerPoint, not PowerParagraph! Keep your bullet points clear and succinct.
3. **Having spelling errors.** Have somebody proofread your slides. Any typos will detract from your presentation.
4. **Choosing distracting colors that make it hard to read the information.** PowerPoint gives you a lot of color choices in their design templates. The ideas in your brilliant presentation will be lost if your audience is struggling to read the content.
5. **Selecting images or visuals that do not clearly align with the content.** For instance, a cute photo of your cat may look lovely up on the screen, but if it doesn't connect to your topic, it's just fluff that detracts from your message. Every slide counts, so make sure the visuals support your message.

Though many of these suggestions focus on PowerPoint and presentations, they are applicable and useful in the creation of all types of messages and media.

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- Content under Think about your audience has been added from 14.1: Audience Analysis in Document Design In *Advanced Professional Communication* by Melissa Ashman; Arley Cruthers; eCampusOntario; Ontario Business Faculty; and University of Minnesota, CC BY-NC 4.0

Adaptations: Removed and streamlined text, adjusted to 3rd person, enhanced the audience section.

2.3 VISUAL LANGUAGE & SKETCHNOTING

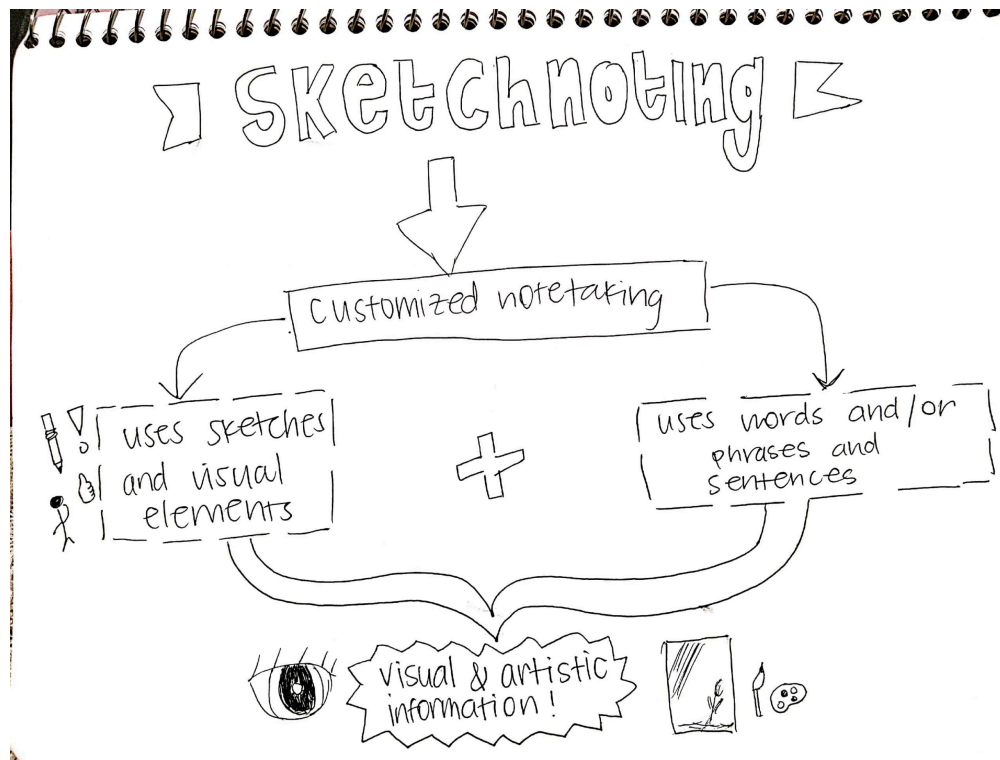
Expressing Ideas Visually

Let's explore what it means to visually express it. In order to think visually, you need to have the equivalent of visual “letters”, words, and vocabulary to express your ideas visually. Often, we rely on written words to document or capture our thinking. But how might you express your thoughts and ideas visually?

Consider

1. In what contexts do you typically take notes? In class? At work?
2. In which of these contexts would a sketch note be a potential option?

While some people may think this requires exceptional drawing or artistry skills, that is incorrect. Anyone can express themselves visually and the best way to start practicing this is to start using a combination of text and “visual images” whenever you take notes or are jotting down ideas. Keep in mind that, much like handwritten notes, these “visual images” are not intended for broad consumption (or even viewing) by others. Rather they simply capture your ideas or perceptions using a visual icon, doodle, sketch, or basic drawing. This practice is commonly referred to as sketchnoting. **Sketchnoting**, also commonly referred to as visual notetaking, is the creative and graphic process, where people record their thoughts by using illustrations, symbols, structures, and texts (see example below).



Sketchnoting is customized notetaking using sketches and visual elements, plus words and or phrases and sentences to convey visual and artistic information.

Source: Sketchnoting definition by Amytangg, CC BY-SA 4.0.

Watch How to Sketchnote without Drawing (12 mins) on YouTube (<https://youtu.be/oNQJReku9Gw>)

In general, by engaging in visual notetaking, you can enhance your own learning, become a better problem solver, and better connect and share ideas.

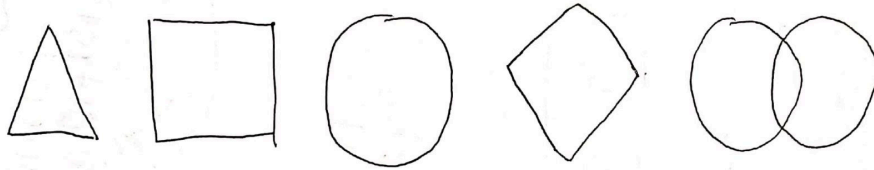
In the following image, you will see that by combining handwritten text, basic shapes, containers, and many icons or symbols, it is possible to build a visualization that communicates your ideas and concepts much more clearly and with fewer words / text. And, remember that our brains are programmed to consume information visually. So, not only will this help you, but it will also be easier for others, regardless of their native language, to understand, as well!

TEXT:

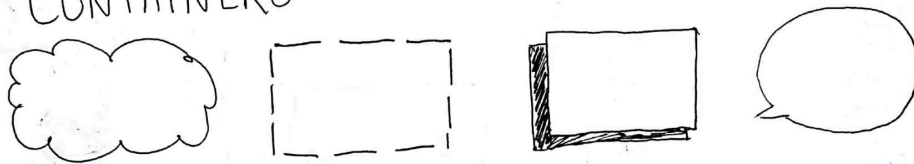
Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj
 Kk Ll Mm Nn Oo Pp Qq Rr Ss Tt
 Uu Vv Ww Xx Yy Zz

normal handwriting

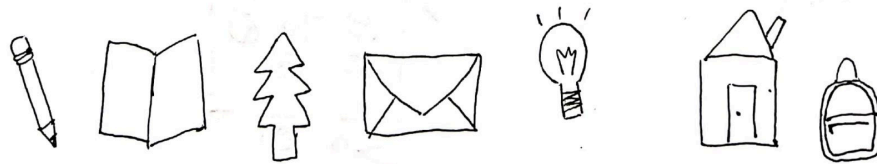
BASIC SHAPES:



CONTAINERS:

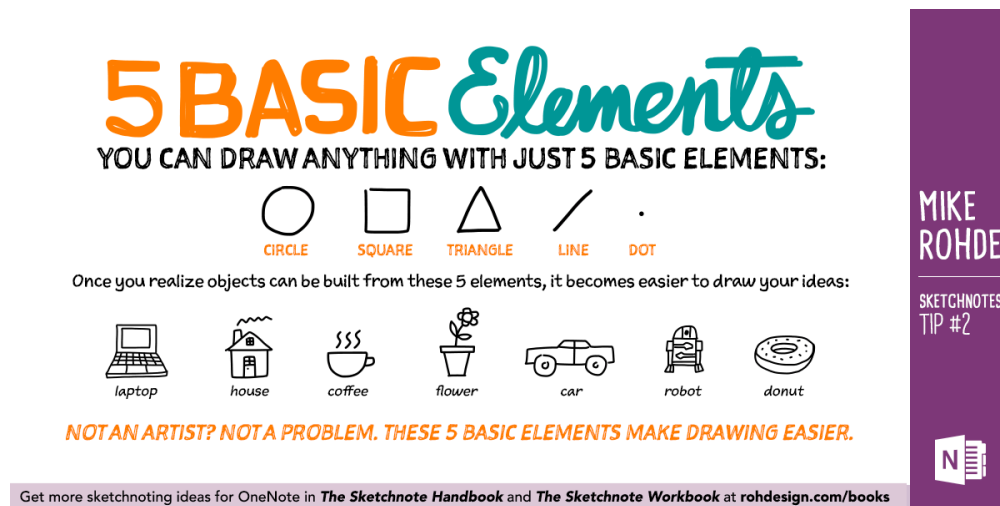


ICONS & SYMBOLS:



Sketchnoting Elements: text, normal handwriting, basic shapes (squares, triangles, circles, diamonds), containers (clouds, boxes, speech bubbles), icons and symbols (pencil, book, tree, envelope, light bulb, house and backpack). **Source:** Sketchnoting elements by Amytangg, CC BY-SA 4.0

Surprisingly, most elements can be drawn using 5 basic drawing elements (see image below):



You can draw anything with just five basic elements: circle, square, triangle, line, dot. Once you realize objects can be built from these 5 elements, it becomes easier to draw your ideas, such as: laptop, house, coffee, flower, car, robot, donut. Not an artist? Not a problem. These 5 basic elements make drawing easier. Get more sketchnoting ideas for OneNote in *The Sketchnote handbook* and *The Sketchnote Workbook* at rohdesign.com/books. **Source:** OneNote sketchnote tip 2 – 5 basic elements by Mike Rhode, CC BY-NC-ND 2.0.

- Circle
- Square
- Triangle
- Line
- Dot

If you want some inspiration on how to hand-draw icons or symbols, you can either perform a Google image search on any term (concept, product, etc.) plus the word “icon”, e.g., “ad impression icon”, or you can **watch Bullet Journal / Planner Icon Doodles | Doodle with Me (19 mins) on YouTube (<https://www.youtube.com/watch?v=o1zdgGGUtNo>)**:

In order to create better visual stories, you will need to practice using visual language yourself. Visual notetaking is a great way to practice for yourself and to begin thinking much more visually. Beyond *thinking* visually, it is essential to also understand how your visual stories can deliver value to your target audience, which brings us to our next topic – target markets and audiences.

Key Takeaways

Visual storytelling is an engaging way to share stories, ideas, and values.

- In order to tell stories visually, it is important to have a “visual language”.
- Sketchnoting is great way to train yourself to start thinking more visually and in visual metaphors.
- Sketchnoting may only be for your own consumption, but can be used to draft ideas and explore visual ways to present visual stories and ideas.

Attribution & References

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2.4 EXPLORE, PRACTICE AND APPLY

Overview: Explore, Practice and Apply

Activities found on this page are designed to provide opportunities to explore, practice, and apply concepts presented in chapter 2.

Explore

Explore Activity 1:

- Obtain a document or documents supplied by professor. If you have perfect vision, impair your vision perhaps by dimming the lights at night or using a friend's or family member's prescription glasses.
- What do you notice about the readability of those documents when you've limited your eyesight?
- What organizational elements do you especially appreciate when trying to make sense of the document when you've otherwise hindered your ability to read?

Explore Activity 2

- Take any multi-page assignment you've done in MS Word that also includes non-text elements like photos or use a document supplied to you. Run an accessibility check on it using the accessibility checker in Word.
- Attempt to fix the issues identified by the accessibility checker.

Explore Activity 3

- Navigate to a font tool such as Font Space (<https://www.fontspace.com/font->

generator#SGFwchkgZGF5cw) which is a font generator and text changer. Explore the features available through this tool.

- Navigate to Metaflop (<https://www.metaflop.com/>) which is a font generator and text changer. Explore the features available with this tool.

Practice

Practice Activity 1

Watch an educational, tutorial, or procedural video on a topic you find interesting. As you are watching it, document what you are learning by sketch-noting. Feel free to pause the video to think about how you can visually best represent your learnings and key takeaways. You can do the same with an educational, tutorial, or procedural podcast.

Practice Activity 2

Navigate online to Kern Type (<https://type.method.ac/>). This is an interactive game designed to help you practice and improve your kerning skills, which is the process of adjusting the spacing between characters in typography. Challenge your accuracy skills. Try the game and see how accurate you are in addressing kerning issues in typed font.

Practice Activity 3

Obtain sample documents, websites, or social media posts provided by your instructor. Analyze each sample and discuss what works well and what doesn't based on the content and audience. Suggest improvements and explain why certain fonts or layouts are more effective in each case.

Apply

Apply Activity 1

Create a simple infographic on a topic of your choice using text, icons, and minimal images. Focus on choosing the right fonts, spacing, and layout to make the information clear and visually appealing. You can use tools like Canva or PowerPoint to design your infographic.

Apply Activity 2

Refer back to the Apply 1 activity from Chapter 1 – creating a slide deck presentation. Reopen this slide presentation and using the content learning from this chapter, review the font you originally used in this presentation. Carefully select an alternative font style for the text areas of slide decks. Change the text areas with the new font selected and resave the slide deck. Consider the following questions:

1. Which new font did you select?
2. What learning did you apply from this chapter to select the new font?
3. Did the learning from this chapter influence your font choice? Why or why not?

Apply Activity 3

Many multimedia creators argue that they are not creative or graphic designers. However, there are many online resources that provide beautiful templates as a starting point. As a result, multimedia creators can focus on developing their story's narrative (text) and key messages and use the following tools to visual their ideas.

Select two of these creative tools to review and explore their features. Document three key features of the tool as well as suggest three reasons a multimedia creator may choose this tool for help in creating a multimedia presentation. Identify if a user needs an account to use the tool. Include also if there are costs associated with access to the tool.

- **Canva** (<http://canva.com/>)

- **Piktochart** (<https://piktochart.com/>)
- **Visme** (<https://www.visme.co/>)
- **Freepik** (<https://www.freepik.com/>)
- **Pexels** (<https://www.pexels.com/>)
- **Pixabay** (<https://pixabay.com/>)
- **Unsplash** (<https://unsplash.com/>)
- **Videvo** (<https://www.videvo.net/>)
- **Powtoon** (<https://www.powtoon.com/>)
- **Biteable** (<https://biteable.com/>)
- **Pixton** (<https://www.pixton.com/>)
- **StoryboardThat** (<https://www.storyboardthat.com/business/team-and-business-edition>)
- **Microsoft Photos** (<https://www.microsoft.com/en-ca/p/microsoft-photos/9wzdncrfjbh4?activetab=pivot:overviewtab>) (Microsoft) (Video Production)
- **Buzzsprout** (<https://www.buzzsprout.com/>)
- **Podbean** (<https://www.podbean.com/>)
- **Bensound** (<https://www.bensound.com/>)
- **Looperman** (<https://www.looperman.com/loops>)
- **Envato** (<https://elements.envato.com/audio>)

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2.5 KEY CHAPTER TERMS

Chapter 2 Terms

Abstract Graphics:

Abstract graphics are charts, tables, graphs, and graphics that pull numbers out of text.

Accessibility:

Ensuring that all people-regardless of ability-can interact with the documents produced (Case Western Reserve University, n.d., para. 1)

Font:

Characters of a single size aligning with a specific typeface.

Headings:

Titles for sections that help to guide the reader around a document's breakdown of topics.

Icons:

Simplified and stylized visual representations of objects, concepts or actions (Creatopy Team, 2024, para. 1).

Illustrations:

Visualizations that are used to explain information, such as drawings or diagrams (Kaloyanov, n.d.).

Interactive Elements:

Anything a user can interact with in a document, such as hyperlinks (Hrkac, 2018, para. 3).

Justification of Text:

Justified text is spaced so that the left and right sides of the text block both have a clean edge. Usually, text is left-aligned which has a straight left edge and an uneven right edge (Butterick, 2013b, para. 1).

Kerning:

The process of adjusting the spacing between characters in a proportional font.

Leading:

The traditional name for Line Spacing. The vertical space between lines of text (Butterick, 2013a, para. 1).

Line Spacing:

The vertical space between lines of text. Also known as Leading (Butterick, 2013a, para. 3).

Lowercase:

The small and uncapitalized version of letters (“Lowercase”, n.d.).

Multimedia Presentation:

A presentation in which different forms of media are incorporated, such as text, audio, video, and images.

Objective Graphics:

Graphics that depict reality.

Readability:

The ease in which a reader can understand text (California State University Northridge, n.d., para. 1).

Sketchnoting:

The creative and graphic process where thoughts are recorded by using illustrations, symbols, structures, and texts. Also known as Visual Notetaking.

Symbolic Graphics:

Graphics that symbolize reality.

Text:

The words of something written (“Text”, n.d., Definition 1).

Text Layout:

Text that is organized on the page to enhance readability.

Titles:

A concise summary that represents the contents of a document.

Uppercase:

Capitalized letters (“Uppercase”, n.d.).

Visual Aids:

Visual elements that help to reinforce text content.

Visual Expression:

Expressing one’s thoughts and feelings using a visual medium such as images or drawings.

Visual Notetaking:

The creative and graphic process where thoughts are recorded by using illustrations, symbols, structures, and texts. Also known as Sketchnoting.

Visual Vocabulary:

Using shapes or symbols to create meanings with little text involved.

Whitespace:

A gap that is unoccupied by text or graphics.

Attribution & References

Except where otherwise noted, Terms and definitions are adapted from the pages and original sources cited within chapter 2, CC BY-NC 4.0.

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CHAPTER 3 IMAGES & GRAPHIC ELEMENTS

Multimedia Communications by Marie Rutherford

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Please visit the web version of Multimedia Communications (<https://ecampusontario.pressbooks.pub/multimediacomm/>) to access the complete book, interactive activities and ancillary resources.

Learning Outcomes

- Explore the effective use of images in multimedia communications
- Describe colour theory and explore computerized colour palettes considering branding elements in professional multimedia presentations
- Explore Gestalt's Theory of Visual Representation
- Explore, practice, and apply the use of images and graphics

Incorporating Images and Graphics in Multimedia

Humans prefer and are drawn to visual elements and visuals are used in presentations to create a connection. The careful selection and development of the right visual is incredibly powerful. Consider an image is a visual representation of something. The terms image and graphic are often used interchangeably however they do have defined differences. An **image** is a term that refers to any visual representation of an object, scene, or person and it includes photos, drawings, paintings, and digital images. **Graphics** refers to visual elements used in design and communication and includes illustrations, charts, diagrams, and logos.

An image consists of an array of dots called **pixels**. The physical size of the image, will depends on the

resolution of the device on which the image is displayed. The resolution is measured in dots per inch or DPI. An image file format is a way structuring image data to allow it to be saved, stored, transferred, and copied.

There are a wide array of image file formats some common formats include:

- JPEG or JPG. Used for digital images
- PNG. Used for high quality graphics that require transparency (business logo)
- GIF. Used for simple animations
- TIFF. Used for professional photography, publishing and printing

Understanding images and graphics is critical for multimedia content development as good graphics enhances the end user experience often by making the presentation easier to navigate, accessible, and conveys complex information quickly and effectively, This chapter explores the effective use of images and graphics in multimedia communication.

Chapter Organization and Preview

- Working with Graphics
- Graphic Design
- Gestalt Theory
- Colour Theory
- Working with Graphics and Text
- Explore, Practice and Apply
- Key Chapter Terms

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3.1 WORKING WITH GRAPHICS

An Overview of Graphics

Before getting into details on creating, formatting, and incorporating graphics, consider the types and their functions.

Graphics should never be for decoration. Instead, they should have a clear purpose and help the reader to understand something in the document that would be difficult to show with text alone. For that reason, you should take some extra steps to help your audience use the graphic effectively.

You can use graphics to represent the following elements in your writing:

- **Objects** — If you are describing a fuel-injection system, you will probably need a drawing or diagram of it. If you are explaining how to graft a fruit tree, you'll need some illustrations of how that is done. Photographs, drawings, diagrams, maps, and schematics are the types of graphics that show objects.
- **Numbers** — If you are discussing the rising cost of housing in Vancouver, you could use a table with the columns being for five-year periods since 1970; the rows could be for different types of housing. You could show the same data in the form of bar charts, pie charts, or line graphs. Tables, bar charts, pie charts, and line graphs are some of the principal ways to show numerical data.
- **Concepts** — If you want to show how your company is organized, such as the relationships of the different departments and officials, you could set up an organization chart (boxes and circles connected with lines showing how everything is hierarchically arranged and related). This would be an example of a graphic for a concept; this type depicts nonphysical, conceptual things and their relationships.
- **Words** — Graphics can be used to depict words. You've probably noticed how some textbooks may put key definitions in a box, maybe with different colour in the background. The same can be done with key points or extended examples.

Pick The Right Graphic For Your Purpose

Different graphics have different functions, so you should choose one that meets your needs. For example, let's say you have been asked to write a report recommending whether your company should voluntarily recall a product. You might insert a photo of the damaged product so that your readers can see proof that the damage is extensive. You might also include a diagram of the product to help the reader understand why the malfunction occurs. If you want your reader to understand that the product has been receiving a lot of

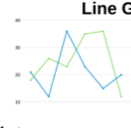

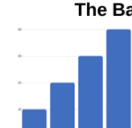


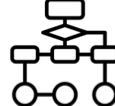



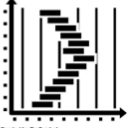
customer complaints, you might create a bar chart that compares the number of complaints received by your product to those of similar products you sell.

When selecting a chart, graph or table, pick the one that fits the **relationship** you are trying to show. For example, if you wanted to show how something changed over time, you'd use a line graph. If you wanted to compare different numbers, you'd use a bar graph. If you wanted to show the percentages of a whole, you'd use a pie chart.

This collection of images will help you to see some popular types of charts and graphs.

Consider: Types of Charts and Graphs

Types of charts and graphs – Text version

<p>Line Graph</p>  <p>Purposes</p> <ul style="list-style-type: none"> To show how something changed over time. To compare different trends. <p>1</p>	<p>Table</p>  <p>Purpose</p> <ul style="list-style-type: none"> To show a large amount of numerical data, especially when there are many variables. <p>2</p>	<p>The Bar Graph</p>  <p>Purposes</p> <ul style="list-style-type: none"> To help your audience compare numbers. To show how items relate to one another. <p>3</p>
<p>Pie Chart</p>  <p>Purpose</p> <ul style="list-style-type: none"> To show the parts of a whole. Note: use a pie chart only when your data adds up to 100%. If you asked a survey question where people could select more than one choice, for example, a pie chart won't work. <p>4</p>	<p>Checklist</p>  <p>Purpose</p> <ul style="list-style-type: none"> To help readers understand the steps in a process and keep track of what they have completed and what they need to do. <p>5</p>	<p>Flowchart</p>  <p>Purpose</p> <ul style="list-style-type: none"> To help readers understand the steps in a process or a procedure. <p>6</p>
<p>Infographic</p>  <p>Purpose</p> <ul style="list-style-type: none"> To make a lot of data accessible to a general audience. To make your research "come to life" or entertain an audience. <p>7</p>	<p>Venn Diagram</p>  <p>Purpose</p> <ul style="list-style-type: none"> To show how different ideas or elements overlap. (The Context of Use and Context of Production model uses a Venn diagram). <p>8</p>	<p>Organizational Tree</p>  <p>Purpose</p> <ul style="list-style-type: none"> Shows a hierarchy. It's often used to show the structure of an organization (who's in charge, who reports to whom, etc.). <p>9</p>
<p>Gantt Chart</p>  <p>Purpose</p> <ul style="list-style-type: none"> To show a project schedule, including what tasks must be completed, when they will be completed. <p>10</p>		

A chart with visual representations of each of the different charts/graphs, described in the text below. Source: Adapted from 14.4: Working With Graphics In Advanced Professional Communication , CC BY-NC-SA 4.0.

1. **Line Graph:** The line graph shows how something has changed over time and shows trends. You can also use it to compare different trends.
2. **Table:** Use tables to show a large amount of numerical data, especially if there are many variables.
3. **Bar Graph:** Use a bar graph to help your audience compare numbers and to show how

several items relate to one another.

4. **Pie chart:** Use a pie chart to show parts of a whole. Make sure that when you use a pie chart, your data adds up to 100%. If you allowed people to select multiple survey options, for example, a pie chart won't be effective.
5. **Checklist:** Use a checklist to help readers understand the steps in a procedure and keep track of their progress.
6. **Flowchart:** Use a flow chart to help readers understand the steps in a process or procedure.
7. **Infographic:** Use an infographic to make a lot of data accessible to a general audience.
8. **Venn Diagram:** Use a Venn Diagram to show how different ideas or elements overlap. Note: The Context of Use/ Context of Production model uses a Venn diagram.
9. **Organizational tree:** The Organizational Tree shows a hierarchy. It's often used to show the structure of an organization.
10. **Gantt Chart:** The Gantt chart is used to show a project schedule, including what tasks need to be completed and when they should be completed by.

Activity source: Adapted from 14.4: Working With Graphics In *Advanced Professional Communication*, CC BY-NC-SA 4.0. / Extracted from H5P to improve user experience/print/PDF

Make Your Graphic

Once you understand your audience and the purpose of your graphic, it's time to create it. Many people create charts in Excel, Word, Google Docs, or a free chart generator. Make sure that you label your chart clearly.

Integrate Your Graphic

You chose your graphic because it shows a relationship, but without additional help your readers might not see the same connections you see. Insert your graphic close to the text that discusses it, though you should make sure that your graphic fits on one page. For example, if you have written a paragraph explaining that the defective product has three times more customer complaints than similar products, you would put the bar graph that shows this data directly below.

The first mention of a graphic is called a lead-in statement. It's also recommended to use a lead-out statement after the graphic. This is a statement that connects the figure to the material that follows.

Example

Our research shows that the BackScratcher Supreme received three times more complaints than our other backscratchers. This bar graph shows the number of customer complaints we received last quarter for each product.

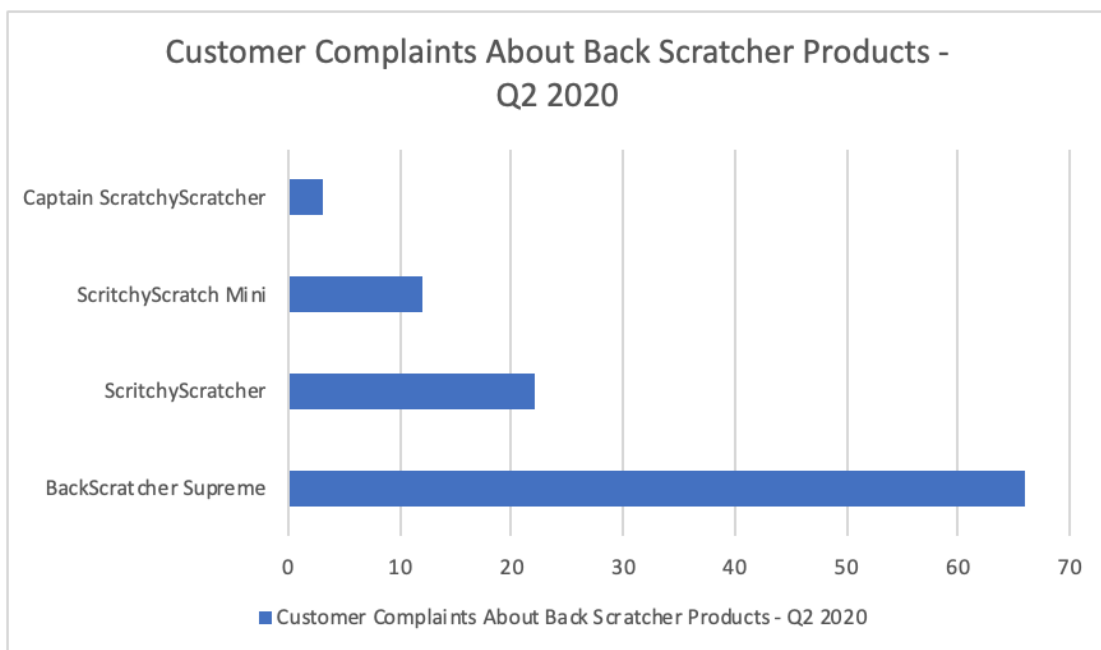


Figure 3.1a. Customer Complaints about Back Scratcher Products. A horizontal bar graph that compares customer complaints about back scratcher products in Q2 of 2020. Showing that the BackScratcher Supreme had 66 complaints, compared to 22 for ScritchScratcher, 12 for ScritchScratch Mini and 3 for Captain ScratchyScratcher.

As you can see, no other back scratcher comes close for the number of complaints. This suggests that the matter is systemic and that there haven't been just a few isolated incidents.

If we clearly prepare the reader for the graphic, then provide further details, the reader knows how to interpret the chart.

Label The Graphic

As you can see above, it is also important to clearly title the graphic so that your reader knows what to expect. The graphic above has a clear, precise title. It is also labeled ‘Figure 11.1. This means that it is the first graphic in the 11th chapter of the report.

Add Alt Text for the Graphic

As we said above, your graphic should be accessible. If you’re inserting your graphic as an image, you can add alt text. Describe the graphic so that someone who can’t see it can have a similar experience. If your alt text is long, you might include an image description in the caption, as I’ve done above.

Cite the Graphic

Just as you would cite and reference a paraphrase or a direct quote, you must also cite and reference any graphics that you use that were created by someone else or that were based on someone else’s data. Indicate the source of any graphic or data you have borrowed. Whenever you borrow a graphic or data from some other source, document that fact in the figure title using an in-text citation. You should also include the reference information in the reference list.

This reference guide from SFU (<https://www.lib.sfu.ca/help/cite-write/citation-style-guides/apa/tables-figures>) tells you how to cite graphs, charts, photos and other images in a variety of settings.

Creating Accessible Graphics

Graphics are a key way to persuade and inform your audience, so you’ll want to make sure that everyone can benefit from them. If you haven’t written accessible text for your photos, for example, someone using a screen reader couldn’t understand them. Choosing the wrong colour palette would make it hard for someone who is colourblind (or who is viewing the material in black and white) to understand your graphics. Choosing a colour that has a negative association in another culture might also give readers a negative impression of your graphics.

Karwai Pun, who works for the U.K. Home Office, has created a series of posters to show how to design accessible graphics. You’ll notice that a lot of the advice works for all users. Take a moment to scroll through these graphics and see how you can apply what you’ve learned when creating charts and graphs in the rest of the chapter.

Consider: Designing Accessible Graphics

Designing Accessible Graphics – Text version

Designing for Users With Dyslexia

Do

- use images and diagrams to support text
- align text to the left and keep a consistent layout
- consider producing materials in other formats (for example, audio and video)
- keep content short, clear and simple
- let users change the contrast between background and text.

Don't

- use blocks of heavy text
- underline words
- use italics or write in capitals
- force users to remember things from previous pages – give reminders and prompts
- rely on accurate spelling, use autocorrect or provide suggestions
- put too much information on page.

Designing For Deaf and Hard of Hearing Users

Do

- write in plain English
- use subtitles or provide transcripts for video
- use a linear, logical layout
- break up content with sub-headings, images and videos
- let users ask for their preferred communication support when booking appointments

Don't

- use complicated words or figures of speech

- put content in audio or video only
- make complex layouts and menus
- make users read long blocks of content
- make the telephone the only means of contact for users.

Designing For Users With Mobility Issues

Do

- make large clickable actions
- give form fields space
- design for keyboard or speech only
- use design with mobile and touch screen in mind
- provide shortcuts

Don't

- demand precision
- bunch interactions together
- make dynamic content that requires a lot of mouse movement
- have short time out windows
- tire users with lots of typing and scrolling.

Designing For Users With Low Vision

Do

- use good contrasts and a readable font size
- publish all information on web pages (HTML)
- use a combination of colour, shapes and text
- follow a linear, logical layout -and ensure text flows and is visible when text is magnified to 200%
- put buttons and notifications in context

Don't

- use low colour contrasts and small font size
- bury information in downloads
- only use colour to convey meaning

- spread content all over a page
- separate actions from their context

Designing For Users Who Use Screen Readers

Do

- describe images and provide transcripts for video
- follow a linear, logical layout structure content using HTML5
- build for keyboard use only
- write descriptive links and heading – for example, Contact us

Don't

- only show information in an image or video
- spread content all over a page
- rely on text size and placement for structure (use headers)
- force mouse or screen use
- write uninformative links and headings like “click here”

Designing For Users on the Autistic Spectrum

Do

- use simple colours
- write in plain English
- use simple sentences and bullets
- make buttons descriptive – for example, “Attach file”
- build simple and consistent layouts

Don't

- use bright contrasting colours
- use figures of speech and idioms
- create a wall of text
- make buttons vague and unpredictable (click here)
- build complex and cluttered layouts.

This Dos And Don'ts Of Designing Accessible Services page also contains plain text versions of the posters.

Source: Adapted from 14.2: Types of Graphics In *Advanced Professional Communication*, CC BY-NC-SA 4.0 . / A derivative of content by Karwai Pun, Open Government Licence v3.0, / Extracted from H5P, text version updated for PDF/Print users.

Attribution & References

Except where otherwise noted, this page has been adapted from 14.2: Types of Graphics and 14.4: Working With Graphics In *Advanced Professional Communication* by Melissa Ashman; Arley Cruthers; eCampusOntario; Ontario Business Faculty; and University of Minnesota, CC BY-NC-SA 4.0

3.2 GRAPHIC DESIGN

Graphic Design

Graphic design means creating visual concepts either by computer software or by hand to communicate a message, idea, or concept that serves a certain purpose. Uses of graphic design include: visual identity, marketing and advertising, user interface design, publication, packaging, motion design, environmental, art, and illustration.

Graphic design skills are perhaps the most broadly applicable creative skills. Almost every project, assignment, or document you produce can be enhanced by applying graphic design skills and principles.

Designing something from scratch can be a daunting task and indeed many designers find themselves stuck when they first try and launch into a new project. Fortunately, by understanding the basics of a typical graphic design process and doing a little bit of planning and research, you will have a much easier time.

Consider

Like all creative projects, it can be helpful to sit down and think about a plan before you start drafting up a design:

1. What are your goals?
2. What does the client or assignment ask for?
3. What kind of style are you aiming for?

Graphic Design Basics

When we talk about graphic design, we are talking about a number of separate ‘elements’ that make up a whole design. You may be familiar with some of these already, but others might be completely new. It is important to think about all of these elements as you are planning and creating your graphic.

Colour

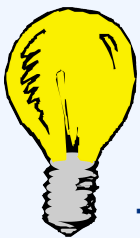
Designers and artists use a set of guidelines called colour theory to help effectively communicate ideas and create eye-catching elements for users. The use of colour theory helps with achieving a designer's goals, which may be attracting attention, organizing content, and evoking emotion. Colour theory aids the designer in choosing the right colour combination for the desired effect.

Colour terminology: There are a number of terms designers use to talk about colour that can be helpful when creating images:

- **Hue** refers to the specific colour (red, blue, purple, etc.).
- **Value** is the lightness or darkness of a hue (e.g. maroon is a dark red with a different value than cherry red).
- **Tint** is when you add white to a hue.
- **Shade** is when you add black to a hue.
- **Chroma/intensity** is the brightness or dullness of a colour (think of how close to grey, or how vibrant, a colour is).

Colour Harmony: Colours can be combined in various ways, but the common harmonies are monochromatic, analogous, and complementary.

- **Monochromatic** harmony is developed around one hue.
- **Analogous** harmony refers to choosing colours on that are close to each other on the colour wheel.
- **Complementary** harmonies are colours that are opposite of each other on the colour wheel.



Tip: Colour Modes

Where your graphic will end up will determine the “Colour Mode” you want to work in. Both modes will let you choose any colour, but the modes control how screens or printers display colours. If it is going to be posted online or on a screen, you should use **RGB Colour Mode**. For printing, you want to use **CMYK Colour mode**, which is seen in magazines, cards, posters etc.

It can be really helpful when you are starting out to play around with colour schemes to help you get a sense

of what sort of colour scheme you might want to use for your design. There are a number of free tools like Coolors (<https://coolors.co/d5c5c8-9da3a4-604d53-db7f8e-ffdbda>) or Adobe Color (<https://color.adobe.com/create/color-wheel>) that can help you try out different schemes and easily make different harmonies (you can even see thousands of schemes made by other people).

As much as colour is an important part of a design, it is equally important to consider all of the other design elements when you are working on your project.

More Design Elements

Form

An arrangement of elements in a composition and also the three-dimensional development of a two-dimensional shape, which has depth and encloses a space. There are three basic forms, which are organic, geometric, and abstract. Geometric shapes are man-made and mathematically precise, whereas organic ones are natural and asymmetrical. Abstract shapes are stylized and recognizable but are not real (and usually representing ideas and feelings).

Line

The connection between two points or a single point that continues for a distance. A line can be vertical, horizontal, diagonal, or curved. The purpose of lines is to add style, enhance comprehension, lead the viewer's eyes, create forms, and divide space. When used alone, lines can provide a framework for the page and as part of a graphic element: they can create patterns, set a mood, provide texture, create movement, and define shapes.

Shape

Flat, two dimensional enclosed areas created with lines, textures, and colours. Shapes can evoke certain emotions and be used to create a particular feeling in a composition. The use of shapes in design helps to express different ideas, the sense of movement, offer texture and dimension, and suggest mood or emotions. As an example, soft, rounded, organic shapes are often associated with calmness, whereas sharp and pointed elements refer to boldness, loudness, or dynamism.

Size

An important function in making a design layout functional, attractive, and organized. It is how large or small an element is in relation to other objects and is used to make other elements or objects stand out, or to create contrast and emphasis. In order to effectively use size in your work, you can make important elements the largest, bring them “forward” or push them “back” to give a sense of scale alongside related objects, and create unity by grouping and making similar elements the same size, such as headlines and body text.

Space

The distance between elements and shapes in a composition, also known as white or negative space. White space is important, as it allows the viewer to understand the hierarchy of the elements as it separates and groups elements, processing them as their own or as a whole piece. Space can also provide a sense of luxury

and sophistication to design work, add emphasis to certain elements, invoke imagination, and create a negative space image.

Texture

The visual or implied looks and qualities of a surface area, which suggest how it would feel. Different types of textures include patterns and images, environmental, biological, and man-made, and allow a work to create a sense of depth, evoke feelings, trigger emotions, and suggest the sensation of touch.

Graphic Design Principles

Once you've thought about all of the different elements, it's time to combine them into a full design. There are a few basic principles to keep in mind when you are roughing out your design for the first time (and as you are iterating on it to make it better!). They are: balance, rhythm, contrast, emphasis, and movement.

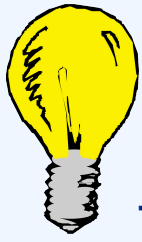
Balance is the arrangement of the visual weight of objects, colours, texture, and space. Balance creates emphasis, drawing the viewers attention and dividing it into symmetrical, asymmetrical, mosaic, and radial. Visual balance is important and desirable since it provides a sense of comfort for the viewer, allows them to see all areas of the composition, and emphasizes how each part may hold interest. If a composition is unbalanced, it can give a sense of tension. The areas with the most visual weight get the most attention.

Contrast is the difference between two or more visual elements in a composition. This helps to clarify the purpose of your design by creating focal points and diverting attention to the contrasting element, while adding visual interest to a composition. Certain elements that can be used as contrast in a composition include colour, type, alignment, and size. Contrast is important since the difference between the elements makes it easier to compare and comprehend.

Emphasis is when a particular element is designed to draw the attention of a viewer. This is usually an eye-catching focal point and the area that has the most significance. Emphasis can be created by using contrasts in colour, texture, and value for the eye to be drawn to a particular area, and also by strategically placing something in the area of a composition that will draw the most attention.

Movement is the direction the viewer's eyes naturally move around a composition. This can be created through lines, shapes, edges, colour, and patterns. Movement allows the viewer to know where to look and what to do next. The movement that is made through elements keeps visual interest and lets the viewer know of change. Some effects that create movement are blurs, curves, or the display of something already in motion (e.g. a person running).

Rhythm is the repeating elements in a composition that can unite, direct, and highlight. Rhythm can include elements that are repeating in shape, colour, tone, texture, accents, and direction. Using rhythm in a composition can create momentum and life, especially when used alongside the other principles.



Tip: File Formats

File formats in the graphic design world can be overwhelming. In general, it's best to save your files as whatever will have the most universal use. In this case, a PDF, PNG, or JPEG at the highest resolution possible. You might encounter the terms Vector and Raster when saving. A raster is an image made up of pixels, and a vector is an image made up of shapes, lines, and points. The difference is that you can always increase the scale of a vector (because it has no pixels), whereas a raster will start to show individual pixels.

Creating Your Design

Now that you have a plan (you've roughed out your design and thought through all of its elements while applying design principles), it's time to actually use some design tools to create it. Most graphic design professionals use Adobe programs such as Illustrator, Photoshop, and InDesign to create their graphics.

Those can be both expensive and difficult to learn. Luckily, there are a number of free or less expensive alternatives that you can use to create your own high quality graphics.

Dig Deeper

Here are some extra options for you to explore for editing images that are free and/or open source.

GIMP

GIMP (Windows Store (<https://apps.microsoft.com/detail/xpdm27w10192q0?hl=en-us&gl=CA>)) is a free and open source alternative to Photoshop that allows for photo manipulation, retouching, and restoring, while also providing tools for users to create their own artwork, icons, graphic elements, user interface components, and mockups.

Inkscape

Inkscape (Windows Store (<https://apps.microsoft.com/detail/9pd9bhglfc7h?amp%3Bgl=US&hl=en-us&gl=CA>) | Apple Store) is a free and open source alternative to Illustrator and includes features for object creation with shapes, drawing, and text tools, as well as object manipulation that allows for grouping, merging, layers, and the transformation of images with multiple format support options.

Gravit Designer

Gravit Designer (Chrome Web Store) (<https://chromewebstore.google.com/detail/gravit-designer/pdagghjnpkeagmlbilmjmcflhjeaapaa>) is a free, browser-based, and full featured vector graphic design application that works on all browsers and operating software. This application allows you to create vector graphics with common tools, along with some photo adjustment, filters, and blending.

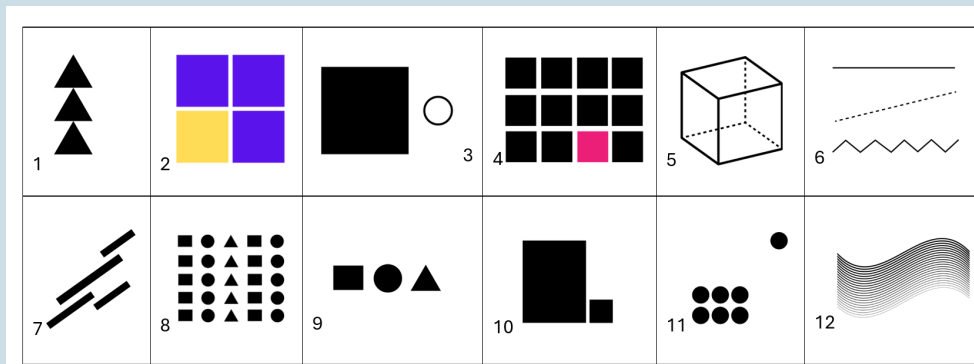
Canva

Canva (<https://www.canva.com/>) is a browser-based design platform that allows users to create a variety of content: videos, infographics, social media posts, documents, presentations, etc. The platform is free to use with a pro version available, and includes templates and the function to collaborate with other members.

Consider: Elements of Design

Elements of Design Activity – Text version

Which element of design do each of these images convey?



Source: Chart of images is adapted from Elements of Design activity from Graphic Design In *Liberated Learners* by Terry Greene et al., CC BY-NC 4.0. / Extracted from HSP activity for use in Print/PDF.

Description of images on chart:

1. three triangles stacked on top of each other
2. three purple squares, one yellow, stacked 2×2 to create a larger square
3. large solid square and small outline of a circle
4. 12 black squares, with one pink, stacked 4×3, with the pink square on the bottom row in the second last position
5. outline of a cube
6. straight line, dotted line, wavy line not overlapping

7. 4 lines that do not intersect, pointing upwards at a 45 degree angle
8. 5 rows of repeating images in a pattern of square, circle, triangle, square, circle
9. square, circle, triangle
10. large rectangle sitting beside a small rectangle
11. collection of 6 circles at the bottom left, one circle top right
12. wavy line with variations and gradients

Check Your Answers in footnote¹

Activity source: Adapted from Elements of Design Activity from Graphic Design In *Liberated Learners* by Terry Greene et al. , CC BY-NC 4.0 . / Extracted from H5P activity for use in Print/PDF

Attribution & References

Except where otherwise noted, this page is adapted from Graphic Design In *Liberated Learners* by Terry Greene et al., CC BY-NC 4.0 . / Adaptation notes. Removed the liberated learners activity/assignment, added links to design apps, removed and streamlined some content to improve student learning.

Notes

1.
 1. Balance
 2. Colour
 3. Contrast
 4. Emphasis
 5. Form
 6. Line
 7. Movement
 8. Rhythm
 9. Shape
 10. Size
 11. Space
 12. Texture

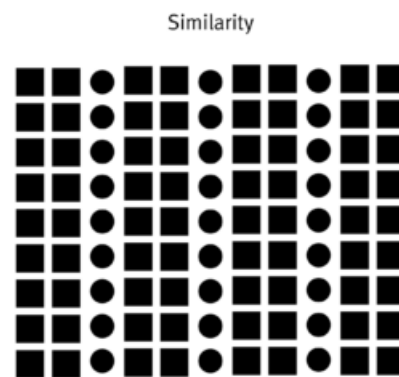
3.3 GESTALT THEORY

Gestalt Theory

Gestalt Theory is a framework that can help us understand how people look at visuals as a whole. It was developed in the 1920s by the German psychologists Max Wertheimer, Wolfgang Kohler, and Kurt Koffka (Pappas, 2014). The term Gestalt means *unified whole*, and there are six basic Gestalt principles: (1) similarity, (2) continuation, (3) closure, (4) proximity, (5) figure/ground, and (6) symmetry and order.

Similarity

When visual elements have a similar shape or look as one another, a viewer will often connect the discrete components and see a pattern. This effect can be used to create a single illustration, image, or message from a series of separate elements. Basically, if something has the same shape, colour, size or texture, humans will see them as linked. For example, every 'Questions for Reflection' section in this book has the same colour, shape and layout. If you start using a particular font and size for a heading, you should continue the pattern so that readers aren't confused.



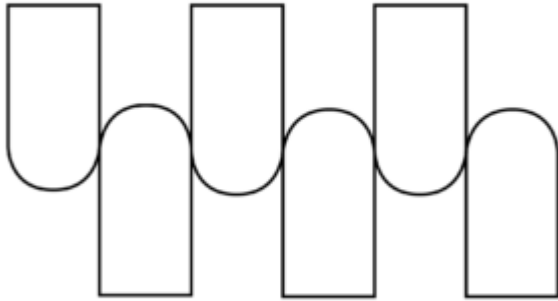
Similarity

A series of rectangles and circles arranged in a repeating pattern to indicate the similarity principle.

Source: Similarity © Ken Jeffrey

Continuation

Continuity



A series of rounded rectangles lined up to create a continuous curvy line across the shapes to illustrate the principle of continuity. **Source:** Continuity © Ken Jeffrey

Continuation is the tendency of the mind to see a single continuous line of connection rather than discrete components (see Figure 2). The eye is drawn along a path, line, or curve, as long as there is enough proximity between objects to do so. This tendency can be used to point toward another element in the composition, or to draw the eye around a composition. The eye will continue along the path or direction suggested by the composition even when the composition ends, continuing beyond the page dimensions.

To understand this principle, think about this famous optical illusion (<https://metro.co.uk/2016/01/01/how-many-faces-can-you-see-in-this-tree-5595695/>), which is a drawing of a tree that has several faces hidden in it. You're able to see the faces because your mind "continues" the lines to complete the shape of the face.

Closure

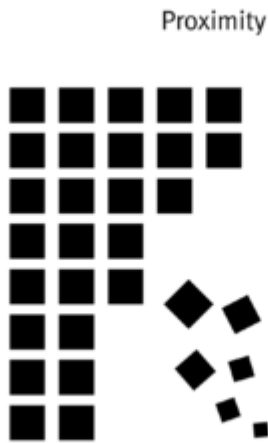


Three black circles surround a triangle with a black outline that has a triangle of white space on top illustrating closure.

Source:
Closure © Ken Jeffrey

Closure is a design technique that uses the mind's tendency to complete incomplete shapes (see Figure 14.3.3). The principle works if the viewer is given enough visual information to perceive a complete shape in the negative space. In essence, the mind 'closes' a form, object, or composition. In the example above, the triangle is formed by the viewer's mind, which wants to close the shape formed by the gaps and spaces of the adjacent circles and lines. The partial triangle, outlined in black, also hints at the missing shape. The above optical illusion is also an example of closure, because your mind 'closes' the head shape.

Proximity



A series of black boxes lined up in a 5 by 8 grid. In the bottom right, the boxes begin to fall away. **Source:** Proximity © Ken Jeffrey

a headline in a newspaper, the audience will associate the two elements.

Proximity is an arrangement of elements that creates an association or relationship between them (see Figure 4). If individual elements are similar, they will probably be perceived first as a whole and second as discrete components. If, like the example above, some of the components form to create a large ‘whole,’ similar elements positioned away from the main shape will also be associated with the large shape. In this case, the viewer interprets them as falling off or away from the main shape. The shapes used do not have to be geometric to create the effect of proximity. Any components that are similar in shape, colour, texture, size, or other visual attribute can achieve proximity.

Thinking about proximity helps you to think about how your audience is finding relationships between the parts of your document. For example, if a photo is under

Figure/Ground

Figure/ground segregation refers to the contrast between the foreground and background of an image. Graphic designers often use this principle to design negative space around an object. The area where it's most commonly used is when laying text over an image. If there is not enough contrast between the figure and the ground, the reader will not be able to read the text.

Symmetry and Order

Symmetry

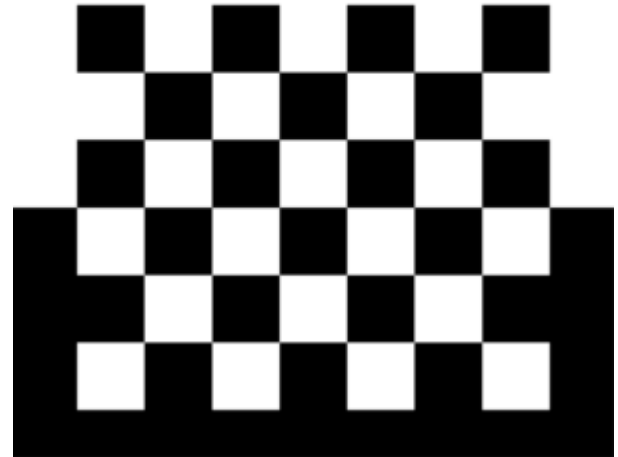


Black squares make up the shape of a heart.

Source: Symmetry © Ken Jeffrey

composition balance and a feeling of harmony.

Figure/Ground



A checkerboard of black and white shapes. The top half of the checkerboard has a white background, the bottom half has a black background, showing figure/ground segregation. **Source:** Figure/Ground, © Ken Jeffrey

Symmetry and order follow the premise that a composition should not create a sense of disorder or imbalance (see Figure 6), because the viewer will waste time trying to mentally reorder it rather than focus on the embedded content. The photographic example in Figure 14.3.7 is composed symmetrically and allows the viewer to concentrate on the figure in the centre.

Achieving symmetry in a composition also gives the



Figure 3.3a: Example of symmetry and order is seen in this poster for the Chicago World's Fair, which has a strong sense of symmetry in its composition. There is a big tower stretching across the middle of the page and two smaller towers of equal lengths on each side of it. **Source:** Poster, originally by Weimer Pursell, silkscreen print by Neely Printing Co., Chicago, PDM

Consider

Looking at Figure 3.3a, identify:

1. What element is unbalanced or disordered?
2. Which element(s) in the poster help to create symmetry and order?

Attribution & References

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- Images by Ken Jeffrey are reused from “3.3 Compositional Principles — Strategies for Arranging Things Better” In *Graphic Design and Print Production Fundamentals* by Alex Hass & Ken Jeffrey, CC BY 4.0

References

Pappas, C. (2014, January 7). Instructional design models and theories: Gestalt theory.
<https://elearningindustry.com/gestalt-theory>

3.4 COLOUR THEORY

Colour Theory in Context

Colour is used in so many aspects of our lives – in the objects and environments that we see all around us every day, our clothes, homes, art and design creations, and digital media like photography, videos, games and websites.

This chapter explains the colour systems used in mixing and creating colour in both digital media, such as images, videos, websites, and physical materials, such as printing, paint pigments, and dyes.

Consider

1. What colours do you find calming?
2. Are there colours that you find energizing?
3. How could you use such preferences to enhance your designs?

Additive and Subtractive Colour

Additive colour works by mixing colours of light. The more colours of light you **add** together, the closer you get to **white light**. It is the opposite of the colour spectrum, where white light is *refracted* (broken up) into a rainbow of colours.

Subtractive colour involves mixing physical materials like paint pigments, printing inks, and dyes. The more colour materials you mix, the darker the colour gets. It's called 'subtractive' because of the absorption or **subtraction** of certain wavelengths **from white light**. This absorption is based on how different atoms behave when light hits them.

Understanding the difference between additive and subtractive colour can help you when working with different kinds of materials and digital media. Learn more about each of the following topics in the OER *Colour Theory: Understanding and Working with Colour*:

- Additive and subtractive colour (<https://rmit.pressbooks.pub/colourtheory1/part/additive-and-subtractive-colour/>)
- Additive and subtractive colours on the colour wheel (<https://rmit.pressbooks.pub/colourtheory1/chapter/additive-and-subtractive-colour-systems/>)
- How additive and subtractive colour works when printing a digital image (<https://rmit.pressbooks.pub/colourtheory1/chapter/additive-and-subtractive-colours-on-the-colour-wheel/>)

Colour systems: digital

Digital colour systems are used by visual creation tools, such as apps for image editing and illustration, digital photography and video, interactive objects like games and websites, online media, 3D, and extended reality environments (XR) (including Augmented Reality and Virtual Reality).

These colour systems and their terminology have become industry standards and part of the knowledge base required for any digital media creator. This section explains some of the technical terms commonly used and how these systems work.

Learn more about each of the following topics in the OER *Colour Theory: Understanding and Working with Colour*:

- Colour spaces or gamuts (<https://rmit.pressbooks.pub/colourtheory1/chapter/colour-spaces-or-gamuts/>)
- How digital screens display colour (<https://rmit.pressbooks.pub/colourtheory1/chapter/how-digital-screens-display-colour/>)
- What is Hexadecimal colour? (<https://rmit.pressbooks.pub/colourtheory1/chapter/what-is-hexadecimal-colour/>)
- Other RGB colour models (<https://rmit.pressbooks.pub/colourtheory1/chapter/other-rgb-colour-models/>)
- How do digital images and videos display colour? (<https://rmit.pressbooks.pub/colourtheory1/chapter/how-do-digital-image-and-video-file-formats-display-colour/>)

Colour systems: printing

Colour printing requires a range of different methods for printing all kinds of imagery onto different kinds of materials. This includes photographic imagery, artwork, publications, and graphic, industrial, fashion, and textile design products.

Understanding how subtractive colour systems work, how inks, pigments and materials behave in printing processes, and how to achieve effects like metallic and fluorescent colours or gloss and embossed finishes requires special skill and expertise.

Learn more about how different colours are produced for the printing process including Process (CMYK+) and Spot (Pantone) colour in the OER *Colour Theory: Understanding and Working with Colour*:

- Do I need to convert an RGB image to CMYK to print it? (<https://rmit.pressbooks.pub/colourtheory1/chapter/do-i-need-to-convert-an-rgb-image-to-cmyk-to-print-it/>)
- Process (CMYK+) and Spot (Pantone) colour printing (<https://rmit.pressbooks.pub/colourtheory1/chapter/spot-pantone-and-process-cmyk-colour-printing/>)
- Colour management – what can go wrong? (<https://rmit.pressbooks.pub/colourtheory1/chapter/colour-management/>)

Colour systems: pigments and dyes

The development, mixing and use of pigments and dyes throughout history, across all cultures, is an important part of understanding colour theory. From early human use of natural pigments made from ochres in the earth to synthetic colours developed in science labs, there are many interesting stories behind the colours we know and use today.

Learn more about the history and development of colour materials and how they are used in creative practice in the following sections from the OER *Colour Theory: Understanding and Working with Colour*:

- Colour pigments: history and usage (<https://rmit.pressbooks.pub/colourtheory1/chapter/paint-pigments/>)
- Mixing paint pigments (<https://rmit.pressbooks.pub/colourtheory1/chapter/mixing-paint-pigments/>)
- Colour dyes: a (very) short history of dyes from around the world (<https://rmit.pressbooks.pub/colourtheory1/chapter/dyes-history-and-techniques/>)
- Colour dyes: methods and processes (<https://rmit.pressbooks.pub/colourtheory1/chapter/colour-dyes-methods-and-processes/>)
- Colour dyes: synthetic colours and sustainability (<https://rmit.pressbooks.pub/colourtheory1/chapter/colour-dyes-synthetic-colours-and-sustainability/>)
- Special colours, controversial colours and interesting facts (<https://rmit.pressbooks.pub/colourtheory1/chapter/special-colours-and-fun-facts/>)
- Problematic colours (<https://rmit.pressbooks.pub/colourtheory1/chapter/problematic-colours/>)

Colour wheels and relationships

Colour wheels have been used for hundreds of years as a method of working with colour – to understand mixing colour, creating colour palettes and relationships, and selecting colour in software applications.

Many early colour wheels used the RYB (Red, Yellow, Blue) primaries alongside secondary and tertiary

colours in a wheel, but today, with digital technologies influencing how we create works that use colour, it is accepted that the additive colour primaries (RGB) (or CMY for subtractive colour) are the standard used in software applications as screen-based media work with additive colour (pixels are made of light).

Learn more about an interactive colour wheel and information about colour relationships, schemes, properties and colour systems used in creative industries in the following sections from the OER *Colour Theory: Understanding and Working with Colour*:

- Interactive colour wheel and colour relationships (<https://rmit.pressbooks.pub/colourtheory1/chapter/interactive-colour-wheel/>)
- The properties of colour (<https://rmit.pressbooks.pub/colourtheory1/chapter/the-properties-of-colour/>)
- Colour properties learning activities:
 - tints, shades and tones (<https://rmit.pressbooks.pub/colourtheory1/chapter/colour-properties-tints-shades-and-tones-learning-activity/>)
 - light to dark (<https://rmit.pressbooks.pub/colourtheory1/chapter/colour-properties-light-to-dark-learning-activity/>)
 - monochrome (greyscale) (<https://rmit.pressbooks.pub/colourtheory1/chapter/colour-properties-monochrome-greyscale-learning-activity/>)
 - bias colour
- Colour charts – Pantone and Munsell systems (<https://rmit.pressbooks.pub/colourtheory1/chapter/colour-charts/>)

The visible spectrum

Sir Isaac Newton was the first to classify the visible spectrum as we know it today.

Visible Light Spectrum and other non-visible electromagnetic radiation

This diagram shows the visible light spectrum and other types of non-visible electromagnetic radiation measured in nanometres (nm).

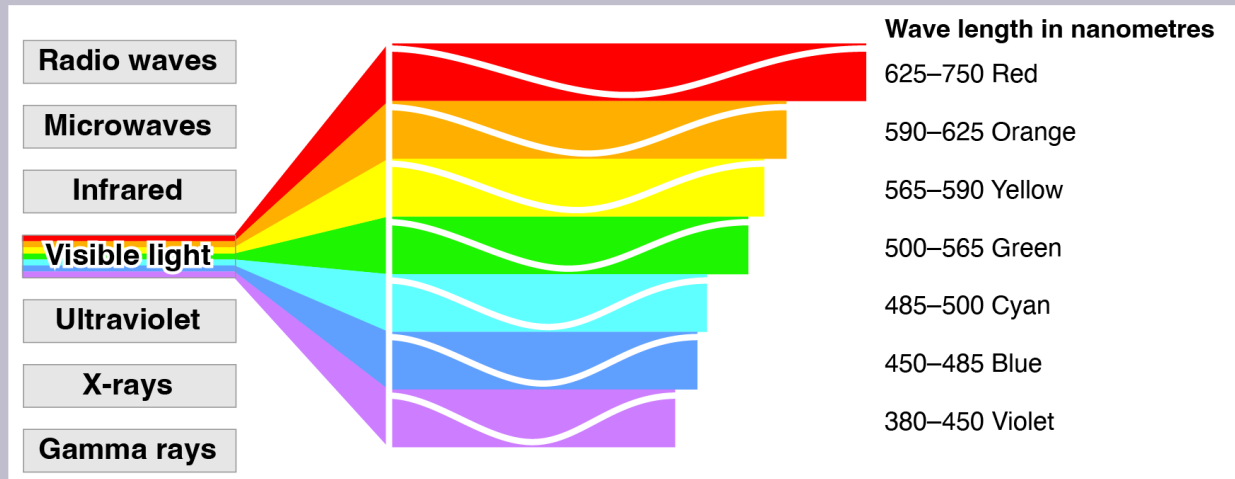


Figure 3.4a Wave lengths in nm: violet 380–450, blue 450–485, cyan 485–500, green 500–565, yellow 565–590, orange 590–625, red 625–750. Source: The light spectrum with visible wave lengths in nanometres. The light spectrum with visible wave lengths in nanometres. **Source:** The light spectrum with visible wave lengths in nanometres. by RMIT, licensed under CC BY-NC 4.0.

The colours we see are based on wavelengths, and as Figure 3.4a shows, there are wavelengths that the human eye cannot see, like radio waves, X-rays, and microwaves. In the visible spectrum, violet rays, which are the shortest wavelengths are also the highest in energy. Red light wavelengths are the longest and the lowest in energy.

The physics of light and colour

Physics is the science that deals with energy and matter. To understand what colour is and how we see it, we need to explore the physical properties of light as a form of energy and how it interacts with matter – the objects we see.

Learn more about physics-related topics in an introductory way with videos, links, and learning activities to help you to extend your knowledge of the physics of light and colour:

- Light: electromagnetic radiation (<https://rmit.pressbooks.pub/colourtheory1/chapter/light-electromagnetic-radiation/>)
- Optics 1: lenses and ocular devices (<https://rmit.pressbooks.pub/colourtheory1/chapter/optics/>)
- Optics 2: electronic technologies and spectral analysis (<https://rmit.pressbooks.pub/colourtheory1/chapter/optics-part-2/>)

- Why are things different colours? (<https://rmit.pressbooks.pub/colourtheory1/chapter/why-are-things-different-colours/>)

The eye – how we see colour

Understanding how we see colour is fundamental to understanding colour theory. The human eye has evolved to detect lightwaves from a limited bandwidth, as previously discussed in this resource – this is the visible spectrum. But how exactly do our eyes detect light and distinguish between different light wavelengths?

Learn more about how we see and how our brains interpret visual information:

- Anatomy of the human eye (<https://rmit.pressbooks.pub/colourtheory1/chapter/biology-of-the-human-eye/>)
- How the brain interprets colour information (<https://rmit.pressbooks.pub/colourtheory1/chapter/how-the-brain-interprets-colour-information/>)
- Colour blindness (<https://rmit.pressbooks.pub/colourtheory1/chapter/colour-blindness/>)
- Vision difference: tetrachromacy and synesthesia (<https://rmit.pressbooks.pub/colourtheory1/chapter/vision-difference/>)
- Accessible colour (<https://rmit.pressbooks.pub/colourtheory1/chapter/accessible-colour/>)
- How animals see colour (<https://rmit.pressbooks.pub/colourtheory1/chapter/how-animals-see-colour/>)

Trends and Palettes

A **trend** is a direction that is developing or changing – as with fashion, which is constantly evolving. **Colour trends** are how we describe certain colours or colour **palettes** (selected groups of colours that are used together) that become popular at different times. Knowing about colour trends is useful in design fields like fashion and textile design, interior design, product and packaging design and web design, where new products are continuously emerging.


Commercial colour charts are easy to find for paints and textiles. In design, the [href="https://www.pantone.com/color-tools/physical-color-tools/graphics">](https://www.pantone.com/color-tools/physical-color-tools/graphics)**Pantone Matching System (PMS)** () for graphics and print and the **Pantone Fashion, Home and Interiors System (FHI)** (<https://pantone.net.au/pages/color-consulting-services>) for textiles and pigments have become industry standards for colour selection for a wide range of design and commercial production solutions.


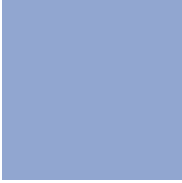


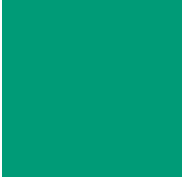

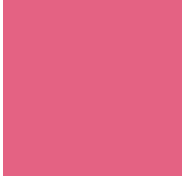
The Pantone Colour Institute has also become known for its colour trend influencing. They select a

“colour of the year” each year.

Here are some past Pantone colours of the year (Table 3.4a):

Table 3.4a – Pantone Colours of the Year 2023-2011

Year	Code	Name	Swatch	Colour Description
2023	PANTONE 18-1750	Viva Magenta		Magenta, red
2022	PANTONE 17-3938	Very Peri		Blue-purple colour, periwinkle
2021	PANTONE 17-5104	Ultimate Gray		Medium gray
	PANTONE 13-0647	Illuminating		Bright yellow
2020	PANTONE 19-4052	Classic Blue		Dark blue
2019	PANTONE 16-1546	Living Coral		Salmon
2018	PANTONE 18-3838	Ultra Violet		Purple
2017	PANTONE 15-0343	Greenery		Green

2016	PANTONE 13-1520	Rose Quartz		Light Pink
2016	PANTONE 15-3919	Serenity		Light blue, periwinkle
2015	PANTONE 18-1438	Marsala		Rust/brown
2014	PANTONE 18-3224	Radiant Orchid		Pink/purple
2013	PANTONE 17-5641	Emerald		Green
2012	PANTONE 17-1463	Tangerine Tango		Dark orange
2011	PANTONE 18-2120	Honeysuckle		Dark pink

Source: Pantone past colours of the year.

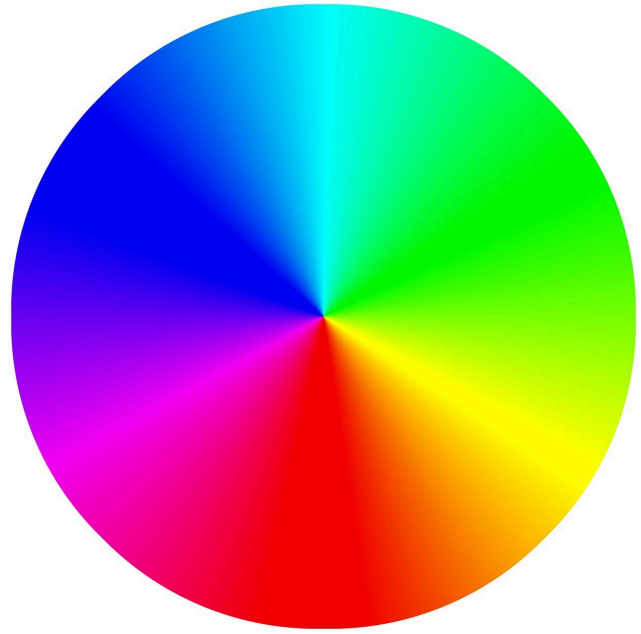
Aesthetics of colour palettes

A colour palette is a set of colours that a designer or artist chooses to work with on a project like an image, website, fashion range, product packaging etc.

Choosing the right set of colours can play an important role in how successful your design, artwork or product is and how users respond to it.

As previously discussed in this chapter, colour perception and aesthetic taste are subjective things, but colours do have common links to our emotions and moods. Any artist or designer will have their preferred palettes for working with specific projects. However, if you have a design brief from a client, you may need to create a unique colour palette for your client's website or product. It can be difficult to know which colours work best together, and if those colours successfully symbolise or represent your client's business.

Many online tools can recommend currently trending and aesthetically pleasing colour palettes or can help you create your own palettes by using keyword searches. Other online tools allow you to upload images to create a colour palette from the colours used in the image, or use AI to create colour palettes based on machine learning.



Colour wheel shows the rainbow of colours. Colour wheel by TheDigitalArtist via Pixabay, licensed under CC0.

Attribution & References

Except where otherwise noted, this page is adapted from “Colour theory: the visible spectrum“, “Colour trends and palettes” and “Working with colour” In *Colour Theory: Understanding and Working with Colour* by Lisa Cianci, CC BY-NC 4.0 . / Combined 3 pages from the same source, created table of contents links back to original text.

References

Pantone. (n.d.). Color of the year. <https://www.pantone.com/articles/color-of-the-year>

3.5 WORKING WITH GRAPHICS AND TEXT

Key Principles for Working with Graphics and Text

- Visual design is important because people don't read workplace documents for fun. They read them because they have to. Your job is to make documents as readable and usable as possible.
- Before you design your document, define your purpose and think about your audience.
- To make sure that everyone can benefit from your graphics, consider accessibility.
- Gestalt Theory helps us to think about how the document functions as a whole. The six principles of Gestalt Theory are: similarity, continuation, closure, proximity, figure/ground segregation and symmetry.
- When designing charts and graphs, think about what relationship you are trying to show.
- It is important to revise graphics and other document design elements, as well as to revise your text, and to make the entire document reader-centred.

Revising your Work

Just like written text, graphics have to be revised. The following checklist will help you revise your visual communication to make sure that it's as effective as possible, as well as revise your text both from a visual and a linguistic perspective to make it as reader-centred as possible.

Consider: *Revision Checklist*

1. First Pass: Document-level Review

- Review specifications to ensure that you have included all required content.
- Make sure your title, headings, subheading, and table/figure labels are clear and descriptive. Headings should clearly and efficiently indicate the content of that section; Figure and Table

captions should clearly describe the content of the visual.

- Make sure visual elements have appropriate passive space around them.
- Make sure ideas flow in a logical order and explanations come in a timely manner. Make sure visuals illustrate your textual information.
- Write “reader-centred” prose: determine the relationship between your purpose in writing and your reader’s purpose in reading. Give your readers the information they want and need to get from your document as efficiently as possible.
- Make sure you are using an appropriate tone (neutral, objective, constructive, formal)

2. Second Pass: Paragraph-level Review

- Make sure each paragraph begins with a topic sentence that previews and/or summarizes the content to come.
- Add coherent transitions to link one sentence logically to the next.
- Cut unnecessary or irrelevant information.
- Avoid overly long or short paragraphs (5-10 lines long is a reasonable guideline).

3. Third Pass: Sentence-level Review

- Watch sentence length; consider revising sentences longer than 25 words. Vary the length and structure of sentences.
- Look at the ratio of *verbs: number of words per sentence*. Generally, the more verbs in the sentence, the better the sentence.
- Use concrete, strong, active verbs – avoid vague, passive, verbs and “is/are/was/were/being” whenever feasible (move the *-tion* and *-ment* words up the verb scale).
- Create a clear Actor/Action relationship (Subject-Verb).
- Verbs like “make” “do” “have” and “get” have many possible meanings. Try to find more precise ones.
- In general, keep subject and verb close together, and keep the subject and the main verb near the beginning of the sentence.

4. Fourth Pass: Word-level Review

- Use concrete, specific, precise words; avoid vague, abstract, generalizing words.
- Match your vocabulary to your audience: experts can tolerate complex information with a lot of terminology; general readers require simpler, less detailed descriptions/explanations.

- Use clear, plain language rather than pompous diction; write to **express**, not impress.
- Avoid “sound bite” phrases that have no real meaning; use a single word instead of a phrase whenever possible.
- Avoid clichés, colloquial expressions, and slang.
- Use second person (you) pronouns carefully and sparingly—and only if you want to address your readers directly (not to refer to “people in general”).
- Avoid “ad speak”—don’t sound like you are “selling” something; use objective, measurable descriptors.

Attribution & References

Except where otherwise noted, this page has been adapted from 14.5: Revising Graphics and Text and Chapter 14: Review and Exercises In *Advanced Professional Communication* by by Melissa Ashman; Arley Cruthers; eCampusOntario; Ontario Business Faculty; and University of Minnesota, CC BY-NC-SA 4.0

3.6 IMAGES

Image Basics

An **image** is a visual representation of something. There are two main types of images digital and analog. Digital images are created using a computer or camera. Analog images are film photographs and paintings. Resolution, bit-depth (colour depth) and colour management make up the core of a digital image.

Image resolution

A digital image is a structured matrix (or grid) of tiny squares known as pixels (*picture elements*). Each of these pixels has an assigned tonal value and when viewed in combination with surrounding pixels form the illusion of a continuous tone image.

Image resolution is simply a measurement of the density (or number) of pixels within the digital image. It describes the amount of detail encoded within a digital image. In the scanning world, resolution is a representation of the number of samples taken from the analogue original (photograph, document etc). In general, a greater number a samples (or higher resolution) should result in a more representative digital surrogate.

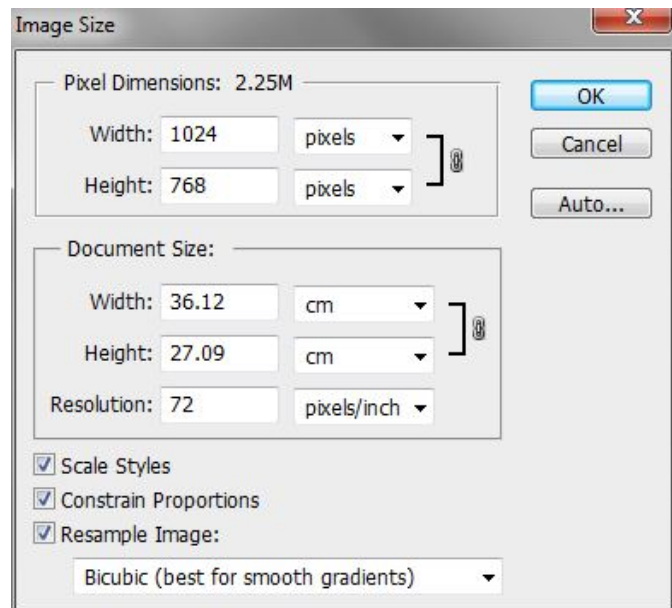
Resolution can be measured using two methods. In most software programs these are referred to as *pixel dimensions* and *document size/pixels per inch*.

Pixel dimensions (also known as pixel array) – makes reference to the number of pixels in the matrix arrangement (array) horizontally and vertically.

For example:

- 1024 x 768 pixels, or width=1024 and height=768

Document size/pixels per inch – resolution is most commonly expressed in *pixels per inch* (ppi) and measures the number of pixels per square inch.



Adobe Photoshop Image Size dialog box, showing dimensions of the image (measured in pixels), and document size (measured in cms, with overall resolution). **Source:** Adobe Photoshop © Adobe, used under Fair Dealing.

For example:

- a 1 inch x 1 inch image @ 300ppi image = 300 x 300 pixels

Pixel per inch (ppi) is a variable measurement and is dependent on knowing the size of overall the image; without this scale (or magnification ratio) the measurement loses context.

[You might be familiar with the term *dots per inch* (dpi) and while the two terms are often interchangeable *dpi* refers to printed resolution whereas *ppi* refers to the pixels within the digital image file].

Example of image resolution

Here is an image from investigator records (University Hotel, Parramatta Road, Glebe 1890). Take note of the horse bottom right.



Image University Hotel, Parramatta Road, Glebe, Proposed hotel perspective, Applicant/owner, Alfred Bennett Esquire, Architect N C Day. Dated: 21/01/1890
Digital ID: 9590_62784
Series: NRS 9590.
Source: Image from Museums of History NSW – State Archives Collection, PDM.

Below is a close-up of the horse and shows three derivatives from the one master file. The higher the resolution, the greater the (uncompressed) file size – from 300ppi for printing down to 75ppi for web delivery.

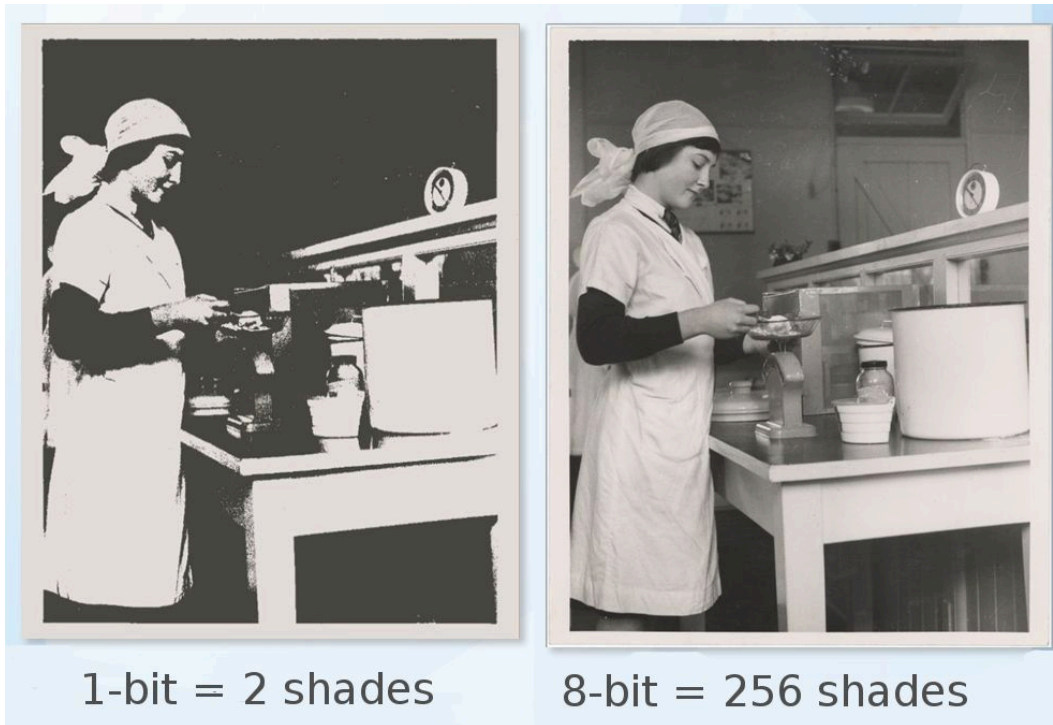


Close up of horse in three different resolutions (300 PPI, 150 PPI, 75 PPI) for comparison of image quality and file size. Largest PPI has the largest file size. **Source:** Image from Museums of History NSW – State Archives Collection, PDM.

Bit depth (tonal or colour depth)

This is the measurement of the number of bits – or binary digits – devoted to storing the colour information about each pixel. The number of bits available determines the maximum possible range of colours and luminosity values (or grey shades) that can be represented within an image's colour space or palette.

For instance, in a one bit image, each pixel is stored as a single bit (0 or 1) so there are only two digits available (black [0] or white [1]).



The same black and white photograph is shown in 1-bit (2 shades) and 8-bit (256 shades). The image in 8-bit is considerably more clear and defined.

Source: Digitising your collection – Part 3: Technical specifications, CC BY-NC-SA 3.0 Australia License.

Colour management

Colour management outlines the colour capabilities of hardware devices – cameras, scanners, monitors and printers – by creating a translation (profile) that controls how the colour is displayed (or printed) by those devices.

Colour profiles ensure the quality of reproduced colour across many output devices. The minimum requirement for most projects should be an input profile outlining the colour space of the device that was used to digitise the document (most devices will default to sRGB (<https://en.wikipedia.org/wiki/SRGB>)).

Image File types

TIFF (TIF) – Tagged Image File Format

This is currently the preferred archival format for storage of images. It is the most common uncompressed image file type and retains all of the image information. It also offers lossless compression options (see below under File Compression). Most software programs use this format and it is available for both Macintosh and Windows.

JPG (JPEG) – Joint Photographic Experts Group

This format is highly compressed and removes “unnecessary” image information. Most software programs use this format and it is available for both Macintosh and Windows.

JPEG 2000

A compression standard enabling both lossless and lossy storage. The compression methods are different from the ones in standard JPEG and improve quality and compression ratios. However it requires more computational power (or to be more technical, *grunt*) to process.

Typical Image Formats		
Format	Bit depth	Compression
TIFF (TIF)	<ul style="list-style-type: none"> • RGB – 24/48 bits • Grayscale – 8/16 bits • Indexed colour – 1 to 8 bits 	No Compression or Lossless (LWZ)
PNG	<ul style="list-style-type: none"> • RGB – 24/48 bits • Grayscale – 8/16 bits • Indexed colour – 1 to 8 bits 	Lossless (ZIP)
JPEG2000 (JP2)	<ul style="list-style-type: none"> • RGB – 24/48 bits • Grayscale – 8/16 bits 	Lossless or Lossy
JPEG (JPG)	<ul style="list-style-type: none"> • RGB – 24 bits • Grayscale – 8 bits 	Lossy
PSD	<ul style="list-style-type: none"> • RGB – 24/48 bits • Grayscale – 8/16 bits • Indexed colour – 1 to 8 bits 	No compression

Image File compression

Compression shrinks the digital images for storage. There are two ways to compress:

1. **Lossless** eg: TIFF – keeps all data by encoding the image files. It can reduce the file size by 40-60% information.
2. **Lossy** eg: JPEG/JPG – this way of compression permanently removes “un-important data” (subtle colour/tonal information that is hard to distinguish with the human eye) aiming to strike a balance between acceptable loss of detail and bandwidth.

While lossless compression is preferable you can see in the image below that lossy compression doesn't always show a loss of detail. It depends on the amount of compression that is applied which in turn depends on the image content and resolution.



Two photos of the same historical document, at different lossy compressions. The image quality is not dramatically different, despite the lossy compression.

Source: Digitising your collection – Part 3: Technical specifications, CC BY-NC-SA 3.0 Australia License.

The more compression applied the more visible the result. With lossy compression you can reduce an image from 1/10 to 1/20 of its original size without perceived loss.



Tip: Lossy Compression

Lossy compression is irreversible. Each time a jpeg file is saved – even after minor edits – it will lose quality.

Consider: Image Storage

Factors to consider for Image Storage

1. **Security** – can the files be tampered with/can an unauthorised user gain access?
2. **Accessibility** – are the files easy to retrieve by an authorised user? Is there a record of where items are stored? This could include sensible naming conventions for the digital files; organised folders/labels; keywords (metadata). Will they remain accessible long-term as storage systems change/or update?
3. **Media** – will you store images on a hard-drive; USB stick/memory card? There's no perfect medium – each has a limited lifespan.
4. **Back-ups** – any of the above media could malfunction – have you made a back-up? Do you regularly update your back-up or check its functionality?

Attribution & References

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3.7 INFOGRAPHICS

What is an Infographic?

An infographic is a collection of images, visual data such as pie charts and bar graphs as well as minimal text to give a quick understanding of the topic.

Caution!

Canva has a very detailed data terms of services and privacy policy which explains the data they collect from users. Before using Canva, be sure to read their privacy policy. If this is something that concerns you, use at your own discretion. Other services to make infographics are Microsoft PowerPoint, Piktochart, and Visme, but this chapter will focus on Canva.

Sign Up

Once you have arrived at the Home page of Canva (<https://www.canva.com/>), you will see a Sign up button. You will need a name and an email address. You can create a free account using your email address.

Starting Your First Infographic

Once you have signed up and logged in, you will see your profile at the top right as well as a “Create a Design” button to the left of your profile.

After clicking on the “Create a Design” button, a drop down menu will appear, containing numerous designs. Pick “Infographic”. You will then be greeted with a blank page and a side menu.

How to make an Infographic

Infographics use visuals and text to communicate information clearly and concisely
By: Harsh Bhavsar

01

Outline the goals

Your infographic should address an issue as well as a solution to it



02

Collect data

Obtain any data required to better explain your proposed solution

03

Visualize the data

Choose the best charts or images to accompany your data and text



04

Choose the right template

Pick your design template based on its structure

05

Add style

Experiment with using different fonts, color, icons and arrangement of your content



How to make an infographic – By Harsh Bhavsar
Infographics use visuals and text to communicate

Side Menu

On the left side of the page, you will see 5 options:

- Templates
 - Choose a template that suits best for your content
- Elements
 - Adding shapes, graphics, pictures and more can help liven up your infographic
- Uploads
 - Upload images, videos and audio to use in your design
 - You can also record yourself using your device's camera and or microphone in this section
- Text
 - Include text headings with multiple font combinations to add variation to your infographic
- More
 - Allows you to access more content to create amazing designs
 - Includes apps and integrations as well as popular websites you can embed to your design

information clearly and concisely. 1. Outline the goals: Your infographic should address an issue as well as a solution to it. 2. Collect data; Obtain any data required to better explain your proposed solution. 3. Visualize the data: Choose the best charts or images to accompany your data and text. 4. Choose the right template: Pick your design template based on it's structure. 5. Add style: Experiment with using different fonts, color, icons and arrangement of your content. Created on Canva. **Source:** *Creating Ebooks in Pressbooks*, CC BY 4.0

Watch How To Make Infographic In Canva 2024 (Step-by-Step) (8 mins) on YouTube (<https://youtu.be/lrxVN0aArfw>) for an overview of this process

Attribution & References

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References

Canva. (2021). *Collaborate & create amazing graphic design for free*. Canva. Retrieved December 13, 2021, from <https://www.canva.com>

3.8 EXPLORE, PRACTICE AND APPLY

Overview: Explore, Practice and Apply

Activities found on this page are designed to provide opportunities to explore, practice, and apply concepts presented in chapter 3.

Explore

Explore Activity 1

Colour palette generators. Here are some online tools that can help you to create your own unique colour palettes for creative projects. Try them!

- Canva Color palette generator (<https://www.canva.com/colors/color-palette-generator/>)
- Adobe Color Wheel (<https://color.adobe.com/create/color-wheel>)
- Colormind (<http://colormind.io/>)
- Coolors (<https://coolors.co/>)
- Muzli Colors (<https://colors.muz.li/>)

Explore Activity 2

Locate examples of multimedia content (e.g., websites, advertisements, or presentations). Analyze how images and graphics are used effectively or ineffectively, focusing on resolution, file format, and alignment with branding.

Explore Activity 3

This is a collaborative group based activity. Working in small groups select one of the three colour schemes as listed below:

1. Complementary Color Scheme

- Description: Uses colours that are opposite each other on the color wheel.
- Example: Blue and orange.
- Effect: High contrast and vibrant look, great for drawing attention.

2. Monochromatic

- Description: Uses varying shades, tints, and tones of a single color.
- Example: Different shades of blue (light blue, medium blue, dark blue).
- Effect: Creates a cohesive and harmonious look, but may lack contrast.

3. Triadic Color Scheme

- Description: Uses three colors that are evenly spaced around the color wheel.
- Example: Red, yellow, and blue.
- Effect: Balanced and vibrant, offers strong visual contrast while retaining harmony

Each group locates 2-3 examples of their assigned color scheme used in various types of media (e.g., advertisements, websites, presentations). Assess the effectiveness of the colour design in the media examples located. Prepare to share your findings in your class.

Practice

Practice Activity 1

Choose an assignment that you have created in this class or another class that does not currently have a chart or graph. Find some data that could benefit from being presented as a chart or graph. Create a chart or graph that illustrates the data, making sure to choose the correct relationship. For example, you might find a sentence in an essay you wrote that says that 10% of Millennials don't own a smart phone. You could show this visually using a pie chart.

Practice Activity 2

Find an infographic online. Then, evaluate it according to what you have just learned. Write a short paragraph that answers the following questions: How does it present data? Is it easy to understand? Is it ethical? Can you understand where the data came from?

Practice Activity 3

Image File Format Comparison. Create a chart comparing the advantages and disadvantages of different image file formats (JPEG, PNG, GIF, TIFF) for specific use cases (e.g., web design, professional printing).

Apply

Apply Activity 1

Find a poster in your campus or workplace, or out in the community. Take a photo of it, then evaluate it according to Gestalt Theory. Can you identify all of the principles?

Apply Activity 2

Choose a website that you like to visit, then use what you learned about accessibility to evaluate how accessible the website's visuals are. Write a short email (you do not have to send it) to the website's owner suggesting three changes they could make to improve the accessibility of their visuals.

Apply Activity 3

Create your own personal logo or brand graphic

1. **Consider you brand and brainstorm:** Think about words that describe your personality, values, and what you want your logo to represent.
2. **Research:** Look at logos you admire and note what elements you like.
3. **Sketch ideas. Draw rough sketches:** Start with simple sketches on paper. Don't worry about perfection; focus on getting your ideas down.
4. **Experiment with shapes and symbols:** Consider how different shapes and symbols can convey your brand's message.
5. **Fonts:** Select fonts that match your brand's personality. For example, a bold font can convey strength, while a script font can be more elegant.
6. **Colors:** Pick colors that resonate with your brand. Use color psychology to choose colors that evoke the right emotions.
7. **Feedback.** Share your design with peers and get their feedback

Attribution & References

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3.9 KEY CHAPTER TERMS

Chapter 3 Terms

Additive Colour:

A color system that mixes light (reds, greens and blues) to create other colors; used in digital screens.

Alt Text:

Text descriptions of images to aid in accessibility, especially screen readers.

Analogous:

Colors which are adjacent to each other on the color wheel and are considered harmonious.

Balance:

The placement of visual elements to make a design feel stable.

Bar Graph:

A graph that uses rectangular bars to depict data and is useful for comparing data.

Closure:

A design principle, incomplete shapes are perceived as whole due to the brain's tendency to fill gaps.

CMY:

Cyan, Magenta, and Yellow-Subtractive primary colors in printing.

Colour Palette:

A collection of colors used for a design or a brand identity.

Colour Blindness:

A vision deficiency whereby one cannot differentiate certain colors, usually red and green.

Colour Harmony:

Pleasing color combinations based on specific rules like complementary or analogous schemes.

Colour Management:

Processes which ensure color consistency on devices such as printers and screens.

Colour Modes:

Color creation systems such as RGB (digital) and CMYK (printing).

Colour Perception:

The perception of color by humans in terms of light, context and physiology.

Colour Spaces/Gamuts:

The gamut or range of colors possible within a color system such as RGB or CMYK

Colour Trends:

Current Choruses of Color popular color trends in design given the current culture, fashion, and technology.

Colour Wheel:

A circular diagram showing the relationships of primary, secondary and tertiary colors

Continuation:

Direction, a design principle leading the viewer's eye in a particular direction.

Contrast:

The difference in visual properties (light vs. dark, large vs. small) to emphasize elements.

Design Principles:

Guidelines like balance, contrast, and proximity to create effective designs.

Digital Colour Systems:

Methods of displaying color on screens, primarily RGB.

Electromagnetic Radiation:

Energy traveling in waves, including visible light and other types like UV and infrared.

Emphasis:

Drawing attention to a specific element in design using contrast or placement.

Figure/Ground:

The relationship between the main focus (figure) and the background (ground).

File Formats:

Standards for storing digital media, such as JPEG for images or MP4 for videos.

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CHAPTER 4 SOUND ELEMENTS

Multimedia Communications by Marie Rutherford

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Please visit the web version of Multimedia Communications (<https://ecampusontario.pressbooks.pub/multimediacomm/>) to access the complete book, interactive activities and ancillary resources.

Learning Outcomes

- Explain sound waves and how sound works
- Explore the common elements of effective sound and sound bites
- Describe podcasting outlining the various formats and steps to create a podcast
- Practice and apply
- Key Terms and References

Sound and Multimedia Content

Sound when included in a presentation typically enhances the overall experience by adding depth, emotion, and context. Sound includes various forms such as voice, music, and sound effects. Multimedia projects often use different types of audio, which may involve interview clips, voice-overs, natural sound, and **ambient** sound. Ambient sound is associated with sound tones that are interpreted as being peaceful and calm.

Consider ways sounds enhances the uses experience and how it may create memorable experiences. From a practical perspective sound is used for storytelling and the guiding the audience's attention. **Audio** relates to the electrical frequency or electrical energy (analog or digital signals) that represent sound electrically

Sound is a type of energy that travels through the air or other mediums as vibrations or waves.

Here are some common audio formats:

1. **MP3 (.mp3)**: A popular compressed audio format that balances quality and file size.
2. **WAV (.wav)**: An uncompressed format that offers high-quality audio but results in larger file sizes.
3. **M4A (.m4a)**: An audio-only version of the MP4 format, often used for high-quality audio.
4. **WMA(.wma)**: An audio format developed by Microsoft to deploy in Windows environments

This chapter will explore sound as an important multimedia element.

Chapter Organization and Preview

- Sounds Waves and Microphones
- Types of Audio Files
- Sound Bites and Quotables
- Podcasting
- Explore, Practice and Apply
- Key Chapter Terms

Attribution & References

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4.1 SOUND WAVES AND MICROPHONES

Overview of Sound Waves

Before we can start learning about audio production and microphones, let's get a general idea of how sound waves work. Though the study of sound waves is mostly a **technical** matter, understanding the science behind it can help us manage it. How an audio producer adjusts the settings on microphones (**method**) can affect how sound waves enter the device. And ultimately, how those soundwave frequencies are manipulated within a mix can dramatically change the emotional response a piece of audio has on a listener (**creative approach**).



Graphical representation of a sound wave showing peaks and valleys of sound as the audio progresses along a horizontal line. **Source:** Image by KMpumlwana, CC0/ Public Domain

Consider

1. What types of sounds make you feel relaxed?
2. What types of sounds make you feel stressed or anxious?

How Sound Works

Sound is the term to describe what is heard when sound waves pass through a medium to the ear. All sounds

are made by vibrations of molecules through which the sound travels. For instance, when a drum or a cymbal is struck, the object vibrates. These vibrations make air molecules move. Sound waves move away from their sound source (where they came from) traveling on the air molecules. When the vibrating air molecules reach our ears, the eardrum vibrates, too. The bones of the ear vibrate in the same way that of the object that started the sound wave.

These vibrations let you hear different sounds. Even music is vibrations. Irregular vibrations are noise. People can make very complex sounds. We use them for speech.

Sound waves are longitudinal waves with two parts: *compression* and *rarefaction*. Compression is the part of the sound waves where the molecules of air are pushed (*compressed*) together. Rarefaction is the part of the waves where the molecules are far away from each other. Sound waves are a sequence of compression and rarefaction.

Learn More about Sound Waves, decibels, and digital audio

Use the controls at the bottom of the interactive presentation to review 4 short videos on sound, or access the text links below.

Learn More about Sound Waves, decibels, and digital audio (text version)

Watch the following videos on YouTube to learn more.

- What is Sound? (<https://www.youtube.com/watch?v=hfzCLCIVO8g>)
- How Sound Works (https://www.youtube.com/watch?v=QBYz82nS_xk)
- How Digital Audio Works (<https://www.youtube.com/watch?v=1RIA9U5oXro>)
- Decibels (dB) Explained (<https://www.youtube.com/watch?v=F4r3WI-JXlc>)

Source: H5P presentation created for *Multimedia Communications*, CC BY-NC 4.0 except where otherwise noted.

Microphones

Learn more about Microphones

Use the controls at the bottom of the interactive presentation to review 4 short videos on microphones or access the text links below.

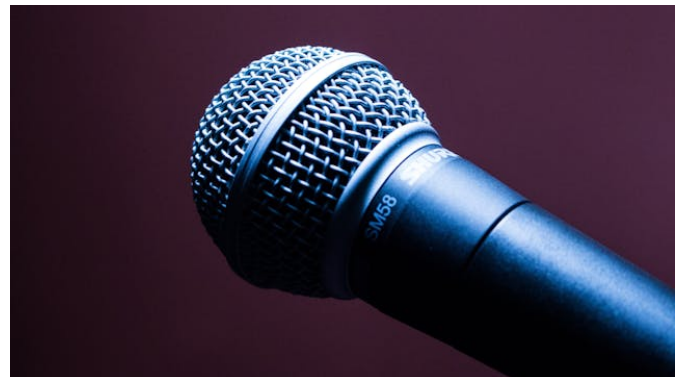
Learn more about microphones (text version)

Watch the following videos on YouTube to learn more.

- How Does a Microphone Work (https://fod.infobase.com/p_ViewVideo.aspx?xtid=168415&luid=539767&tScript=0#)
- A Quick Guide to Microphones (<https://www.youtube.com/watch?v=PE6Qn4ZiEyo&t=76s>)
- 4 Types of Microphones (<https://www.youtube.com/watch?v=b-LtSEIPnHg>)
- Microphone Characteristics (<https://www.youtube.com/watch?v=ecPUTGDX5cw>)

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A microphone is a form of transducer. That means it converts a sound wave into an electronic signal carried by wire. Generally, when that electric signal is sent through an amplified speaker, it is then converted back into a sound wave. Microphones may also use a processor to convert the sound wave into signal (or code) that can be used by a computer. Understanding the *technical* aspects of microphones is so very important for producing good audio. It also ensures electrical safety to you and your equipment. As you gain more experience with microphones, where you place them in relation to what is being recorded (method) will become equally important. Experimenting with both of those aspects will help you develop your own signature sounds using your favorite microphones and microphone placements (*creative approach*).



A microphone lays on a table. **Source:** Photo by Pixabay, CC0

For many of us who started out with analog recording, microphones were the gateway into audio production. But whether you use analog or digital audio equipment, the right microphone pointed in the proper direction can help a performance stand out. There are dozens of styles of microphones and a wide variety of prices. To begin however, let's concentrate on the two most common types of microphones: Dynamic and Condenser.

Dynamic Microphone – In a dynamic microphone, a thin diaphragm is connected to a coil of wire, called a voice coil, which is precisely suspended over a powerful magnet.

- As the sound waves strike the diaphragm, it causes it to vibrate moving the voice coil through the magnetic field generated by the magnet generating a small bit of electricity which is sent down the output leads.
- This is the **electromagnetic principle**.
- ADVANTAGE: They are simply constructed and can handle loud sources without much distortion.
- DISADVANTAGE: They are weak when trying to capture soft distant sources because the diaphragm requires a lot of sound energy to move.
- DISADVANTAGE: Dynamic microphones have a heavy diaphragm along with additional weight from the coil of wire.
 - It therefore takes longer for the diaphragm to react to a sound wave causing a less accurate recording.

Condenser Microphone – Condensers use two charged plates; one fixed and one which can move acting like a diaphragm.

- There's no coil.
- The two charged electric plates create what's called a capacitor. As sound waves strike the electrically charged diaphragm, it moves in relation to the fixed plate changing its capacitance and generating a very small electric charge which is amplified inside the microphone.
- This is the **electrostatic principle**.
- ADVANTAGE: Because you're not moving a coil, condensers are more responsive in the high frequencies.
- ADVANTAGE: Because of the lack of magnets, condenser microphones can be very small.
- Because condensers work with electrically charged plates, they require some sort of outside power.
- Some microphones have the option of an onboard battery while all condensers can utilize something called Phantom Power.

Phantom Power – +48v of energy sent down the microphone cable to a condenser microphone from the audio recording or mixing board.

- This power enables the electrically charged diaphragm to move in response to sound waves.

Directional Response – Directional response is represented by something called a polar pattern.

Polar Pattern – Polar pattern is how well the microphone “hears” sound from different directions.

“On Axis” and “Off Axis” – On axis is directly in front of the sound source. Off axis is not directly in front of the sound source.

Omnidirectional Mics – This mic polar pattern is responsive to sound from all directions, you don’t have to be “on axis” to be picked up.

- Lavalier and lapel mics are small condenser microphones with an omnidirectional pickup pattern that can be placed on a person.
- Boundary mics are omnidirectional condenser mics. They are positioned flush with a surface that capture sound as it rolls off the flat surface. Boundary mics are used in stage production and conference tables.
- ADVANTAGE: These mics are useful for picking up sound in a general area.
- ADVANTAGE: Lavalier / lapel mics are small and can be placed just about anywhere.
- ADVANTAGE: Boundary mics do not draw attention to themselves because they lay flat on the floor or wall.
- DISADVANTAGE: They will pick up all the unwanted sound in the area.
- DISADVANTAGE: Lavalier, lapel, and boundary mics won’t have the same richness of sound as a shotgun or studio condenser mic.

Directional Mics: Cardioid Pattern – Most basic pattern.

- Heart-shaped pick up pattern.
- ADVANTAGE: Picks up what’s in front but not behind.
- ADVANTAGE: It is suited for a live performance as it picks up the sound on axis but won’t pick up what’s behind it, like crowd noise or feedback from a speaker.

Directional Mics: Hypercardioid and Supercardioid Patterns – More directional than cardioid.

- Skinnier heart-shaped pick up pattern.
- Picks up the front and sides and rejects 150 degrees to the rear.
- Shotgun mics are supercardioid.
- ADVANTAGE: Great for recording location audio while trying to filter out some of the unwanted ambient sound.
- DISADVANTAGE: Can exhibit strange phasing sound effects when used in small spaces.

Directional Mics: Figure 8 Pickup Pattern / Bi-directional – The polar pattern looks like a figure 8.

- **ADVANTAGE:** Useful for certain musical applications or interviews with a person on each side of the mic.

Frequency Response of Mics

Learn more about frequency response of mics

Use the controls at the bottom of the interactive presentation to review 4 short videos on microphones or access the text links below.

Learn more about frequency response of mics (text version)

Watch the following videos on YouTube to learn more.

- Understanding Frequency Response (<https://www.youtube.com/watch?v=7TH82dx7Qas>)
- What is Frequency Response (<https://www.youtube.com/watch?v=y4NqSGGRRJM>)
- Microphone Response (<https://www.youtube.com/watch?v=RT7ilQjQLj4>)
- Polar Patterns Demonstrated (<https://www.youtube.com/watch?v=N0X7owMBICY>)
- How Does Polar Pattern Work (<https://www.youtube.com/watch?v=5ZEm1EvxL-E>)

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Most microphones come with a manual. If not, you can find one online by searching the brand and model number of the mic. These manuals can be very helpful in three areas. First, it will show you on a chart the polar pattern of the mic. Second, it may show you what certain switches will do that are located on the microphone and what is considered the front and back of it. Third, it will feature the Frequency Response. This chart will show a line (or lines) going from 20hz all the way up to 20khz. What to pay attention to is

where this line is flattest on the chart. That area (range) is where the microphone most accurately picks up sound on the frequency spectrum. If it flattens out in low end areas of the spectrum, you can imagine that mic is best for bass sounds. If it is flat within the range of human vocals (approx. 100 to 120hz), then you can assume that particular microphone will work great on vocals. These are good places to start in your audio production development, but keep in mind that experimenting with different mics in various ways is the best way to discover what is the best mic to use for a given circumstance. If it sounds good, you're probably doing it right! Below is a link that explains the frequency spectrum in detail.



Read more about
Audio Frequency
Spectrum from Teach
Me Audio.

Attribution

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4.2 TYPES OF AUDIO FILES

Introduction

An apparatus that uses binary code such as a computer or an iPhone manages sound in a digital format. There are many different types of playback devices and various ways these files are stored. Additionally, analog sound systems are still used to play and archive sound. An audio engineer can quickly discover there exists a vast expanse of recording formats that are not easily compatible or accessible. Understanding how the older systems work can help with most modern versions. And vice-versa. Take time to play and listen to music on a wide range of equipment from different eras. Learn how to convert one to the other and your expertise in the production field will certainly grow.

People that work in audio production need to know the differences between varying digital and analog files, how to convert one to another, and what each is best used for (**technical**). How we save our files, and how we transmit these files, and why we do so could be considered the **method** in our three pillar approach. The order in which we present these audio files or perhaps the final decision on where to share these files would fall under our **creative approach**.

For example, in the past, I've been hired to convert a client's old 78 vinyl record collection into digital files that could be played and organized on a typical home laptop computer. That required choosing the right equipment and cables to play records at the right speed and turning that analog signal into a digital one. Once transferred to my computer, I could then make some equalization adjustments and bring the overall volume up (or down) to a presentable level. Finally, I had to convert those large files into smaller MP3 files that I could electronically send back to the client.

In addition to the audio, I scanned the liner notes and artwork and included those attachments along with with MP3s. Once again, I used my **technical** knowledge to identify what equipment would be needed, I used different **methods** and orders of operation to make quality conversions, and I topped it off with some **creative approach** in packaging the final product so that it was an artistically unique experience for my client.

Read more about:

- Timeline of Audio Formats



Digital Audio File Formats

There are two major groups of audio file formats:

- Those using lossless compression, e.g. like WAV, FLAC
- Those using lossy compression, e.g. MP3, Ogg Vorbis, WMA, AAC

In the lossless compression of a piece of data, nothing is lost during the compression and the original data is restored upon uncompressing. In lossy compression, some data is lost during compression and upon uncompressing the data is not identical to the original but possibly close to it. Lossy compression is used mainly in the compression of multimedia data like audio or video where the loss of some details is tolerable under certain conditions, e.g., the human eye is unable to discern the loss in certain details of an image or video.

WAV

WAVE form audio format (WAV) is a Microsoft and IBM audio file format for storing audio on PCs. It is the main format used on Microsoft Windows systems for raw audio storage. The WAV format is most commonly used with an uncompressed, lossless storage method (pulse-code modulation) resulting in comparatively large audio files. Today, the WAV audio format is no longer popular being superseded by other more efficient means of audio storage.

FLAC

Free Lossless Audio Codec (FLAC) is a popular lossless audio format with compression designed specifically for audio data streams, achieving compression rates of 30–50 percent. The format specification is publicly available and forms part of the FLAC Open Source project. It is supported by a growing list of audio software and devices.

MP3

MPEG-1 audio layer 3 (MP3) is a popular lossy compression audio format. The MP3 specification was set by the Motion Pictures Experts Group (MPEG), a working group of ISO/IEC charged with the development of video and audio encoding standards. The compression scheme and format for MP3 forms part of the MPEG-1 video and audio compression standard specifications and is an ISO standard, ISO/IEC 11172-3.

MP3 is one of the most popular audio file formats in use today. Music files encoded with MP3 are particularly popular on music exchange and download sites on the Internet due, in part, to the relatively small size of such files and the wide availability of free software on PCs that allow easy creation, sharing, collecting and playing of MP3 files.

WMA

Windows Media Audio (WMA) is a lossy compression audio file format developed by Microsoft. It is a proprietary format but is widely used and supported due to the popularity of the MS Windows platform.

AAC

(https://en.wikipedia.org/wiki/Timeline_of_audio_formats)

- Format Guide to Sound Recordings [PDF] (<https://www.archives.gov/files/preservation/formats/pdf/format-guide-to-sound-recordings.pdf>)

Advanced Audio Coding (AAC) from MPEG is a lossy data compression scheme intended for audio streams. It was designed to provide better quality at the same bit-rate than MP3, or the same quality at lower bitrates (and hence smaller file sizes). The compression scheme and format for AAC forms part of the MPEG2 video and audio compression standard specifications and is an ISO standard, ISO/IEC 13818-7. This MPEG-2 AAC specification makes use of patents from several companies and a patent license is needed for products that make use of this standard.

The newer **MPEG-4** standard also specifies an audio compression technology that incorporates MPEG-2 AAC. This is known as MPEG-4 AAC, and is an ISO standard, ISO/IEC 14496-3.

Apple's popular iTunes service and iPod products have music available in AAC and this has led to an upsurge in the popularity of AAC despite the required patent license royalty payments.

RealAudio

RealAudio is a proprietary audio format developed by RealNetworks for low bandwidth usage. It was first introduced in 1995 and it became popular especially for streaming audio, i.e., the audio is being played in real time as it is downloaded. Many radio stations use RealAudio to stream their programs over the Internet.

Ogg Vorbis

Ogg Vorbis is a compressed audio format that is believed to be free of patents and royalty payments. The format originated from the Xiph.Org Foundation, a non-profit organization dedicated to producing free and open protocols, formats and software for multimedia.

Ogg Vorbis uses the Vorbis lossy audio compression scheme. The audio data is wrapped up in the Ogg container format, the name of Xiph.org's container format for audio, video, and meta-data – hence the name Ogg Vorbis. The Ogg Vorbis specification is in the public domain and is completely free for commercial or non-commercial use. There is growing support for the Ogg Vorbis format from software and hardware devices as well as online audio services.

Audio Formats

Format	Organization	Published	Non-Proprietary	International Standard
WAV	Microsoft	Yes	No	No
FLAC	Xiph.Org	Yes	Yes	No
MP3	MPEG/ISC	Yes	Yes	Yes
WMA	Microsoft	No	No	No
AAC	MPEG/ISO	Yes	Yes	Yes
RealAudio	RealNetworks	Yes	No	No
Ogg Vorbis	Xiph.org	Yes	Yes	No

Audio Guidance: Identifying Audio Formats

Consider

1. What modern audio formats are you aware of?
2. Can you name an audio format used in the past that we (typically) no longer use?

How Do I Identify Audio Formats?

Sound recordings come in a variety of shapes and sizes and have been around since the late nineteenth century. While there are a number of audio formats you may find at home or in a professional environment, each one presents different requirements for identification, physical handling, and playback equipment used. Some of the more common types of audio include ¼-inch open reel tape, audio cassettes, and grooved disc recordings.

Magnetic Media

Open Reel Quarter Inch Tape

Magnetic recording tape was invented in 1928. However, it wasn't until the late-1940s that the recording industry fully adopted the format. Compared to grooved recordings, magnetic tape offered higher fidelity, longer record times, and the ability to be edited.

¼-inch open reel audio tape is supplied in reels having a diameter of 5-inches, 7-inches, and 10.5-inches and may vary in length depending on the tape speed. 1-inch and 2-inch open reel tapes (in width) also exist and were primarily used in professional environments.

- There are different types of tape base for ¼-inch width audio tape. Acetate and polyester are most common, although you may encounter PVC or paper base as well.



Source: Open Reel ¼-inch Tape courtesy of National Archives and Records Administration, PDM

- An easy way to tell if you have one of the two most common types of ¼-inch tape is to hold the tape up to a light source. If the tape appears opaque it is polyester; if the tape is translucent, it is acetate.
- Tape speeds vary between 30 ips (inches per second) to 15/16 ips, with speeds of 7.5 ips and 3.75 ips being the most common.



Source: Audio Cassette
courtesy of National Archives
and Records Administration,
PDM

Audio Cassette

This tape format was introduced in the United States in the mid-1960s by Phillips. Cassette recordings have been used for a number of purposes, including oral histories, lectures, conferences, and music. Since they were primarily used for convenience and not necessarily quality, cassettes are not considered to be a stable or high fidelity medium.

- Cassettes are made with polyester base tape, have just over a 1/8th inch tape width, and a slow playback speed of 1 7/8 ips, thus contributing to a limited dynamic range and frequency response.

Wire Recording

An alternate form of magnetic recording, the wire recording was initially introduced in the late 19th century, but further developed in the US during WWII. Spools are about 3 ½-inches in diameter. This format was ultimately succeeded by tape due to its low sound quality. While stainless steel wire recordings (post WWII) are not susceptible to the same types of degradation as open-reel tapes, they may be damaged easily and playback equipment is obsolete. You may find the wire recordings in your collection date from around the 1940s-1960s.



Source: Wire Recording
courtesy of National Archives
and Records Administration,
PDM

Magnabelts



Source: Magnabelt courtesy of National Archives and Records Administration, [PDM](#)

These magnetic belts are similar in appearance to dictabelts and were used for dictation purposes, but do not contain grooves.

Digital Audio Tape (DAT)

Digital Audio Tapes were introduced by Sony in 1987, and are magnetic tapes that store audio digitally. A cartridge houses a 4mm magnetic tape and recordings can be at, below, or



Source: Digital Audio Tape (DAT) courtesy of National Archives and Records Administration, [PDM](#)

Grooved Recordings



Source: Grooved Recording courtesy of National Archives and Records Administration, [PDM](#)

You may encounter grooved discs at home or in professional collections.

Discs vary in size and speed and have different coatings and substrates, which may include: aluminum, lacquer/acetate, plastic, and cardboard. Below are several of the more common types of phonograph records:

Wax Cylinders

The earliest recording medium produced commercially, these are grooved wax- cylinders, which are the predecessors to the grooved disc. Wax cylinders can be solid or have a core of



Source: Wax Cylinders courtesy of National Archives and Records Administration, [PDM](#)

Attribution & References

Except where otherwise noted, this page is adapted from “Unit Two, Part Three: Types of Audio Files” In *Audio Production Course Manual* by Mark J. Lindquist, CC BY-NC-SA 4.0

- Audio file formats is adapted from: FOSS Open Standards/Comparison of File Formats , CC BY-SA
- How do I identify audio formats Courtesy of National Archives and Records Administration, PDM

4.3 SOUND BITES AND QUOTABLES

Introduction

Sometimes the words with the most impact are succinct, memorable statements. Sound bites, brief statements that zero in on the point of a larger or longer message, are often excised from interviews and articles, and presented apart from the context in which they were originally written or spoken. Slogans are phrases that express the goals, aims or nature of a product, service, person, or company. Quotes are memorable sayings extracted from written or verbal messages. Some move armies, while others make armies laugh. All are memorable and quickly become part of our cultural literacy, expressing a common sentiment or perception, and reinforcing our image of the speaker, business, product, or service (Taylor, 2004).

Watch Why You Should Add Sound Bites to your Content (2 mins) on YouTube

(<https://youtu.be/YcRrkUouCWA>) for a brief overview of sound bites.

COMMON ELEMENTS OF EFFECTIVE SOUND BITES

Whether you are writing a document, preparing a presentation, or both, you will want to consider how others will summarize your main point. If you can provide a clear sound bite or quote, it is more likely to get picked up and repeated, reinforcing your message. By preparing your sound bites, you help control the interpretation of your message (Kerchner, 1997). Here are four characteristics of effective sound bites:

1. Clear and concise
2. Use vivid, dynamic language
3. Easy to repeat
4. Memorable

Your goal when writing a sound bite or quote is to make sure your idea represents all four characteristics. You won't always be creating the message; in some cases you may be asked to summarize someone else's written or verbal message, such as an interview, with a quote or a sound bite. Look for one or more sentences or phrases that capture these elements and test them out on your classmates or colleagues. Can the sound bite, slogan, or quote be delivered without stumbling? Is it easy to read? Does it get the job done?

KEY TAKEAWAY

Sound bites are brief statements that are often quoted.

CONSIDER

1. Choose a product or service that you find appealing. Try to come up with several sound bites, slogans, or quotes that meet all four criteria. You may look to company sales materials or interviews as a source for this exercise, and if you pull a quote from an online interview, please post the link when you complete your assignment. Discuss how the sound bite, slogan, or quote meets all four criteria in your response.
2. Match these phrases with their sources.

Product, Business or Person	Sound Bite, Slogan, or Memorable Quote
A. Nike	1. Where's the beef?
B. Barack Obama	2. Ask not what your country can do for you, but what you can do for your country.
C. Homer Simpson	3. Huge. That's huge, or huge.
D. Wendy's	4. Just do it!
E. John F. Kennedy	5. It's amazing how much you can get done when you're not trying to take credit for it.
F. Neil Armstrong	6. D'oh!
G. Paris Hilton	7. That's one small step for a man; one giant leap for mankind.
H. Franklin D. Roosevelt	8. A diamond is forever.
I. De Beers Consolidated	9. The only thing we have to fear is fear itself.

Check your Answer in footnote¹

3. Indicate at least one sound bite or memorable quote and who said it. Please share your results with classmates and compare your results.

Attribution & References

Except where otherwise noted, this page is adapted from 15.1 Sound Bites and Quotables In *Business Communication for Success* by Southern Alberta Institute of Technology, CC BY-NC-SA 4.0 . / Removed learning objectives, corrected APA citations.

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Kerchner, K. (1997). *Soundbites: A business guide for working with the media*. Savage Press.

Taylor, I. (2004). *Mediaspeak: Strategy. Sound-Bites. Spin: The plain-talking guide to issues, reputation and message management*. Toronto, Canada: Hushion House Publishing.

Notes

1. A-4, B-5, C-6, D-1, E-2, F-7, G-3, H-9, I-8

A podcast is a series of episodes made of audio voice recordings that someone can listen to either by streaming or downloading the episode.

Forms of Podcasting

There are many forms of podcasting, and you can mix up styles from episode to episode. Generally, the types fall into two categories: talking about a topic, or telling a story. When discussing a topic, you could be speaking on your own, with a co-host, or a guest. When telling a story, you could be telling a fiction or nonfiction story. You don't have to create a series of podcasts – it's perfectly fine to create a single piece!

Below are some pros and cons to the most common podcasting forms:

Interview Format

This format sees you (the host) interview guests each episode. You could interview multiple guests per episode, or stick to one at a time.

Pros:

- Your guests do most of the talking. You just have to steer the conversation.
- It opens your show to a new audience because your guests promote their appearance on your show to their fan base.

Cons:

- This is an extremely popular format so you might struggle to stand out.
- Interviewing is a skill that takes practice and patience.
- Finding a new guest for each episode takes a lot of work.

The Monologue

This format relies heavily on your ability to captivate the audience with your own ideas and speaking.

Pros:

- The podcast happens on your own schedule and at your own pace.



A colourful line drawing of a microphone, labeled "podcast".
Source: Image by Wesley Fryer, CC BY 2.0

- Editing one voice is much easier than editing multiple tracks.
- Your audience gets to know you intimately.
- This is powerful for brand building.

Cons:

- It's a lot of talking. Speaking for 30 to 45 minutes is tiring.
- You don't have anyone to bounce ideas off.

With a Co-Host

With two hosts speaking, a natural conversation emerges.

Pros:

- You're only responsible for half of the conversation.
- It's easy to listen to an organic conversation rather than a prepared script.

Cons:

- You have to choose topics that you both know about.
- It can be tricky to keep the conversation progressing in a way that makes the audience want to listen. For example, inside jokes might not go over well with the audience.

Telling a Story

You might be telling a nonfiction story (think news or documentaries) or a fictional story (think plays and films). It could be narrated by a single person, or involve actors playing characters. Often scripted and practiced, they also often involve sound effects and other audio to build a visual scene in the listener's mind.

Pros:

- This can be a great way to tell a story on a budget. If you are a writer and want to give life to your creation, you can more easily make a podcast than a film.
- Can be highly addictive for listeners. Either they listen because they want to know about the nonfiction topic, or they tune in because they need to know what happens next.

Cons:

- Requires a lot of planning and practice. Either planning all the facts to make sure you've got factual

information, or practicing reading lines to get them right.

- It could involve a big team, either of actors or people researching topics to ensure a high quality product. This type of podcast is competing with other news sources (print and video) or other entertainment sources (shows and movies).

The Three Steps of Podcast Creation:

- Pre-production: Planning the show.
- Production: Recording the voices.
- Post-production: Editing the voices and adding in other sounds.

Pre-production: Planning the Podcast

Pre-production is all about knowing what you'll be talking about. It helps avoid rambling, and encourages coherent, captivating content. Think about your own professors: some of them might be really good at rambling and tangents, but others are not. If you, like most humans, aren't great at rambling, you're better off creating some sort of script.

All Forms

No matter what style or form of podcast you'll be creating, the following tips are helpful when planning your content.

- Create a structure of how you want the episode to flow and what content you want included.
- Practice your speaking voice:
 - You want to get a talking speed that isn't too fast or slow.
 - You want to clearly enunciate your words so you can be understood.
 - You want to make sure all changes in volume are on purpose for emphasis, not accidentally.
- Practice pausing instead of saying "ummm" or "ahhh". These sounds are usually what our brains do when they are thinking of what to say. Practice being silent when you're thinking.
 - Remember, the audience can't see you staring blankly into space. They won't know what is going on behind the microphone. You can always shorten pauses during post-production, but it's much harder to remove "umms".

Interviews or Co-hosts

If your podcast will have another person speaking, it's always good to let them know ahead of time what is being discussed.

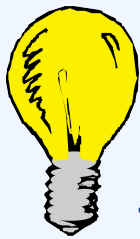
- Make sure that the guest is a good speaker, and, in addition to being knowledgeable, is able to speak clearly, informatively, and is engaging.
- Give out a list of talking points to the co-host and guests. This lets them know what will be discussed, so they are not surprised and can come to the session with some prepared thoughts.
- Ask the guest what they want to talk about, too. This helps create a conversation where both folks are knowledgeable and engaged.

Telling a Story

- Write out a script and practice it aloud. Make sure it sounds natural. You don't want to sound like you're reading something, so practicing the lines beforehand helps you get familiar.
- If you're doing a non-fiction piece, think of what background information the listener needs to know. Ensure that this material is present.

Production

- Record yourself using a phone or microphone.
- Make sure you pick a place with minimal outside noises. Never record outside unless it is intended for a specific purpose and you want intentional background noise.
- Keep a consistent distance from the microphone to avoid “popping Ps” and try not to vary your volume too much. Speak slightly louder than you normally would.
 - A “popping P” refers to the tendency for us to pronounce words that start with a P louder than normal. This is caused by blowing air when making the P sound.
 - People tend to start words or sentences strong, especially after a pause. Try to limit this.
- When interviewing someone, nod instead of saying “Yes”. This will convey your understanding without causing issues with the audio file.
- If you have a co-host or guest, it might be more practical for each person to record their own audio using their own phone. You'll wind up with two audio files that you'll have to combine during the editing phase, but it might be easier than crowding around a microphone or figuring out how to connect two microphones to one recording device.



Tip: Pauses

Pauses are your best friend when editing. If you take a breath to psych yourself up for a line, take a 1-2 second pause. This will make removing the breath sound much easier later. If you mess up a line, take a pause, and redo that line. Continue as normal. Giving yourself the 1-2 seconds of silence makes your editing life much easier.

Post-Production

The Waveform

The waveform is a visual representation of an audio file. The X-axis (moving left to right) indicates time. The Y-axis (top to bottom) indicates the amplitude, which is essentially volume.

Watch The Waveform (30 seconds) on YouTube (<https://youtu.be/NxoMIRGC3Ns>)

There is a lot more science and complexity to a waveform, but for our purposes, we only need to understand it as a visualization of our audio recordings. Our main tasks will be chopping out bad clips, adjusting volume, and removing breathing noises.

Podcast Editing

The Two Main Techniques:

A cut and a fade is not just to make your hair look good.

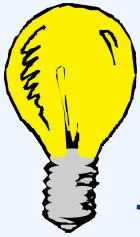
- **Cut** – A clean transition from one piece of audio to the next
- **Fade** – A gradual increase or decrease of the volume of an audio track. Think about how a voice might fade out near the end of a clip, or fade in at the start.

The Goals:

Our main goal is to take a bunch of clips and edit them so that they sound like one, uninterrupted clip. This is called “Continuity Editing”.

This can refer to small-level, such as keeping the volume the same across the entire piece, and ensuring that cuts are done in between words and sound clean. Continuity editing can also refer to bigger picture things, such as cutting off tangents, and adding in important context. When someone says, “Oh, I forgot to add...” we might want to put that where it should have gone.

Here, the value of pauses should be clear. By pausing in between words and sentences, we have more room in the waveform to cut and arrange clips. If we speak quickly, there would be fewer places to make clean cuts.



Tip: Editing

Continuity editing: Editing audio clips to create a linear and consistent progression of content. This means editing out tangents, sentences that don't quite fit, and generally making sure that the final result sounds like one long clip, rather than a series of combined clips.

Another important goal is to get rid of Popping Ps. They are inevitable and take practice to change during the production phase. Speakers should always be striving to limit the Popping Ps and speak at with consistent volume and tone.

Sometimes, they are unavoidable or you don't notice. There are many strategies to getting rid of that “pop” sound. One is to fade in the P sound, another is to reduce the volume of just the P sound. In the mixer, you'll have to find the “P” sound and isolate it. It should stand out.

Popping P's – Example

When speaking into a microphone, there's sometimes a strong breath of air that seems to explode into the microphone.

These plosives (<https://transom.org/2016/p-pops-plosives/>) are worse on words with p's and b's. To avoid, position the mic at an angle instead of directly in front of the mouth, back away a little bit from the mic and use a pop filter or windscreen over the mic.

Popping P's – Text version of example

In this brief audio clip (2 seconds) the creator enunciates the words “Popping P's” and sound distortion is heard in the audio recording right at the point that the letter “P” is pronounced.

Source: Audio clip from *Liberated Learners*, CC BY-NC 4.0. Introductory text from *Tools for Podcasting*, CC BY 4.0

Audio Editing Functions

Inside an audio editing program, there are many functions that you can use to reach the goal of good continuity editing. While these functions are consistent across most (if not all) programs, how they are accessed will differ. Check out the program specific tutorials to get a feel for the layout. Below are some of the most common functions you'll use:

- **Select** – This lets you select a part of an audio track. Once selected, you can move it, cut it, and manipulate it.
- **Cut** – This will split the audio clip into parts, allowing you to insert something in between, move a piece somewhere else, or delete a part.
 - A form of cut that removes the beginning or end of a clip is called a “Trim”. Basically, trimming the ends. Maybe you took a breath before you started, or looked for the stop button on your phone when you were done. In either case, you might want to get rid of that little bit at the start or end.
- **Merge** – This function takes two pieces of audio and merges them into one. Just like a cut takes a clip and turns it into two, a merge takes two and turns it into one. This is useful if you want to move this newly merged piece somewhere else, or apply an effect to the entire clip (to save yourself from doing it twice).

- **Amplify** – The Amplify effect will either increase *or decrease* the volume of a selection in decibels, the measurement of sound.
- **Fade** – Another common effect, this will fade in (increasing) or fade out (decreasing) a clip.
 - A cross fade is a type of fade that involves something fading in while something else fades out. The point is to have a seamless transition between two clips. An example would be introduction music that fades out as the speaker fades in.

Tracks

A “Track” refers to a recording of sound. If you were to record yourself speaking and load it into a computer, you would have one track. If you and a friend were each recording their own voice in a conversation, this would mean two tracks.

Audio programs allow for multiple tracks, and will play them all at the same time. Best practices say that we should separate different tracks. This way, we can change the background music speed or volume much easier, without changing anything else.

If we were to put everything on one track, things would get very messy very quickly.

Multiple tracks help us organize the audio files that we are using. Put the main host or narrator on the main track. Put background music on another, sound effects on another, and other guests/actors on their own track. The end result is the same, but it becomes much easier to find what you need and visually see the pieces that go into the final product.

Editing Software to Use

There are plenty of free audio editors out there. Audacity (<https://www.audacityteam.org/>) is a very popular choice. It is fairly easy to use and has an extensive suite of tools. There is a lot of support and resources for it as well, making it simple to find the solution to whatever problem you’re having.

It is worth mentioning that, in 2021, Audacity changed their privacy policy in response to allegations that they were selling user data. (<https://www.engadget.com/audacity-data-collection-privacy-policy-muse-group-145857557.html>) If this is something that bothers you, there are plenty of other options to check out.

Dig Deeper

There are many options for editing audio and getting free sound effects to use. See below for some stuff to check out.

Ocenaudio

- Ocenaudio (<https://www.ocenaudio.com/>)(Free)

- With a simpler interface than Audacity, this is a great choice if you're overwhelmed by Audacity's complexity, but still want something fairly powerful.

GarageBand

- GarageBand (<https://www.apple.com/ca/mac/garageband/>) (Free)
 - Got a Mac? This free Mac program is a good call if you're just starting out.

Audio Cutter

- Audio Cutter (<https://mp3cut.net/>) (browser based editor) (Free)
 - Working on a Chromebook? Don't want to download anything? Audio Cutter is browser-based and, while it is limited in functionality, it can be great if it does what you need.

You might also find something on your phone that works for you. Phone apps tend to be less powerful and more clunky to use (smaller screen, using fingers instead of a mouse or trackpad), but if you're only doing some light editing (trimming, minimal cutting, juggling only a couple tracks), it might work well for you.

Where to get free sound effects

- Freesound (<https://freesound.org/browse/>)
- Pixabay Sound Effects (<https://pixabay.com/sound-effects/>)
- Mixkit (<https://mixkit.co/free-sound-effects/>)

Attribution & References

Except where otherwise noted, this page is adapted from Podcasting In *Liberated Learners* by Terry Greene et al., CC BY-NC 4.0. / Streamlined content and removed paid access software suggestions, added links to reputable sites for app downloads, added graphic.

- Introductory text in Popping P's example adapted from : Voicing Tips, Exercises, Script Marking In *Tools for Podcasting* by Jill Olmsted, CC BY 4.0

4.5 EXPLORE, PRACTICE AND APPLY

Overview: Explore, Practice and Apply

Activities found on this page are designed to provide opportunities to explore, practice, and apply concepts presented in chapter 4.

Explore

Explore Activity 1

Explore an open source tool for creating and editing sound clips called audacity. View the media Audacity (https://youtu.be/W8Y-HHBkCzk?si=jXg_8Yn-Uf2R2OeT). Watch the video. Identify the six tips provided by the speaker. Consider, would you use this tool in a multimedia presentation? Why or why not?

Explore Activity 2

Google Slides is an alternative to PowerPoint presentations. Navigate to a video showcasing how to add audio such as Google Slide Audio (https://www.youtube.com/watch?v=JY_1EvatN-8). Consider, would you use this tool in a multimedia presentation? Why or why not?

Explore Activity 3

Analyze the Use of Sound in Media. Your instructor will provide with a multimedia clip (e.g., a podcast, advertisement, or video). Evaluate how sound elements (e.g., voice, music, and effects) enhance or detract from the overall message and user experience. Consider the ambient sound and their emotional impact.

Explore Activity 4

Explore: YouTube Audio Library (<https://www.youtube.com/c/AudioLibraryEN>)

Watch: How to download audio from the YouTube Audio Library (<https://youtu.be/nh4AZzVYYaU?si=YQKAlIVV2mZxnvQJ>)

Select two audio files from this library. Practice by downloading audio clips from the library. Playback the audio for sound quality. Locate another website offering free downloadable audio, explore how to download audio from this website.

Practice

Practice Activity 1

Navigate online and locate two sound editing platforms. Outline the features of these tools, now compare them. Which would you use? Why?

Practice Activity 2

Storytelling Through Sound. Obtain a short story or scenario and create a soundscape using ambient sounds and effects. Consider how the sounds may evoke emotions and guide attention without using dialogue.

Practice Activity 3

This is a group based activity. Select from one of the three types of sound/audio from the list below:

1. Background music
2. Voice-over or narration

3. Sound effects

Each group is to locate (online) 2-3 examples of how the selected sound is used in various multimedia presentations and the impact it has on the audience. Prepare to share your finding with your class.

Apply

Apply Activity 1

Navigate to 2 websites using the links provided: Pexels (<https://www.pexels.com/videos/>) and Pixabay . Select 1 short video without sound from one of these sites. Download the video. Now navigate to the YouTube Audio Library select and download background music for this video. Consider the following questions:

1. Why did you select this sound for the video?
2. How do you think this music enhances the video?

Apply Activity 2

Using the slide deck created from Chapter 1 apply section. Create two versions of your presentation and save them. Follow the steps included below:

In version 1 add the following:

- Add narration to a selected slide
- Add 2-3 sound effects to the slide deck, be selective and choose the effects based on the ability to enhance the presentation

In version 2 add the following

- Locate background music for the presentation

- Add the background music to the presentation

Apply Activity 3

Create an outline for a podcast episode. Define the format (e.g., interview, narrative), sound elements (e.g., music, voice-over), and steps needed for production.

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4.6 KEY CHAPTER TERMS

Chapter 4 Terms

AAC:

A lossy data compression scheme intended for audio streams.

Ambient sound:

Background sounds that are present in a scene or location (Filmmakers Academy, 2021, para. 1).

Amplification:

Increasing or decreasing volume.

Audacity:

A popular free audio editor.

Co-host podcast:

A form of podcasting in which there are two hosts carrying a conversation.

Crossfade:

A type of fade that involves something fading in while something else fades out.

Digital audio:

A type of audio signal that has been encoded into a digital format, which can then be processed by computers (Producertech, 2023, para. 2).

Digital Audio Tape (DAT):

Magnetic tapes that store audio digitally (Preservation Self Assessment Program, n.d.a)

FLAC audio:

A popular lossless audio format with compression designed specifically for audio data streams.

Frequency response:

A visual representation of how well an audio component reproduces the audible range of sound (Thomas, 2024, para. 2).

Grooved recordings:

Sound waves that are recorded as grooves on discs (Wallace, 2023).

Legacy audio:

Audio formats that are now obsolete.

Lossless compression:

Compression type where nothing is lost during the compression and the original data is restored upon decompressing.

Lossy compression:

Compression type where some data is lost during compression and upon decompressing the data is not identical to the original.

M4A:

An audio-only version of the MP4 format, often used for high-quality audio.

Magnetic media:

A medium that utilizes magnetic patterns to represent information (Computer Hope, 2024, para. 1).

Monologue podcast:

A type of podcast in which there is one host speaking to the audience.

MP3:

A popular compressed audio format that balances quality and file size.

Natural sound:

Like ambient sound but focuses more on the sounds of nature such as wildlife, wind or water (National Park Service, n.d.).

Open reel tape:

A type of magnetic media that uses magnetic tape and is not enclosed in a plastic cassette (Preservation Self Assessment Program, n.d.a).

Phonograph records:

Audio format consisting of sound waves inscribed on grooved discs (Preservation Self Assessment Program, n.d.b).

Podcast:

A series of episodes made of audio voice recordings that someone can listen to either by streaming or downloading the episode.

Sound effects:

A sound other than speech or music that is added into an audio recording (“Sound Effect”, n.d., para. 1).

Storytelling podcast:

A form of podcasting in which the host is telling either a nonfictional or fictional story to the listener.

Voice recording:

The audio recording of a person or persons speaking.

Voice-overs:

An off-camera voice that narrates a scene or adds context (Tejeda, 2023, para. 2).

WAV:

An uncompressed format that offers high-quality audio but results in larger file sizes.

WMA:

An audio format developed by Microsoft to deploy in Windows environments.

Attribution & References

Except where otherwise noted, Terms and definitions are adapted from the pages and original sources cited within chapter 4, CC BY-NC 4.0.

References for terms from outside sources

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CHAPTER 5 ANIMATION ELEMENTS

Multimedia Communications by Marie Rutherford

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Please visit the web version of Multimedia Communications (<https://ecampusontario.pressbooks.pub/multimediacomm/>) to access the complete book, interactive activities and ancillary resources.

Learning Outcomes

- Review principles of animation and its effective use in multimedia communication
- Explain how animation works considering common methods of development
- Explore computer generated animation
- Practice and Apply
- Key Terms and References

Animation and Multimedia

Animation is described as the act of making inanimate objects move or appear to move. Going further, animation is a process that brings still images to life by creating the illusion of movement. Animation can add interest, emphasize points, and guide the audience's attention throughout an presentation. While animations can make a presentation more engaging, they must be used with a level of caution as complex animations can distract the audience, complicate the message, and look unprofessional. This uses a concept called **persistence of vision**, whereby the brain retain an image for a fraction of a second longer than the eye sees it.

Types of Animation

There are several types of animation, each with its unique techniques and applications:

1. **Traditional Animation:** Also known as **cel** animation, this involves drawing each frame by hand.
2. **2D Animation:** This can be traditional or vector-based, where images are created using computer software.
3. **3D Animation:** Utilizes computer software to create characters and environments in three dimensions.
4. **Stop Motion:** Involves photographing physical objects frame by frame to create the illusion of movement.
5. **Motion Graphics:** Often used in multimedia projects, these are digital graphics that create the illusion of motion, typically used in advertising and title sequences

Use of Animation in Multimedia

Animation plays an important role in multimedia, enhancing the visual appeal and effectiveness of presentations, websites, and educational content. Here are some key uses:

- **Education:** Animated videos can simplify complex concepts, making them easier to understand and more engaging for students.
- **Entertainment:** From movies and TV shows to video games, animation is a cornerstone of the entertainment industry.
- **Advertising:** Animated ads can capture attention more effectively than static images, making them a popular choice for marketers.
- **Web Design:** Animation enhance the user experience through supporting a more interactive approach.

This chapter explores the inclusion and development of animation and how it is utilized in multimedia presentations.

Chapter Organization and Preview

- Twelve basic principles of animation
- Animation & Transitions in Presentations
- Explainer videos & Whiteboard animations
- Stop Motion Animation
- Explore, Practice and Apply
- Key Chapter Terms

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5.1 TWELVE BASIC PRINCIPLES OF ANIMATION

Principles of Animation

Disney's **twelve basic principles of animation** were introduced by the Disney animators Ollie Johnston and Frank Thomas in their 1981 book *The Illusion of Life: Disney Animation*.¹ (Thomas & Johnston, 1981). The principles are based on the work of Disney animators from the 1930s onwards, in their quest to produce more realistic animation. The main purpose of these principles was to produce an illusion that cartoon characters adhered to the basic laws of physics, but they also dealt with more abstract issues, such as emotional timing and character appeal.

The book has been referred to by some as the “Bible of animation” (Allan, n.d.), and some of its principles have been adopted by traditional studios. In 1999, *The Illusion of Life* was voted the “best animation book[...] of all time” in an online poll done by Animation World Network (Animation World Network, n.d.). While originally intended to apply to traditional, hand-drawn animation, the principles still have great relevance for today's more prevalent computer animation.

The 12 principles of animation

Squash and stretch

Watch Squash & Stretch – 12 Principles of Animation (3 mins) on YouTube (<https://youtu.be/haa7n3UGyDc>)

The purpose of squash and stretch (Thomas & Johnston, 1981, p. 47) is to give a sense of weight and flexibility to drawn or computer-animated objects. It can be applied to simple objects, like a bouncing ball, or more complex constructions, like the musculature of a human face (Thomas & Johnston, 1981, pp. 47-51; De Stefano, n.d.d). Taken to an extreme, a figure stretched or squashed to an exaggerated degree can have a comical effect (Willian, 2006e). In realistic animation, however, the most important aspect of this principle is that an object's volume *does not* change when squashed or stretched. If the length of a ball is stretched

vertically, its width (in three dimensions, also its depth) needs to contract correspondingly horizontally (Thomas & Johnston, 1981, p. 49).

Anticipation

Watch Anticipation – 12 Principles of Animation (3 mins) on YouTube (<https://youtu.be/F80tE60T8yU>)

Anticipation is used to prepare the audience for an action, and to make the action appear more realistic (De Stefano, n.d.a). A dancer jumping off the floor has to bend the knees first; a golfer making a swing has to swing the club back first. The technique can also be used for less physical actions, such as a character looking off-screen to anticipate someone's arrival, or attention focusing on an object that a character is about to pick up (Thomas & Johnston, 1981, pp. 51-52).

Staging

Watch Staging – 12 Principles of Animation (3 mins) on YouTube (<https://youtu.be/u-SXLaQGg50>)

This principle is akin to staging, as it is known in theatre and film (Thomas & Johnston, 1981, p. 53). Its purpose is to direct the audience's attention, and make it clear what is of greatest importance in a scene (Lightfoot, n.d.); Johnston and Thomas defined it as “the presentation of any idea so that it is completely and unmistakably clear”, whether that idea is an action, a personality, an expression, or a mood (Thomas & Johnston, 1981, p. 53). This can be done by various means, such as the placement of a character in the frame, the use of light and shadow, or the angle and position of the camera (Thomas & Johnston, 1981, pp. 53, 56). The essence of this principle is keeping focus on what is relevant, and avoiding unnecessary detail (Thomas & Johnston, 1981, p. 56; Willian, 2006f).

Straight ahead action and pose to pose

Watch Straight ahead & pose to pose – 12 Principles of Animation (3 mins) on YouTube (<https://youtu.be/v8quCbt4C-c>)

These are two different approaches to the drawing process. Straight ahead action scenes are animated frame by frame from beginning to end, while “pose to pose” involves starting with drawing key frames, and then filling in the intervals later (Lightfoot, n.d.). “Straight ahead action” creates a more fluid, dynamic illusion of movement, and is better for producing realistic action sequences. On the other hand, it is hard to maintain proportions and to create exact, convincing poses along the way. “Pose to pose” works better for dramatic or emotional scenes, where composition and relation to the surroundings are of greater importance (Thomas & Johnston, 1981, p. 56-58). A combination of the two techniques is often used (Willian, 2006g).

In computer animation

Computer animation removes the problems of proportion related to “straight ahead action” drawing, but “pose to pose” is still used for computer animation, because of the advantages it brings in composition (De Stefano, n.d.e). The use of computers facilitates this method and can fill in the missing sequences in between poses automatically. It is still important to oversee this process and apply the other principles (Willian, 2006g).

Follow through and overlapping action

Watch Follow through & overlapping action – 12 Principles of Animation (3 mins) on YouTube (<https://youtu.be/4OxphYV8W3E>)

Follow through and overlapping action is a general heading for two closely related techniques which help to render movement more realistically, and help to give the impression that characters follow the laws of physics, including the principle of inertia. “Follow through” means that loosely tied parts of a body should continue moving after the character has stopped and the parts should keep moving beyond the point where the character stopped only to be subsequently “pulled back” towards the center of mass or exhibiting various degrees of oscillation damping. “Overlapping action” is the tendency for parts of the body to move at different rates (an arm will move on different timing of the head and so on). A third, related technique is “drag”, where a character starts to move and parts of them take a few frames to catch up (Lightfoot, n.d.).

These parts can be inanimate objects like clothing or the antenna on a car, or parts of the body, such as arms or hair. On the human body, the torso is the core, with arms, legs, head and hair appendices that normally follow the torso's movement. Body parts with much tissue, such as large stomachs and breasts, or the loose skin on a dog, are more prone to independent movement than bonier body parts (Thomas & Johnston, 1981, p. 59-62). Again, exaggerated use of the technique can produce a comical effect, while more realistic animation must time the actions exactly, to produce a convincing result (Thomas & Johnston, 1981, p. 60).

The “moving hold” animates between two very similar positions; even characters sitting still, or hardly moving, can display some sort of movement, such as breathing, or very slightly changing position. This prevents the drawing from becoming “dead” (Thomas & Johnston, 1981, p. 61-62).

Slow in and slow out

Watch Slow in & Slow out (2 mins) on YouTube (<https://youtu.be/fQBFsTqbKhY>)

The movement of objects in the real world, such as the human body, animals, vehicles, etc. needs time to accelerate and slow down. For this reason, more pictures are drawn near the *beginning* and *end* of an action, creating a *slow in* and *slow out* effect in order to achieve more realistic movements. This concept emphasizes the object's extreme poses. Inversely, fewer pictures are drawn within the *middle* of the animation to emphasize faster action (Lightfoot, n.d.). This principle applies to characters moving between two extreme poses, such as sitting down and standing up, but also for inanimate, moving objects, like the bouncing ball in the above illustration (Willian, 2006c).

Arc

Watch Arcs – 12 Principles of Animation (2 mins) on YouTube (https://youtu.be/l1_tZ9LhJD4)

Most natural action tends to follow an arched trajectory, and animation should adhere to this principle by following implied “arcs” for greater realism. This technique can be applied to a moving limb by rotating a joint, or a thrown object moving along a parabolic trajectory. The exception is mechanical movement, which typically moves in straight lines (Thomas & Johnston, 1981, p. 62-63).

As an object's speed or momentum increases, arcs tend to flatten out in moving ahead and broaden in turns. In baseball, a fastball would tend to move in a straighter line than other pitches; while a figure skater

moving at top speed would be unable to turn as sharply as a slower skater, and would need to cover more ground to complete the turn.

An object in motion that moves out of its natural arc for no apparent reason will appear erratic rather than fluid. For example, when animating a pointing finger, the animator should be certain that in all drawings in between the two extreme poses, the fingertip follows a logical arc from one extreme to the next. Traditional animators tend to draw the arc in lightly on the paper for reference, to be erased later.

Secondary action

Watch Secondary Action – 12 Principles of Animation (2 mins) on YouTube (<https://youtu.be/MjBHWw1TbP4>)

Adding secondary actions to the main action gives a scene more life, and can help to support the main action. A person walking can simultaneously swing their arms or keep them in their pockets, speak or whistle, or express emotions through facial expressions (Thomas & Johnston, 1981, p. 63-64). The important thing about secondary actions is that they emphasize, rather than take attention away from the main action. If the latter is the case, those actions are better left out (De Stafano, n.d.c). For example, during a dramatic movement, facial expressions will often go unnoticed. In these cases, it is better to include them at the beginning and the end of the movement, rather than during (Thomas & Johnston, 1981, p. 64).

Timing

Watch Timing – 12 principles of animation (3 mins) on YouTube (<https://youtu.be/BarOk2p38LQ>)

Timing refers to the number of drawings or frames for a given action, which translates to the speed of the action on film (Lightfoot, n.d.). On a purely physical level, correct timing makes objects appear to obey the laws of physics. For instance, an object's weight determines how it reacts to an impetus, like a push: a lightweight object will react faster than a heavy one (De Stafano, n.d.f). Timing is critical for establishing a character's mood, emotion, and reaction (Lightfoot, n.d.). It can also be a device to communicate aspects of a character's personality (Thomas & Johnston, 1981, p. 64-65).

Exaggeration

Watch Exaggeration – 12 Principles of Animation (2 mins) on YouTube (<https://youtu.be/HfFj-VQKiAM>)

Exaggeration is an effect especially useful for animation, as animated motions that strive for a perfect imitation of reality can look static and dull (Lightfoot, n.d.). The level of exaggeration depends on whether one seeks realism or a particular style, like a caricature or the style of a specific artist. The classical definition of exaggeration, employed by Disney, was to remain true to reality, just presenting it in a wilder, more extreme form (Thomas & Johnston, 1981, p. 65-66). Other forms of exaggeration can involve the supernatural or surreal, alterations in the physical features of a character; or elements in the storyline itself (Willian, 2006b). It is important to employ a certain level of restraint when using exaggeration. If a scene contains several elements, there should be a balance in how those elements are exaggerated in relation to each other, to avoid confusing or overawing the viewer (De Stafano, n.d.b).

Solid drawing

Watch Solid drawing – 12 Principles of Animation (2 mins) on YouTube (<https://youtu.be/7An0jukOkCI>)

The principle of *solid* drawing means taking into account forms in three-dimensional space, or giving them volume and weight (Lightfoot, n.d.). The animator needs to be a skilled artist and has to understand the basics of three-dimensional shapes, anatomy, weight, balance, light and shadow, etc (Thomas & Johnston, 1981, p. 66-67). For the classical animator, this involved taking art classes and doing sketches from life (Willian, 2006d). One thing in particular that Johnston and Thomas warned against was creating “twins”: characters whose left and right sides mirrored each other, and looked lifeless (Thomas & Johnston, 1981, p. 67).

In computer animation

Modern-day computer animators draw less because of the facilities computers give them (Lasseter, 1987), yet their work benefits greatly from a basic understanding of animation principles, and their additions to basic computer animation (Willian, 2006d).

Appeal

Watch Appeal – 12 Principles of Animation (3 mins) on YouTube
(https://youtu.be/_SplEuWp0Yw)

Appeal in a cartoon character corresponds to what would be called charisma in an actor (Thomas & Johnston, 1981, p. 68). A character who is appealing is not necessarily sympathetic; villains or monsters can also be appealing. The important thing is that the viewer feels the character is real and interesting (Thomas & Johnston, 1981, p. 68). There are several tricks for making a character connect better with the audience; for likable characters, a symmetrical or particularly baby-like face tends to be effective (Willian, 2002a). A complicated or hard to read face will lack appeal or ‘captivation’ in the composition of the pose or character design.

Consider

Look up an episode or scene from a favourite cartoon.

1. How many of the twelve basic principles of animation can you identify in action?

Attribution & References

Except where otherwise noted, this page is adapted from “Twelve basic principles of animation” In *Wikipedia*, CC BY-SA 4.0. / Added video clips. Converted references to APA format to match textbook.

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Notes

1. The twelve principles have been paraphrased and shortened by Nataha Lightfoot for Animation Toolworks (Lightfoot, n.d.). Johnston and Thomas themselves found this version good enough to put it up on their own website (Thomas & Johnston, 2002).

5.2 ANIMATION & TRANSITIONS IN PRESENTATIONS

Introduction to Transitions

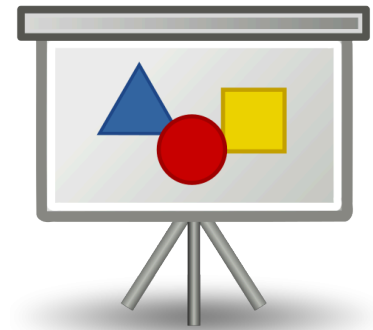
Slides don't have to be static. On this page we'll look at how to apply transition effects between slides; we'll explore animations, from making bullet points appear to making objects move and dance in the most elaborate ways. We'll also discuss the use of specialty apps such as Prezi.

Transitions are used to make the change between slides less abrupt. They can also serve to give you a bit of breathing space to help punctuate the points you're making.

Some of PowerPoint's transitions can look particularly whizzy, and it's very easy to make your presentation to look like a 1980s pop video. Other transitions may make your audience a bit seasick. You may want to stick to one or two subtle choices!

If you're presenting online, bear in mind that your frame-rate may be quite low, so what looks like a smooth transition on your computer might seem quite jerky and confusing through something like Zoom. You may be better off not using transitions and just having a simple 'cut' between each slide.

When applying a transition to a slide, that transition is applied to the appearance of that slide: it's the effect that happens when you *go into* the slide, not the effect that happens when you leave it.



Graphic depicting a presentation on a fold-up screen. **Source:** Image by RRZEicons, CC BY-SA 3.0

Watch How to Add Slide Transitions in Powerpoint (5 mins) on YouTube (<https://youtu.be/OaJFUJf0iyk>)

Slide animation allows you to introduce, emphasize, and remove items from a slide. This can help focus attention on specific content.

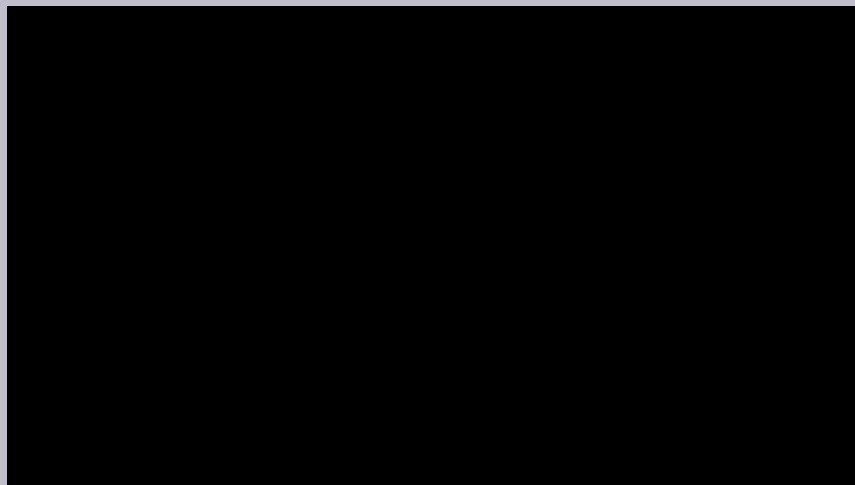
Animation has long been a part of presentation, be it writing on a blackboard, using a piece of paper on an overhead projector to reveal more of a transparency, or using pop-up cards.

Watch Adding animations to Google Slides (4 mins) on YouTube (<https://youtu.be/AdsbPvOpGOo>)

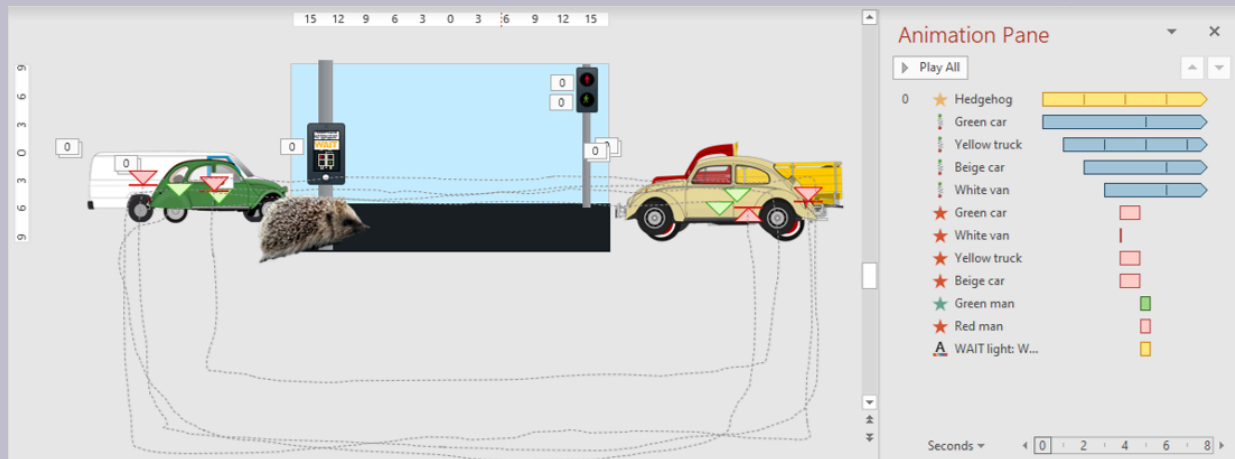
In slide software, an animation effect can be achieved simply by duplicating an existing slide and then adding or removing content. But there are also built-in animation tools that allow animation of elements to take place within a single slide.

An example: Animation created in PowerPoint

The animation below was constructed in PowerPoint. It uses 14 separate animation effects over two slides, with a “Morph” transition between (see below) to get the hedgehog across the road without too much messing about.



Here's a look at the first of the two slides:



- The effects begin with the start of the slide (denoted by the “0” in the Animation Pane);
- First to happen is a “Teeter” effect on the hedgehog, which is set to repeat until the slide ends;
- Starting at the same time is the Custom Motion Path of the green car: it starts off the left edge of the slide, wobbles quickly across and off the other end, then moves in a square, far below the bottom of the slide, back to somewhere near where it started; This movement is set to take five seconds, repeating continuously;
- One second later, the yellow truck comes in from the opposite direction; its laps take only two seconds (making it a faster vehicle);
- In the next two seconds, the beige car and the white van also enter, each travelling at different speeds; again, the animation repeats continuously;
- Next up we have a series of “Fly Out” animations which cause any vehicles still on the screen to exit the slide (in the direction they’re travelling); originally these were intended to be triggered by a mouse click, allowing the traffic to pass for as long as the speaker needed; in this example they’re instead happening automatically, at 3.75 seconds into the slide (the white van’s exit animation is shorter than the rest just because it was near the edge of shot at that time and so needed less time to get out of the slide);
- Another time point comes a second later, when the green man appears on the crossing signal, the red man disappears, and the WAIT light changes colour from amber to grey.

The hedgehog crossing the road happens via a “Morph” transition, and its waddle out of shot happens in the next slide, using a repeated “Teeter” effect at the same time as a “Fly Out” to give the illusion of walking.

Easy animations with the “Morph” transition

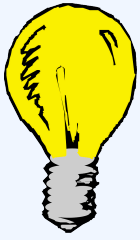
PowerPoint has a special transition called **Morph** which creates an animation based on shared content between two slides. It allows you to generate really quite elaborate animations without the messing about normally required in the Animation Pane.



The above example is a three-slide animation created using the following method:

1. A slide is created (slide 1) and a red triangle shape is drawn onto it;
2. The slide is duplicated (copy/paste, or right-click and **Duplicate Slide**);
3. On the duplicate slide (slide 2), the shape is modified: it is repositioned, rotated, resized, and given a new fill colour;
4. The “Morph” transition is applied to slide 2 from the **Transitions** tab;
5. The “Morph” transition identifies the triangle in the two slides as being the same object (albeit having undergone some modification) and generates an appropriate animation to bridge the two states;
6. In the case of this example, slide 1 has then been duplicated again (as slide 3), again with a “Morph” transition, thereby returning the triangle to its original position (the same effect would happen simply by transitioning backwards and forwards between slides 1 and 2, but we needed to save this animation as a GIF).

Morph is only available in PowerPoint 2019 or later. But many of the Morph effects are backwardly compatible, so they will work to some degree or other on earlier versions of PowerPoint.



Tip: Morph

The more elaborate your Morph, the more strain it will put on your computer. If you're going to be presenting on a lectern PC, bear in mind that it may not have as much processing power as the computer you used to make the slides in the first place.

Prezi Presentation Tips: Dos and Don'ts

Prezi (<http://www.prezi.com/>) is a visually based presentation software that supports a non-linear storytelling approach to presentations. With many affordances, including the ability for the audience or presenter to zoom in and zoom out of the screen, Prezis can be powerful but they can also be problematic.

You may have used or seen a Prezi presentation. In case you're not sure, Prezi is a presentation tool, that instead of following a linear format (slide after slide), it uses zoom and pan to connect the frames, changing not only the dynamics of a presentation, but also changing the way the audience makes connections between the ideas presented. Or at least, that's what's supposed to be the main advantage of using Prezi over other tools. However, as you may have seen, the zooms and pans are used by presenters only as fancy transitions between frames, with a lot of us in the audience left wondering, "What's the point in all of this? All of this coming in and out of the screen, it's so confusing. Should've just stuck to the good old slides."

Below are some tips to support creating effective Prezi Presentation.

Choosing Presentation Software

What many presenters don't realize is that, when choosing one presentation tool over another one, you have to make the most of what it has to offer. Prezi's strength is in its non-linearity, but that doesn't mean that the frames should be displayed randomly on the screen. The non-linear flow allows for seemingly unrelated concepts to come together by making new meaningful connections between them. Meaning through visual metaphors can be created by significant (hierarchical for example) spatial positioning on the screen and differentiation or similarity of concepts can be achieved by exploring design elements (colors and shapes). The biggest lesson is to use less text and bullet points, and let the visuals and transitions tie in the concepts of your presentation.

Before starting work on your presentation, consider the following questions and concepts.

Consider

1. What are the main goals of the presentation and what's a good visual metaphor to represent it. This will be your main layout, which can be a path, map, tree, etc.
2. What kinds of connections are there between your ideas and design the frames in relation to the layout.
 - a. Where on the layout does it make the most sense to place each frame?
 - b. How does it connect with the frame immediately before and after it?
 - c. How does it connect in general with the other frames?
3. Think about your presentation with a view of the whole in your mind, because at many times the audience will be able to see all the frames, and you want to draw the eye towards focus points.
4. Think about what visual/temporal patterns you're creating with your presentation and how that's going to influence the pattern of thoughts and learning process in the audience.

For a visual summary of these ideas and more tips for Prezi (made with Prezi!), please refer to this Prezi and video below it that walks through it.

Watch Prezi Presentation Design Tips – by Ethos3 and Prezi (15 mins) on YouTube
 (<https://www.youtube.com/watch?v=xYFws1GvP3k>)

Attribution & References

Except where otherwise noted, the content on these pages is adapted from A practical guide to presentations: Animation, sound & video by University of York, CC BY-NC-SA and from Prezi Presentation Tips: Dos and Don'ts In *Scarfe Digital Sandbox* by Teacher Education Program & PDCE, UBC, CC BY-NC 4.0 . / Streamlined content, removed copyright protected video and added Prezi content.

5.3 EXPLAINER VIDEOS & WHITEBOARD ANIMATIONS

Introduction to Whiteboard Animations and Explainer Videos

A popular technique to create videos, often referred to as *explainer videos* or *whiteboard animations*. It is completed by recording the process of visualizing an idea, through **sketching**. There are many ways to accomplish this, and although it helps to have some drawing experience, it is by no means the most important skill. As with most multimedia projects, it is the story being told that will have the most impact on the audience. How clearly you can tell that story and provide the information is the challenge you need to consider.

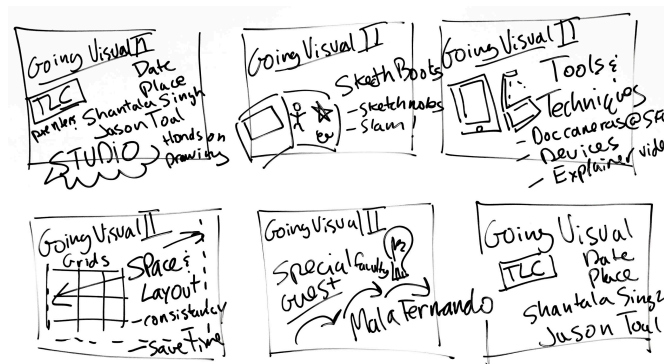
Consider: Sketchnoting Principles

1. What principles did you learn in the section about sketchnoting that could be used for explainer videos or whiteboard animations?

We went through a very typical process from script to storyboard to final production, and documented the promotions.

How did we make it?

1. First, we talked about what we wanted/needed to communicate to planned out the idea quickly using a storyboard. You can of course make your video on Educreations (<https://www.educreations.com/>) by starting with the app itself, but we find it's always easier to rough out our ideas first. Here is the one we used for our video:
2. We then fleshed that storyboard out with a script so that we'd know what to say. This we spoke out naturally and made quick bullet point notes so our dialogue would feel natural.
3. Finally, we fired up the app. It took four takes of about 4 minutes each until we got something we liked. We both tried making one to get practice.



Storyboard rough for planning our syllabus “explainer video”. **Source:** Teaching through whiteboarding, CC BY 4.0.

Other types of “Doodle” videos

Watch Doodling in Math Class: Connecting Dots (8 mins) on YouTube (https://youtu.be/v-pyuaThp-c?list=PL8jZua1akijoyaY8MhHk6Y_OkV7O7DmZ6)

A collection of videos called “Teaching & Learning by Sketching (https://www.youtube.com/playlist?list=PL8jZua1akijoyaY8MhHk6Y_OkV7O7DmZ6)”, was created to showcase the wide variety of videos that have been created in this way.

As you can see, there are many examples in this list that do not look like they were created by a visual artist, and they are still awesome!

Watch Sketcho Frenzy: The Basics of Visual Note-taking (3 mins) on YouTube (<https://www.youtube.com/watch?v=gY9KdRfNN9w>) for some tips on using your visual powers more effectively is this from,

Consider: Explainer Videos

1. Can you think of opportunities where an explainer video might be helpful?
2. In your future administrative role can you think of when might you want to make or use explainer videos?

Attribution & References

Except where otherwise noted, this content is adapted from Teaching through whiteboarding by Jason, CC BY 4.0.

5.4 STOP MOTION ANIMATION



Stop motion animation demonstrated by the use of a Lego character, holding a wand. The creator combined 9 images to demonstrate how they animated the wand movement. **Source:** Image by BRICK 101, CC BY-NC 2.0.

What is Stop Motion?

Stop motion is an animation technique which allows static objects to appear as if they're moving, by taking individual pictures which are eventually run together like the frames of a film. Between pictures, slight adjustments are made to the objects, creating the illusion of movement. Examples of stop motion used in education include Slowmation (<http://slowmation.com/>) and blackboard animations. Stop motion is a good choice if you want to create a small number of videos conveying complicated physical processes.

Stop motion can be extremely time-consuming: a video shot on a video camera usually runs at 24 fps (frames per second). Each photo taken for a stop motion project is one frame. If each photo takes 30 seconds, creating a five-minute 24 fps video will take 60 hours. While 24 fps is a much higher frame rate than you have to use—2 fps will work well in most applications—stop motion projects take a long time to create.

On the positive side, stop motion animation doesn't require a video camera, can be done with almost anything, and allows for a fine degree of control over the subjects of the video. It's also naturally engaging: people love watching inanimate objects come to life!

Stop motion is just one way to create engaging video. Stop motion animation may be useful for:

- Illustrating processes that can't be seen by the naked eye.
- Highlighting action and impact when telling a story. The example below illustrates this.

Stop motion animation using found objects

Animation is a great way to explain a complex process—learners can see it happening right in front of them. However, most forms of animation require a lot of time and training. To create even relatively simple animations, requires huge investments in time and effort: you have to learn animation software, and then

create the animation, to say nothing of the cost of the software. While stop motion is still time-intensive, it doesn't require anything more than the ability to take pictures and edit video. This video, created by Dr. Rosie Redfield, quickly and effectively explains how influenza cells take up DNA, using candy and construction paper.

Watch Dr. Rosie Redfield's Uptake movie+audio.mp4 on cell animation (3 mins) on YouTube (https://youtu.be/1-MKZpuiW_s) for an example of illustrating processes that can't be seen with the naked eye.

Stop motion animation using paper cutouts

Making the perfect objects for your stop motion project can be as easy as breaking out the pencil crayons and scissors. The video below from the Digital Tattoo project explains data mining using a whiteboard and paper cutouts. If you don't feel like drawing, printed images would work, as well. Visit the UBC Wiki for more a complete explanation of their process (<http://wiki.ubc.ca/>

Documentation: Digital_Tattoo_Student_Orientation/Stop_Motion_Video).

Watch TBYI: Data Mining (4 mins) on YouTube (https://youtu.be/FHs5wbN_XY0)

Creating Stop Motion Animation

Consider: Audience & Approach

- What do you want your audience to learn while watching your presentation?
- What approach is best suited to support that learning (i.e. a narrative, an

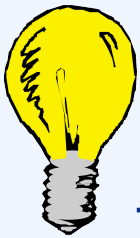
explanation, an animation, etc.)?

Step 1: Plan

- Search for existing content on your topic. (*Do you need to create or can you curate from existing content?*)
- Identify potential impact. (*Why am I doing this? Who will benefit? What will it change?*)
- Define objectives. (*What will people learn?*)
- Develop an assessment plan. (*How will I know if I achieved my goals?*)
- Gather equipment. (*See the What Do I Need? section*)
- Create a test file to practice using the software.
- Export test file formats and import in editing software to ensure you can work with the files.
- Determine what the timeline is.

Planning Resources

- Scripting for explainer videos (<http://diy-media.sites.olt.ubc.ca/plan-it/>) by Lee Lefever at Common Craft (<http://www.commoncraft.com/videolist>)
- Basic storyboarding for explainer videos (<http://www.commoncraft.com/explainer-tip-creating-simple-storyboards/>) by Lee Lefever at Common Craft (<http://www.commoncraft.com/videolist>)
- Plan Your Project worksheet [PDF] (<http://wiki.ubc.ca/images/5/5a/PYP.pdf>)
- Storyboard Outline worksheet [PDF] (http://wiki.ubc.ca/images/f/f5/Storyboard_outline.pdf)



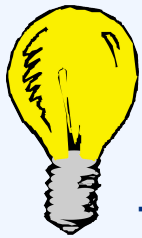
Tips – Planning

- **Consider the aim of the video** and limit yourself to what's possible in a 3-5 minute time frame.

- **Consider what your viewers will need** in order to obtain the message or story the video is sending.
- **Plan out** the timeframe for scripting, recording, and editing. Allow a an additional 20% to account for unexpected delays or issues. **Assuming you're familiar with the software and tools**, a good rule of thumb is to allow 3-4 minutes of pre- and post-production work for every minute of footage.
- **Test out your equipment** beforehand to ensure that recording goes smoothly. Make and narrate a five-second video. You might catch computer, audio, or file format issues which you can solve before recording, as well as ensuring that you have all the required equipment, and that it all works properly.

Step 2: Script & Storyboard

- Chunk your content into 3-6 minute segments.
- Review principles for learning, instruction and multimedia development.
- Create a script and storyboard
- Design your slides for presentation.



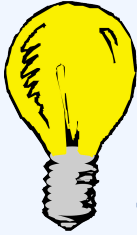
Tips – Scripting & Storyboarding

- **Try to keep to the 3 minute mark per concept** with a total video length of not more than 6 minutes.
- **Planning will save time later.** Take time to prepare a script which include slide transitions.
- **Keep it simple** and remember your objectives.

Step 3: Take pictures

- Gather your equipment
- Set up your recording environment

- Take your pictures
- Source any additional content you'll be editing in
- Record your audio
- Familiarize yourself with copyright resources and guidelines.

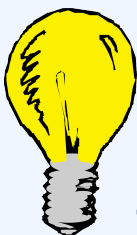


Tip – Taking Pictures

- **Make sure that you control your lighting!** Subtle changes over time will show up very clearly in your video.
- **Use your storyboard!** You'll have a much easier time if you avoid improvisation.

Step 4: Edit

- Make sure your audio is clear and balanced throughout, with good pacing.
- Check the pace and flow of your video: is it too fast? Too slow?
- Ensure all graphics, sounds and effects are necessary.
- Eliminate any extraneous information.
- Review against design principles for effective multimedia for learning.
- If possible, get feedback on a rough cut of your video.



Tips – Editing

- **Don't use too many transitions:** especially flashy ones.
- **Use the 'remove noise' filter** in your editing software to take out background noise.

- **Try to stick to one piece of editing software:** the fewer programs and file formats you have to deal with, the better. Don't be afraid to handle audio in one program and video in another, but as a rule of thumb, the fewer programs, the easier you'll find things.
- **Learn the basics of color correction:** lighting, sunlight or your model of camera can make your images look red, blue, or green. Most video editing software should have features to allow you to adjust, or correct, for this.
- **Ensure you have enough computing power** and hard drive space for editing.

Step 5: Publish

- Consider reach. If you want a wide reach for your audience, choose an open hosting environment (like YouTube).
- Consider privacy. If you need a certain amount of protection around your content, choose a locally hosted option (Kaltura, Microsoft Stream, etc).
- Consider usability – if your presentations are long and learners need to be able to search key words

When you've finished recording, editing and exporting your content to an acceptable file format, you'll need to publish it so that you can embed it where you like. You can publish your content on:

- Your own website.
- YouTube (<http://www.youtube.com/>) is an option if you don't require privacy or security settings for your videos. YouTube enables you to share your video with the world, reach a wide audience, and students don't need an account to view it. Set up your own YouTube account to save all of your projects.
- Soundcloud (<https://soundcloud.com/>) for audio files.
- another free content hosting service.

Tip – Review & Publish

- **Review your video** with colleagues and double check if your video is delivering the message or story you would like it to.
- **Seek audience feedback** about the resources you produce and use it to evaluate and improve.



Further Information

New York Film Academy has resources on how to create a stop motion video. (<https://www.nyfa.edu/student-resources/stop-motion-animation/>)

Attribution & References

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5.5 EXPLORE, PRACTICE AND APPLY

Overview: Explore, Practice and Apply

Activities found on this page are designed to provide opportunities to explore, practice, and apply concepts presented in chapter 5.

Explore

Explore Activity 1

Select two of the tools listed here. Search and locate a link for each. Explore the features available with both tools. Consider why you may choose to use these tools to create animation for a multimedia project.

- **Blender 3D:** For 3D animation.
- **K-3D:** Free 3D animation software.
- **OpenToonz:** A free animation tool.
- **Pencil2D:** For hand-drawn animation.
- **Plastic Animation Paper:** Basic animation.

Explore Activity 2

Animated icons can enhance a multimedia presentation. Navigate to the websites listed below this section and explore the icons available in the sites. Now locate 2-3 animated icons. Select and practice downloading these free, animated icons. For these icon collections, you must provide attribution to the source if you want to use them. Try adding the icons to a word document or a slide deck. Then, review the attribution requirements posted with the icons and practice inserting that information into your document/slides.

- Icon8 (<https://icons8.com/>)
- Flat Icon (<https://www.flaticon.com/>)

For more info on free web content and related license requirements, review the Openly Licensed, Public Domain, and Free to use section in Chapter 10.

Explore Activity 3

Explore animation use in advertising. Watch an animated advertisement (commercial or product ad).

Write a brief reflection on how animation was used to convey the product message. Did the animation make the ad more engaging? Why or why not?

Explore Activity 4

Navigate to the website GIPHY (<https://giphy.com/>) and explore the gifs available. Locate the create your own gif feature and explore how the creation tool works.

Practice

Practice Activity 1

Create an Animation Concept. Imagine you're tasked with explaining a scientific process or historical event using animation.

Write a brief concept for a 2-minute animation. Decide on which type of animation (2D, 3D, stop-motion, etc.) would best suit your topic, and explain why.

Practice Activity 2

Working in small groups of 2-3 select a topic to create a brief slide presentation. Create a short

presentation of 3 slides on the topic selected. Add text to your slides. Select and add 1 animated icon and 1 animated gif to add to your presentation. Think about the timing and placement of the animated features. Consider these questions:

1. Why were these animations selected?
2. How do these animated features enhance the presentation?
3. Did the group have any challenges navigating these animations?

Prepare to share you presentation with your peers.

Practice Activity 3

Comparison of Animation Techniques. Choose two types of animation (e.g., 3D vs. Stop Motion) and compare them.

Write a short paragraph for each technique explaining its process, strengths, and typical applications in multimedia projects.

Apply

Apply Activity 1

Create a Short-Animated Clip. Use a simple animation tool (like Canva or PowToon) to create a short animation explaining a concept or telling a story. Make the animation 30-60 seconds long, focusing on integrating visuals and movement effectively.

Apply Activity 2

1. **Choose a Scenario:** Select a scenario or process to illustrate. This could be a historical event,

a scientific process, a business workflow, or a creative story.

2. **Outline a Storyboard:**

- **Scenes:** Break down the scenario into 5-6 key scenes or steps.
- **Content:** Write a brief description of what happens in each scene.
- **Visuals:** For each scene identify images, icons, and text

3. **Animations: Identify which animations you would use or develop for the activity**

4. **Sequence and Timing:**

- **Order:** Arrange the animations in a logical sequence to match the flow of the story.

5. **Present and Reflect:**

- **Share:** Present your animated storyboard to a peer
- **Feedback:** Gather feedback on the effectiveness of your animations and narration, and make any necessary improvements.

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5.6 KEY CHAPTER TERMS

Chapter 5 Terms

Acceleration:

Increase in the speed of an object or animation over time.

Animation

The process of creating the illusion of motion through a sequence of images or frames.

Animation Pane

A feature in presentation software for managing and controlling animations within a slide.

Anticipation

A principle of animation that prepares the viewer for the main action, making movements appear more realistic.

Appeal

The visual quality that makes a design or animation attractive and engaging.

Curate Content

Organization and selection of relevant content to meet the needs of specific purposes or audiences.

Custom Motion Paths

User-defined paths along which an object moves in animations, often used in presentations.

Deceleration

The decline in speed of something-an object, an animation-over time.

Exaggeration

A principle of animation that allows movements or features to be blown out of proportion for dramatic or comic effect.

Explainer Videos

Short videos designed to simplify complex concepts into understandable materials, usually through animated means.

Frame-by-Frame Animation

A technique of traditional animation in which motion is achieved by drawing each frame of the animation individually.

Frame-rate

The number of frames of animation or video displayed per second which shows the smoothness of the movement.

Mechanical Movement

Movement that is stiff and repetitive, such as can be seen in animations involving robots or machinery.

Morph Transition

An animation effect where one object changes smoothly into another.

Overlapping Action

A principle wherein some parts of a character or object move at different speeds, which adds to the reality of the action.

Parabolic Movement

Motion that follows a curved, parabolic path, often utilized in physics-based animations.

Processing Power

Computational capability regarding the potential of a system to render animations or other tasks efficiently.

Secondary Action

Supplementary movements that added to the main action can create depth and make the scene more realistic.

Slide Transitions

Animated effects used between slides to produce visual continuity in a presentation.

Slow In

Gradual acceleration of an object's motion, giving a more natural feel to the animations.

Slowmation

Simplified form of stop-motion animation with fewer frames, useful for educational reasons.

Spatial Positioning

Objects are arranged in space that produces depth or focus in animations.

Staging

The way elements are presented to guide viewers' attention and clearly communicate the action that takes place.

Stop Motion Animation

A process by which objects are moved frame by frame and then photographed to produce an illusion of movement.

Timing

The tempo or pace of events in an animation that helps determine interest and credibility.

Whiteboard Animation

Videos where the animation emulates hand-drawn illustrations that could be used for telling stories or teaching.

Attribution & References

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CHAPTER 6 VIDEO ELEMENTS AND PRODUCTION

Multimedia Communications by Marie Rutherford

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Please visit the web version of Multimedia Communications (<https://ecampusontario.pressbooks.pub/multimediacomm/>) to access the complete book, interactive activities and ancillary resources.

Learning Outcomes

- Outline how video is utilized as a visual aid in communication strategies
- Describe the effective integration of video in multimedia communication
- Explore common video technologies for creating, editing, and hosting
- Review the stages of video production from concept to completion
- Explore, practice and apply effective video creation and development techniques
- Identify key terms related to video design and production

Video and Multimedia

Videos can be a powerful component when included in a multimedia presentation. Videos often bring concepts to life and enhances the way we communicate. Consider a video is a sequence of moving images, often accompanied by sound, used to tell a story, present information, or entertain and engage. Studies show people retain information provided in a video due to the use of two stimuli; visual and auditory.

Uses and Types of Videos in Multimedia

1. **Communication:** Videos can convey ideas and provides a communication medium to connect people by sharing information in a interesting and engaging manner. These types are often informational videos.
2. **Education:** Videos are widely used in educational settings to illustrate concepts, demonstrate procedures, and provide visual and auditory learning experiences. These types can be instructional and informational based.
3. **Entertainment:** From movies to online streaming, videos are a primary source of entertainment. They combine visual and auditory elements to create immersive experiences. This type of video is simply classified as an entertainment video.
4. **Marketing and Advertising:** Videos are a powerful tool for marketing, allowing businesses to showcase products, tell brand stories, and engage with customers through visual storytelling. These videos are referred to as promotional videos.
5. **Training and Development:** In corporate and business settings, videos are used for onboarding and training employees, providing tutorials, and these types of videos are considered to be instructional videos.

This chapter explores the usage of videos within the context of a multimedia presentations.

Chapter Organization and Preview

- Video as a Visual Aid
- Video Production
- Video editing
- Explore, Practice and Apply
- Key Chapter Terms

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6.1 VIDEO AS A VISUAL AID

Video Overview

Video helps you tell a story in the most visually engaging way possible, giving every employee in the company a face-to-face opportunity with the CEO, or allowing for the broadcast of team meetings and gatherings.



Tip

Making a video that features the employees who work at your company can “humanize” the company’s image, a valuable tool when communicating with investors and other external stakeholders.

Videos are an excellent visual media choice when communicating things like,

- The features of a new facility or office the company has opened
- The details of a new product or service the company has introduced
- Instructions for a new company process, like signing up for benefits or a new 401k plan
- The introduction of a new business idea, plan or merger, especially if the subject is complex or the audience is highly emotional about the announcement
- Webinars and meetings that all attendees might not be able to attend in person

Consider: Appropriate Uses for Video

Consider: Appropriate Uses for Video (text version)

In which of the following situations would you NOT use video?

Responses

1. If several team members won't be able to attend a meeting held by the CEO
2. If information regarding an impending layoff needs to be distributed to those employees remaining at the company
3. If your company has opened a new distribution facility and everyone would like to see it

Check your answers in footnote¹

Activity source: *Business Communication Skills for Managers*, CC BY 4.0

While videos can be easy and inexpensive to produce these days, it can still be costly to create a professional, polished video. A video made on your camera phone likely won't be appropriate for any medium besides a short post on social media. Beyond the cost and talent associated with creating more complex videos, there are a few roadblocks you might encounter, even when creating a short clip. You might want to reconsider video as a choice in any of the following scenarios:

- Your human subjects are visibly uncomfortable in front of a camera and cannot deliver a message effectively in that manner
- Your subject requires the display of a lot of data, and the audience will require time to review, contemplate and study the information
- Your video is longer than fifteen minutes and viewers are likely to tune out after a while
- You're covering a sensitive topic or the topic of discussion shouldn't be made public in any recorded format, written or visual

Video can be used to accompany text, or it can stand alone as its own communication. Consider where your audience will access the video, what information will accompany that video and in what format, and how they'll work together when you start to plan the creation of your video.

Watch the video What is the Best Explainer Video Style for Your Business? (2 min) on YouTube (<https://www.youtube.com/watch?v=dp3NK7TMMzw>)

Attribution & References

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- Video as a Visual Aid: Overview. **Authored by:** Freedom Learning Group. **Provided by:** Lumen Learning. **License:** *CC BY: Attribution*

Notes

1. **1.** This is an appropriate use of video. A video isn't a face-to-face discussion but it can be close—a video of a meeting will help you convey the same message the attendees received to those that couldn't be there. **2.** This is **not** an appropriate use of video. Sensitive information should be passed along verbally to those who need to know, and certainly not in a medium as easy to share as video. A video may seem like a good option to distribute to remote employees, but a video conference would be more secure, more personal, and more specific. **3.** This is an appropriate use of video. A video tour of the new facility will allow team members to see it who might not otherwise travel there.

Introduction to Video Production

Creating a video project can seem daunting at first because it combines all of the elements of visual design and sound design, along with the unique challenges of video. However, getting started on a video project can actually be a surprisingly straightforward and effective way to communicate an idea, tell a story, or show off your work.

Three steps of video creation

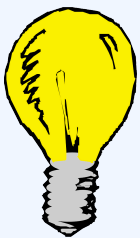
There are three major phases as you create your video:

- Pre-production: All of the planning work that happens before you actually start recording.
- Production: All recording (filming and audio) as well as gathering any assets you are not recording yourself (such as stock footage).
- Post-production: Where the footage all comes together and is enhanced with video/audio editing to create the final product.

Pre-Production

Pre-production: Planning

Before anything is filmed, it is all planned out. Here is where you start with an idea: what is it that you want to do? You may write a script and/or create a storyboard to plan out your shoot.



Tip: Plan Ahead

It can be tempting, on smaller video projects, to skip the planning stage. You should always at least have a rough written outline or storyboard even on small projects. It can help you keep things organized and ensure that no shots get missed.

The planning stage is critical for setting your project up for success. By giving yourself a clear outline of what

you want to accomplish, you will have not only a clearer path to getting there, but also an understanding of what you will need to get there.

Consider: Planning your project

1. Do you need a specific filming location?
2. Do you have to track down music or other audio elements?
3. Are you going to be recording vocals?

All of these questions will help shape what your production phase looks like.

Likewise, your access to production elements like equipment, time, and location will need to be considered while you are still in the planning stage. It's all well and good to have an elaborate tree-top scene in your video project, but that won't mean much if you don't have safe access to a suitable location, or the equipment and training needed to capture it.

Pre-production: Techniques

Filming can be a daunting task, so here are some of the steps taken in the pre-production phase of a project:

1. **Finalize your script:** If you have any dialogue, here is where you can finalize it before planning out your shots. This can always change as you go, but you still need that starting point.
2. **Storyboard and shot list:** Here is where you begin to plan the visual interpretation of the script. The storyboard helps you lay out the script scene-by-scene, helping you decide what shots to use.
3. **Finding crew and location scouting:** So you have the visual guideline to your script, the next step is finding the right people and the locations. You may find that you need to tailor your shots to fit different locations.
4. **Gear:** Now that you have figured out your shots and locations, it's time to finalize what gear you need to make your project happen.
5. **Budget:** If your project is big enough to require one, here is where you need to finalize your budget and stick to it. Often, things will change and this is where you may need to find creative ways to achieve your goals while sticking to the budget.
6. **Casting:** Now, all there is left to do before you film is find the right actors to bring your script to life.

Normally, this is done by holding auditions.

Production

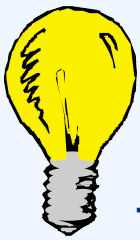
Lights, camera, action!



A cartoon of a video director sitting in a chair, with a megaphone, in front of a video camera.

Source: *Liberated Learners*, CC BY-NC 4.0

This is where the shoot actually happens and your plans from pre-production are fully realized. Here, you will be using your equipment to record the video and audio that you will then edit in post-production.



Tip: Be Picky with your Filming

It can be tempting to come into filming with the “I’ll fix it in post” mentality, where, if something in a shot is not the way you want it, you will just fix it in editing. It is MUCH EASIER to get things as close to perfect as possible while recording. You will always achieve better results by being picky with your filming.

Framing

Framing is a way for you as the filmmaker to convey your vision by guiding your audience with your shot. You can manipulate the composition, angles, and size of your shots to say something (without actually saying anything!).

The rule of thirds is a “rule of thumb” for composing/framing visuals. The guideline proposes that an image should be imagined as divided into a 3×3 grid, which equally divides the image into nine parts, and that the important elements should be placed along these lines or their intersections. Smartphone cameras usually have this feature, you may just need to turn it on.

Here are the most common types of shots and their uses:

Wide/Long Shot (WIDE)

This shot is usually used to establish a time or place for the audience. It can also be used to show where the character or object is positioned relative to the environment. The frame usually includes the whole body of the person, or may be a wide frame of the environment (e.g. the New York skyline).

Medium Shot (MED)

This shot is framed from the waist up, allowing the audience to see the character(s) more closely, but far enough to see their gestures and movement. This is a useful shot when more than one person is on screen.

Close-Up (CU)

This is usually framed from the neck upwards, and allows the audience to see the emotions and expressions on the character’s face. It is usually used to convey the emotion of a scene.

Extreme Close-Up (ECU)

Similar to the close-up, this shot is usually used to emphasize a particular object or area of interest. This is used to narrow the attention of the audience to a specific subject.

Lighting

Lighting is another element used in video making to convey the tone or vision of a scene. Lighting helps to really motivate a scene, complementary to framing. One of the most common ways to set up lights is by using 3-point lighting. This approach includes the following setup:

- **Key Light:** The main area of interest, usually off to one side of the camera.
- **Fill Light:** placed usually opposite to key light, it is used to “fill” in the shadows created by the key light by softening them.
- **Back Light:** Usually placed in the back, above the subject. This is used to separate the object of interest

from the background and to create more depth.

The 3-point setup is essential to achieving certain looks, but it does not have to be strictly followed. Here are some other common types of lighting and what they are used for:

- **Natural lighting:** As implied, this type of lighting that uses a natural light source or look (e.g. sunset, dawn). This is usually done using the lighting already available at location.
- **Practical lighting:** This type of lighting refers to sources of light that are on screen (e.g. a lamp, candle, fire). It is usually used in wide shots to create some depth-of-field.
- **Motivated lighting:** This is the type of lighting that uses studio lights to imitate natural light sources (e.g. moonlight, sunshine). This is done by diffusing or bouncing studio lights, and controlling the temperature (colour) of those lights.

A few short explainer videos about lighting:

- Using natural lighting (https://www.youtube.com/watch?v=AT_eHJ663kQ)
- One light (<https://www.youtube.com/watch?v=qLEqPCjNLYM>)
- 3-point lighting (<https://www.youtube.com/watch?v=EBGuQZo0g94>)

Sound

Sound is the audio element used in video creation that ties all the visuals together to finish the storytelling medium. Depending on the shot, you might want to give actors individual microphones to ensure that their voices can be heard. If you want narration, you'll record the audio separately and place it in the right spot during the editing phase.

While you can create your own sound effects, it's usually easier to find free ones in a sound library. The University of Washington has a guide to open sound libraries (<https://guides.lib.uw.edu/research/openresources/music>) that you might find helpful. Double check any free content to see if attribution is required, before using.

Screen-casting

One of the most popular (and easiest) video formats to create is the screencast or stream. Basically, you are recording your screen and narrating what's on screen. Using a webcam is optional. The same three stages apply, as it's good to have a plan before you begin, and you'll need to edit the video to create something polished. But when it comes to the production, you don't need a studio or cameras – just your computer.

Watch Screencasting – Make a Video in Under 3 mins (2 mins) on YouTube
(<https://youtu.be/-9WqzvByE04>)

Links from the video:

- Screencastify (<https://www.screencastify.com/>)
- Audacity (<https://www.audacityteam.org/>)
- OBS Studio (<https://obsproject.com/>)
- Videopad Editor (<https://www.nchsoftware.com/videopad/index.html>)

***Note:** These are only suggestions, and not the only options available. For audio and video editing, other suggestions can be found in this module. For screen casting, there are many options out there. If you're unsure, reach out to your library and see if they have any suggestions or resources available.*

Post-Production

Post-production is where it all comes together. You have your plan, all of your raw footage and audio, and now it's time to put it all together in video editing software.

What is editing? It is the ability to take footage and tell a visual story by manipulating elements of the footage and audio.

The Language of Editing

Here are some terms to familiarize yourself with before you begin to edit:

- **Cut:** This refers to the clean transition from one clip into another.
- **Continuity Editing:** A type of edit where different shots are cut together to create an uninterrupted flow. This is usually done with multiple-angle shots of the same action. This type of cutting seeks to maintain a continuous sense of time and space.
- **Dissolve:** A type of transition where the end of one shot overlaps with the beginning of the next, creating a gradual fade. Note: Dissolve is the proper term used for fading between 2 shots. Fade is the proper term for another kind of transition, see below.
- **Fade:** A transition where there is gradual brightening or gradual change into a color at either the beginning or ending of a shot. This is usually used to establish a new time and place.
- **Jump Cut:** A sudden cut that creates lack of continuity in a sequence by ruining the flow. Often it can

be seen as a mistake in editing, but if used with purpose, can be used to disorient the audience.

- **Cutaway:** A cut that interrupts the flow of a sequence with another shot that is, in principle, related to it.
- **Split edit:** This is when the visual and the audio of a scene cut at different times during the transition from one shot to another.

Video Editing Functions

There are many elements that can be manipulated in editing for a desired effect, here are some of the things you can play with:

- **Exposure:** This is how bright or dark footage is.
- **Colour:** This could be the shades, or hues you perceive, along with the temperature (warm/cold).
- **FPS:** Frames Per Second. Certain frame rates will make desired effects easier to pull off. For example, if you record at 60FPS and then slow it down to 30FPS, you will get a much smoother slow-mo, because there are more frames to work with. The higher the frame rate, the more frames there are per second.
- **Opacity:** This measures how transparent an image is. You can transition from one scene to another with a dissolve.

Editing Audio

It is important when in pre-production (planning) to have a rough idea of what sounds you think will go best with the visuals you have planned. That makes it easier to tie it all together in the end, audio-wise.

Have an idea of where you can get the audio from. The cool thing about audio is it's literally all around us and can be pulled from any source, whether naturally (natural sound), stock audio (pre-recorded audio from an audio database), or audio that you create using your own sound effects.

When creating video, it is important to note that audio is added in post-production (editing). Once you have the audio you need, ensure when in post-production that it is in its own track, that way it runs parallel to whatever visual you've chosen and won't overlap with anything else. No matter the software you choose, the principles of editing are the same: if you learn one you can learn them all. The differences will be in commands and layout.

Putting it all together

Here are some software tools that are free and available for most computer systems, and some for your phone:

Davinci Resolve

Davinci Resolve (<https://www.blackmagicdesign.com/products/davinciresolve/>)

- Great free video editor for advanced editors.
- Powerful enough to handle high resolution video formats like H.264 and RAW.
- Is used by industry professionals as well.
- Has more complex features like facial recognition and effects.
- Tutorials (<https://www.youtube.com/user/CaseyFaris777/featured>)

Lightworks

Lightworks (<https://www.lwks.com/>)

- Intuitive interface, great for beginners.
- Offers a collection of detailed tutorials.
- Comes with a suite of stock footage and stock music to use.
- Quick export presets optimized for social media.
- Tutorials (https://www.youtube.com/channel/UCPJ_XP8jRi8ug4rsV2CdgEg)

OpenShot

OpenShot (<https://www.openshot.org/>)

- Easy to use interface that is great for beginners.
- Customizable title-card templates.
- Unlimited layers for video and audio.
- Powerful key-frame animation capabilities for creating animated videos.
- Quick export presets optimized for social media.

VideoPad

VideoPad (<https://www.nchsoftware.com/videopad/index.html>)

- Simplified layout, one of the best options for beginners.
- Pre-made, customizable transitions.
- Large library of video transitions and visual effects to customize videos.
- Tutorials

HitFilm Express

HitFilm Express (<https://fxhome.com/product/hitfilm-express>)

- One of the best all-in-one free video editors available.
- An auto-stabilizer to make shaky footage look smooth.
- Audio mixer for fine tuning sound for professional quality output.
- Ability to copy a group of attributes from one clip and apply them directly to another or to a whole project.
- Tutorials

Shotcut

Shotcut (<https://www.shotcut.org/>)

- An open-source, cross-platform video editor.
- Includes a vast collection of tutorial videos.
- Supports a variety of large formats, including 4K, ProRes, DNxHD, etc.
- Has advanced audio filters like balance, bass and treble, compressor, and more.

WeVideo

WeVideo (<https://www.wevideo.com/>)

- A cloud-based online video editor that can be accessed from anywhere as long as there is an internet connection.
- Stock library with images, videos, and music.
- Ability to export videos in 4K resolution.
- Easy to create branded templates with a logo, making it great for businesses.
- Unlimited cloud storage.
- The free version contains watermarks.

Video editing apps for your phone:

Video editing apps on phones by nature will be far more limited than anything that can be used on a computer. Most free versions of these apps come with a watermark. All common mobile devices have a built-in editor. Most social media apps allow you to edit uploaded footage and re-download the edit.

Dig Deeper

Some ideas for where to find some more stuff for your videos.

Where to Source Free Stock Footage

While free to use content may be available on these sites, you are responsible for checking the terms of use and / or licensing requirements. You may be required to provide attribution, reference, or other credit in order to satisfy the licensing requirements for the free content. For more information, see the Openly Licensed, Public Domain, and Free to Use section of Chapter 10.

- Mixkit.co (<https://mixkit.co/>)
- Pexels (<https://www.pexels.com/>)
- Pixabay (<https://pixabay.com/>)
- Videovo (<https://www.videvo.net/>)
- Splitshire (<https://www.splitshire.com/category/video/>)
- Videezy (<https://www.videezy.com/>)

Where to Source Free Music/Sound Effects

While free to use content may be available on these sites, you are responsible for checking the terms of use and / or licensing requirements. You may be required to provide attribution, reference, or other credit in order to satisfy the licensing requirements for the free content. For more information, see the Openly Licensed, Public Domain, and Free to Use section of Chapter 10.

- Mixkit.co (<https://mixkit.co/>)
- Freesound (<https://freesound.org/>) (must create account but free)
- Free music archive (<https://freemusicarchive.org/>)

An Example

See an example storyboard for a video here. (link will open in a new tab) (<https://drive.google.com/>)

file/d/1bykDVxEoOAV6nIFYyz0kFOCCWds5PzjA/view?usp=sharing)

Attribution & References

Except where otherwise noted, this page is adapted from Video Production In *Liberated Learners* by Terry Greene et al., CC BY-NC 4.0 . / Streamlined content, removed extra activities and some graphics specific to original text.

6.3 VIDEO EDITING

A Guide to Video Editing

Thanks to video sharing platforms, it is easier than ever to share videos over the internet. But how do you actually create a video?



A black and white photo shows a laptop set up, with video editing software displayed on the external monitor. **Source:** Image by Amar Preciado, Pexels license.

If you're making a viral 10 second video of your cat, then you can just pick up your phone, hit record, and then upload the video to the site of your choosing. However, you might want to cut together a *few* videos of your cat, and maybe put some explanations between the recorded footage about how your cat is technically able to make those impressive leaps.

This page explores approaches to working with digital video, starting by noting how many of the principles that apply to image and audio editing also apply here. We'll also consider technical aspects like frame rate and resolution.

When making a video, you'll want to plan out your approach. You'll need to create or find different media, and then edit them together in a video editing tool before exporting your finished film to an appropriate filetype and generating subtitles.

Along with all of this, you can review Video Editing 101 video (<https://subjectguides.york.ac.uk/media/video#s-lg-box-wrapper-19165226>) to go over the essentials and the slide decks for two topics, Introduction to filmmaking and Video editing skills, which will take you through the key considerations and tips for choosing and using the right tools.

Haven't we seen this somewhere before?

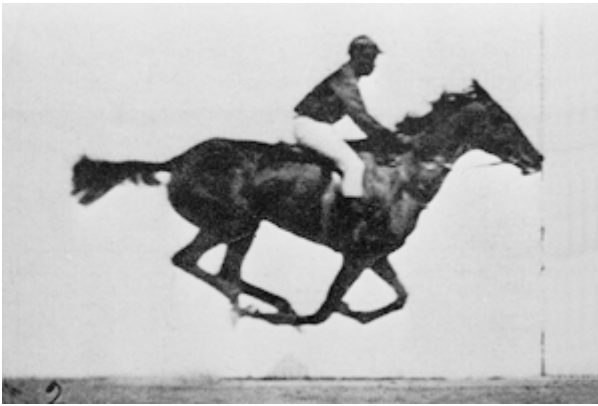
Video may generally be thought of as a series of still images arranged together, one after the other, to give the illusion of movement. This is literally true of something like film where a string of photographic images are displayed in quick succession.

Digital video follows a similar model, but with raster images rather than celluloid. As such, most of the content on our section about images will be very relevant, albeit with the added dimension of time.

Since video is usually accompanied by audio too, and since a lot of the principles of digital audio extend to digital video, we'd also suggest taking a look at the audio page.

Frame rate

Frame rate is the speed at which one still image replaces another on the screen. The higher the frame rate, the smoother the illusory movement will appear.



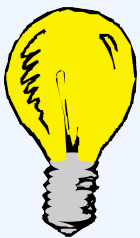
Galloping horse, animated using photos by Eadweard Muybridge. **Source:** Animated gif. Photos taken by Eadweard Muybridge, animated by Waugsberg, PDM

This animated gif is made up of 15 still images (numbered 2-16) animating at 10 frames per second (10 fps or 10 Hz). Most cinema film animates at 24 fps (24 Hz): that's sufficient to trick the eye for most humans, but you'll often see higher frame rates than that.

Most digital video, like film, uses 'progressive scan' (https://en.wikipedia.org/wiki/Progressive_scan): a posh way of saying that one still image appears after another.

The most common framerate in digital recording is 30fps: **30p** (where the 'p' stands for 'progressive scan'). That's because it's aligned to what American television does (but more of that below). If you're wanting to keep

file sizes down, you should be able to get away with **25p**, or even as low as **10p** if you're just recording a desktop application on a computer screen.

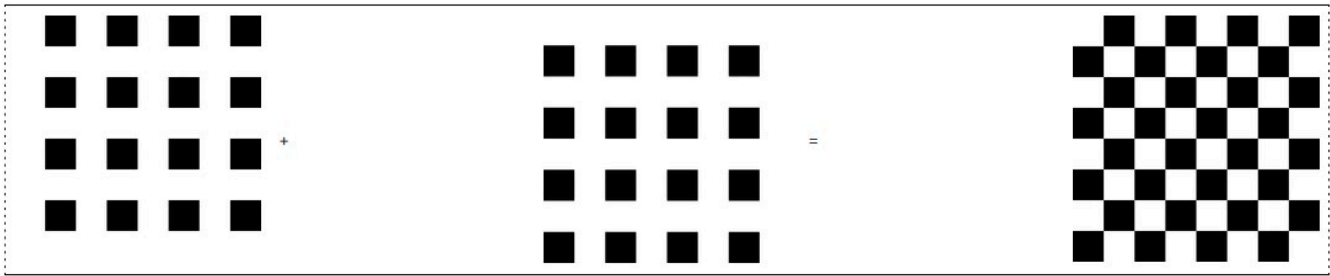


Tip: Framerates

The lower your framerate, the smaller your video file, but too low and your video will look jerky.

Interlace

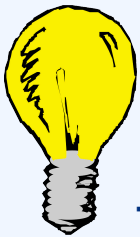
Unlike film, television (even digital television) typically uses a technique called 'interlace' (https://en.wikipedia.org/wiki/Interlaced_video): the odd-numbered rows of an image get sent first, and then the even-numbered rows (it's a process derived from how cathode ray tubes scanned the image, back when television used cathode ray tubes, but that's not important right now). Take this chess-board for instance:



Odd-numbered rows of chess board squares plus even-numbered rows (in quick succession) gives the illusion of all rows. **Source:** *A practical guide to media editing* by University of York, CC BY-NC-SA 4.0.

If you see an ‘interlace’ setting, that’s what it does: It fillets your frames to half their size and interweaves them. This is great if your image is still but can be messy if things are moving about. If you ever work with television footage you’ll have to worry about something called deinterlacing (<http://www.avwoman.co.uk/aview/ivan/signal/digi6.html>) which can prove to be a bit of a nightmare.

PAL television (the standard in the UK) uses 25fps (25Hz) but those 25 frames are interlaced meaning that you actually get an (albeit half-resolution) image 50 times per second: what’s referred to as **50i** (where the “i” stands for “interlaced”). NTSC television (the American standard) works the same but at 30/50 fps: **60i**. That’s why **30p** is the predominant framerate for digital video.



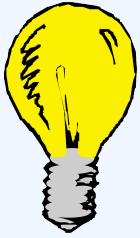
Tip: Interlacing

Interlacing will reduce your file size by playing tricks with the vertical resolution, but that might create distortions if there’s a lot of movement in your video.

Groups of pictures

Not every frame of a digital video is necessarily a full image in its own right. The vast majority of digital video formats utilise something called Group of Pictures (https://en.wikipedia.org/wiki/Group_of_pictures) (GOP) – sometimes referred to as key frame distance. At its simplest, this works rather like JPEG compression, but in a third dimension: one frame of video (a “key frame” or “I-frame”) is an actual image, and the next few frames are rendered from that reference image using maths. The larger the GOP, the greater the risk of distortion artifacts. This is why flocks of birds tend to look rubbish on digital television, and why it

takes a while for the picture to appear when you change channels (the television needs to wait for the next I-frame before it can show anything). A GOP that's twice the framerate (in other words, one I-frame every two seconds) tends to be standard. So if your framerate is 30fps, you'd want a key frame every 60 frames. But that's just a guide, and if the content of your frame doesn't change that much, you can afford a much longer gap.



Tip: Key Frame Distance

The larger your GOP / key frame distance, the smaller your video file, but you'll get more distortion the bigger you go, and you'll also not be able to fast-forward as precisely.

Resolution and aspect ratio

As with digital images, size matters. But video has a very different history to that of the still image: a history wrapped up with that of television broadcasting. While a still image can be pretty much any size you like (within reason), there are certain standards to be aware of in video, and a whole new set of terminology for describing them.

Then there's the fact that video resolution is usually expressed solely in terms of its height...

YouTube supports a range of standard sizes of video: **240p**, **360p**, **480p** (equivalent to American standard definition TV), **720p**, **1080p** (equivalent to UK high definition TV), **1440p** (also known as 2k), **2160p** (4K ultra high definition – digital cinema standard), and **4320p** (8k) — the 'p' refers to the 'progressive scan' method we mentioned above. In each case the value is the height of the picture in pixels.

Most monitors on campus (at the time of writing, at least) are 1920x1080px, which is also the most common monitor size more generally (again at the time of writing), so making videos at a higher resolution than 1080p is a waste of time unless you're going for a theatrical release. But even 1080p will probably be excessive. A lot depends on the content of the video and what equipment your audience might be using to view it. After all, the higher the resolution the larger the file — some devices might struggle with high definition video content, and mobile devices are potentially going to be wasting their data on whatever you're sharing.

That said, YouTube and Google let you choose a lower playback resolution than the original file, so the more prestigious your video, the higher you'll want to set the resolution for the file you're uploading. Still, the time's you'll need to go beyond 1080p will likely be few and far between.

So what about width? — aspect ratios

It's complicated, and tied up with ratios... **4:3** (four units wide by three units tall) is the old television ratio but has now largely fallen out of use, having been replaced by **16:9** which is the standard widescreen TV ratio. 16:9 is also the most common ratio for a computer monitor, as well as being the ratio favoured by YouTube.

But those are just the two most common ratios, and the history of film is littered with others. The width of a 4:3 video should be $1.33... \times$ its height, while for 16:9 it should be $1.77... \times$ its height:

4:3

16:9

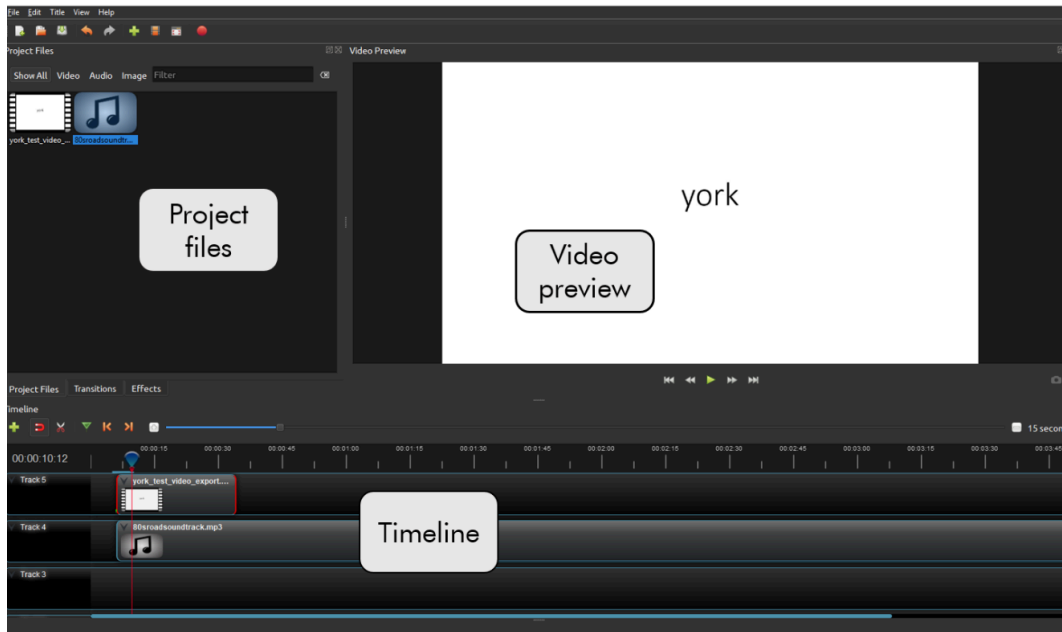
Standard definition (SD) television has a height of **576** pixels in Europe (PAL) or **480** pixels in America (NTSC). The number of pixels making up the width is not the same as the number of pixels you see on your screen: on Freeview (the UK's main SD TV platform) it can be anything from 544px to 720px which then gets stretched to 768px for 4:3 and 1024px for 16:9 (widescreen).

High definition (HD) TV comes in two flavours: **720px** height, or **1080px** height (sometimes called FHD). Widths of 960 and 1440 have been common for 1080 broadcasts, though a full-width 1920px is increasingly seen as standard.

Then there's Ultra High Definition (UHD), also known as 4K (confusingly a reference to its width!). 4K is **2160px** high (twice that of HD). It's 3840px wide (a natural 16:9), or 4096px wide in cinemas (hence the 4K). Videos of this size require a lot of processing so can be difficult to run on older devices. But a modern phone may well be able to record at that scale, so pay attention to your settings.

A typical video editor

Most video editing software follows the same basic layout conventions, though some programs will have more options and control panels than others. Here's a typical example:



OpenShot's default layout is fairly typical of most video editors, with a screen divided into sections showing the main video, a section for assets/project files, and a section for timeline/editing.

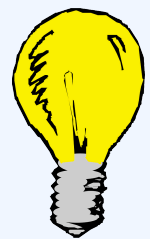
Source: © OpenShot, captured for *A practical guide to media editing* by University of York, CC BY-NC-SA 4.0.

As well as the main features outlined below, there will be some options (either at the top or in a File menu) for modifying your project's settings and for exporting your video into a final format. There also tends to be a range of mysterious buttons and options — hover over these to see a tooltip about what they do, or open a test project and try them out!

Most video editing tools will have built-in help from a menu, and may also have a walkthrough when you first open the application. Searching online for the name of the tool and what you're trying to do can also be a good way to find help, particularly as there may be multiple methods of achieving the same result.

Tip: Confirming Settings

You may be asked to confirm the settings of your new *project* when you first open your video editor. You can generally go with the defaults, but you might want to modify certain settings if you've got a particular end in mind (for instance, if you're going to need a higher resolution).



Let's take a closer look at those typical main areas of the workspace:

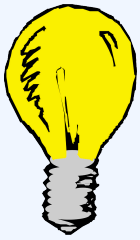
Project files (assets)

To edit together a video, you need '**assets**' — the media files you will be using in your video. Your assets might

just consist of a single video file you've recorded. But you could also import multiple video files, audio files or image files. It's generally a good ideal to store all of your assets in a single folder and to give them sensible names.

If your assets are in common filetypes you should be able to import them into a video editing tool. There's usually a section for assets somewhere to the left of the screen. Be sure to check that any images and video are of an appropriate resolution for the video you're wanting to create (about the same as your frame size or bigger).

Once you've imported your assets you can drag them onto the **timeline** to add them to the video you're creating.



Tip: Timeline

Anything you do on the timeline is only happening on the timeline — the underlying assets are unaffected. If you chop the end off of a video clip in the timeline, the end will still be there in the original asset.

Timeline

The **timeline** is the main part of your workspace: it's where you compile and arrange the various parts of your video.

You can add an asset to your timeline by just dragging it into place. Often added items will 'jump' to the end of the timeline, but you can then reposition them to start at a specific **timecode** along your timeline. An item on a timeline is generally known as a **clip**. How fine you can position a clip will depend upon your framerate, so typically it will be to something like a 25th or a 30th of a second. Clips may 'snap' to other clips, but you can generally control this behaviour in the settings or perhaps avoid it by zooming further into your timeline.

Tracks

The timeline consists of multiple **tracks** which follow a **layer** principle whereby video (and image) items on tracks at the top of the timeline will cover up items on tracks lower down — you can have multiple tracks running at the same time, but only one of them can be visible on the screen.

You can add more than one item to the same track, but be careful of overlapping them in the same track — it might cause strange things to happen.

If you add an image to the timeline it will be converted into a video clip with default play length

(sometimes ten seconds) which you can then modify (usually from a right-click context menu or by dragging the right-hand edge of the clip to the duration you want).

Audio may be separated from a video file and run as its own track. This can give you a bit more control over the sound of your video. Audio tracks can often be edited using the sort of techniques we looked at in the audio section, and a lot of the conventions of multitrack editing apply here too.

Video preview

The **preview** area is where you get to see how your video is actually looking at a given point along the timeline. There will usually be a traditional set of video playback controls here, but you can also use the **playhead** marker on the timeline to adjust the playback position.

Editing video

Having got your assets into your timeline, you'll probably want to do something with them.

Let's take a look at some basics:

Trimming and splitting

Just as with cutting and pasting in text, the language we use around video editing dates back to analogue days when film would literally be **trimmed** or **clipped** (with scissors) to a certain length (measured in feet, hence **footage**).

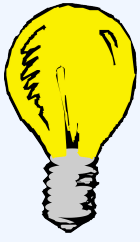
Just as with analogue film, the digital clips you add to your timeline might be too long, or they might need cutting into pieces and rearranging. Typically you'll want to trim the start and end to remove unnecessary footage. To trim, you usually hover over one end of the clip until your cursor changes, then click and drag the cursor inwards to remove the start or end.

To split a clip, you typically need to use the playhead — the marker on the timeline that shows the current point that is being played. Move this to the point you want to split the clip (using the video preview to help you know where you're at in the video), then there should be a scissors icon or 'Split' button you can use to split the clip at that point. You can then move around the separated clips (including onto separate tracks) or delete unnecessary parts.



Tip: Zoom

Use the Zoom controls on the timeline if you need more precise trimming.



Tip: Undo

Undo (CTRL + Z) will be your friend. You'll probably have to use it quite a lot as you get used to the drag and drop interface and ways of trimming and splitting clips.

Transitions and effects

A **transition** is a visual effect that joins together two clips — for example a dissolve ([https://en.wikipedia.org/wiki/Dissolve_\(filmmaking\)](https://en.wikipedia.org/wiki/Dissolve_(filmmaking))) or a wipe ([https://en.wikipedia.org/wiki/Wipe_\(transition\)](https://en.wikipedia.org/wiki/Wipe_(transition))).

A dissolve transition mixes between two clips.

You may want to add transitions between different clips, or between images and clips. You can even add special **effects** over a clip. Most video editors will have a selection of built-in transitions and effects, but you'll probably want to use these sparingly unless you're wanting something that looks like a cheap 1980s pop video — you don't want to distract from your message and content.

To use a transition or effect, drag it onto the timeline over the relevant clip. You can then usually modify the properties of that effect to suit exactly what it is you want it to do.

Adding text

You could import an image or video with text on it, but most video editors also have built-in options for adding text. Text can be added over clips or over a blank background, for example for credits (and if you've used any third-party materials then you'll probably want to provide some credits). Locate the text options in your tool then drag onto the timeline. You may edit the text in the video preview pane or when you insert it. You might need to use different tracks to get the text to appear exactly as you want, such as an overlay.

Be careful about how much text you add, and make sure you use an appropriately sized font so your audience can read it.

Saving, exporting, and sharing your video

Video editing requires a lot of your computer. Video files can be very big, so working with a lot of media at high resolutions will be a big drain on your computer's memory and resources. Unless you have a particularly flashy computer, be prepared for video editing to take time.

Because video editing is so resource intensive, there's a higher than average likelihood of your program crashing, so we'd suggest saving your project regularly. Whenever you're happy with an edit you've made, hit

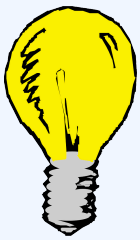
the save button, and if you've made a significant change you might even want to save as a new project file, just so you can go back to the earlier state of things if you change your mind.

Exporting your video

Once you've edited your video together, it will need to be exported from the video editing tool into a single video file. There will be an **Export** (or **Share**) option, probably in the File menu or as its own button. You'll be faced with a number of settings determining the kind of file you want to export, as well as its name and where you want to save it to.

Many video editors will give guidance around what each format is best for what use, and there may be some ready-made profiles you can use. For general use, **MPEG-4 / H.264 / .mp4** are typically what you might want for a video you want to share or upload to a website. There will also be different quality options, and these will affect file size: higher quality videos can be very large files, so you might need to compromise quality in order to have a video that isn't taking up obscene amounts of disc space, especially if you need to upload it to the internet. Take a look at our technical advice at the top of the page for a look at the various settings you're likely to encounter.

Once you've chosen your format, there'll be a button to select to start your export. It may take quite a while, depending on your video length and the encoding quality — the software will have to go through your entire video to create the file, so exporting might even take as long as if you were playing back your video from beginning to end; it may even take a lot longer!



Tip: Exporting

Exporting a video might require a lot of your computer, so you're probably best leaving it alone for a while rather than trying to do something else on it at the same time. Go and get a cuppa and a good book.

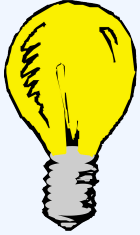
Take a look at your exported video when it's finished exporting. You might find that you need to try some different export options. I'll put the kettle on, shall I?

Uploading and sharing a video

If you're wanting to share your video on the internet in some way, you're going to have to upload it. As we've said a few times now, videos are usually pretty big files, so uploading is going to take some time. It's going to

be a lot quicker on the campus network where we have much higher upload speeds than you're likely to get on a home connection.

Given that uploading can be a slow process, this is another reason to ensure that you're being as efficient as your use-case demands when exporting your video.



Tip: Uploading

Be prepared to have to step away from the computer again while your video uploads. If you're uploading from home, you're probably going to need another book!

Be sure to check the online copy of your video once it's uploaded. It may take a while for whoever is hosting the video to process it before you can watch it. So be prepared to have to do *even more* waiting...

Videos uploaded to your **Google Drive**, or to a **YouTube** account will each have specific sharing permissions, that you can customize.

Subtitling

Subtitles are blocks of transcribed text that appear at the bottom of a video. Whether you're deaf, struggling with an accent, watching the video in a distracting environment, or just don't have the sound on, subtitles allow you to read the speech and sound of the video.

Containers and codecs

Video files (https://en.wikipedia.org/wiki/Video_file_format) contain both video and audio data, so a lot of video filetypes are quite relaxed about how that data is encoded so long as they're wrapped up in a way that's recognisable: they're basically 'containers' (https://en.wikipedia.org/wiki/Digital_container_format) for different types of encoded video and audio which are then decoded by a coder-decoder ('codec' (<https://en.wikipedia.org/wiki/Codec>)) program.

Encoding digital videos can therefore be a bit confusing: there are a lot of options, and a lot of codecs to choose from (not all of which are widely installed on people's computers). So what video format should you choose?

H.264

By far the most common video format, H.264 (also known as Advanced Video Coding (AVC)) uses lossy compression that works in a similar sort of way to that of JPEGs and MP3s. It's used in Blu-Ray discs, on most streaming platforms, and in an increasing amount of digital television broadcasting. It's mostly used with the **.mp4** container.

Other formats

There are a range of other formats and codecs to choose from, some of which have more adoption than others. Most formats can be played using VLC Media Player.

Sourcing video

Always bear in mind that published video is always subject to copyright law, so you can't just use any sound you want.

Consider: Checking guidelines for videos

When creating videos for a particular purpose, you will often have guidelines or advice you will need to follow. Check this from the start, so you know if it affects your planning, filming, or editing. If you're creating a video for an assessment, check how long it needs to be and how you need to submit it.

1. What guidelines will you need to follow for video projects at school?
2. What guidelines might be applicable if you're creating a video for work purposes?

Attribution & References

Except where otherwise noted, this page was adapted from "Video" In *A practical guide to media editing* by

University of York, CC BY-NC-SA 4.0. / Adaptations: removed links to University of York specific resources, cleaned up formatting, streamlined.

6.4 EXPLORE, PRACTICE AND APPLY

Overview: Explore, Practice and Apply

Activities found on this page are designed to provide opportunities to explore, practice, and apply concepts presented in chapter 6.

Explore

Explore Activity 1

Review the list of weblinks found in this section. These tools assist locating stock footage. Choose any of the three links to explore further. Select a topic. Use this topic to locate stock footage (video) that you would include in a multimedia presentation on the topic selected. Note: While free to use content may be available on these sites, you are responsible for checking the terms of use and / or licensing requirements. You may be required to provide attribution, reference, or other credit in order to satisfy the licensing requirements for the free content. For more information, see the Openly Licensed, Public Domain, and Free to Use section of Chapter 10.

- Mixkit.co (<https://mixkit.co/>)
- Pexels (<https://www.pexels.com/>)
- Pixabay (<https://pixabay.com/>)
- Videovo (<https://www.videvo.net/>)
- Splitshire (<https://www.splitshire.com/category/video/>)
- Videezy (<https://www.videezy.com/>)
- Coverr.co (<https://coverr.co/stock-video-footage>)

Explore Activity 2

Explore video communication breakdown. Pick any video you like (could be a YouTube ad, tutorial, or even a fun viral clip). Write a few sentences about how the video uses visuals and sounds to get its message across. Is it engaging? How do the visuals and sounds help keep you interested?

Explore Activity 3

Explore video production stages. Ever wondered what goes into making a video? Let's break it down. Make a simple flowchart of the video production process. From coming up with an idea to editing the footage, write down the major steps involved

Practice

Practice Activity 1

Locate or obtain a video clip. Using a video editing program available conduct the following steps:

- Explore how to import the video clip
- Import the video clip
- Select a portion of the video to trim and trim it
- Add background music to the video clip
- Export the newly edited video clip

Remember, you may need to provide credit or attribution for the video clip you use. For more information, see the Openly Licensed, Public Domain, and Free to Use section of Chapter 10.

Practice Activity 2

Tech tools roundup. Check out some tools you can use for video production—there are tons out

there! Pick 3 tools for making or editing videos (like iMovie, Adobe Premiere, or Canva), and list what makes them awesome and what they're best used for.

Apply

Apply Activity 1

Create a short video. Time to try your hand at making a video! Pick any topic that interests you. Using any video tool (there are lots of free ones), make a 30-60 second video. Keep it simple but focus on making the visuals and audio work well together. When you're done, think about what went well and what could've been better.

Apply Activity 2

Working in a group. Create a short promotional video for a fictional product or event. You can create this using your phone as well as locating pre-existing media available. Document the following steps:

Brainstorming and Planning:

- Brainstorms ideas for a fictional product or event to promote.
- Create an outline the key parts of the video

Scriptwriting:

- Compose a brief script for the promotional video, including dialogue, voiceovers, and key actions.

Filming:

- Record video footage or locate footage to edit

Editing:

- Import the recorded footage into the video editing software
- Arrange the clips on the timeline to create a coherent sequence.
- Add transitions, text overlays, and effects as needed
- Incorporate background music and sound effects to enhance the video.

Present your production to your class or another group in the class for feedback or submit for evaluation.

Attribution & References

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6.5 KEY CHAPTER TERMS

Chapter 6 Terms

Aspect ratio:

The proportional relationship between the width of a video image compared to its height (Homes, 2023, para. 1).

Assets:

Media files to be used in a video.

Cutaway:

An editing term for a cut that interrupts the flow of a sequence with another shot that is related to it.

Dissolve:

An editing term for a transition where the end of one shot overlaps with the beginning of the next, creating a gradual fade.

Exposure:

How bright or dark footage is.

Fade:

An editing term for a transition where there is a gradual brightening or gradual change into a color at either the beginning or ending of a shot.

Framing:

Manipulation of a shot in order to convey a vision to the audience.

Interlace:

A technique television uses to display its image where odd numbers of a row get sent first, and then even numbers.

Opacity:

How transparent an image is.

Resolution:

The number of pixels contained in each frame (Leonard & Kurniawan, n.d., para. 1)

Screen casting:

A video format where the filmmaker records their computer screen and narrates over it.

Split edit:

An editing term for when the visual and audio of a scene cut at different times during the transition from one shot to another.

Timeline:

Where parts of a video are compiled and arranged.

Tracks:

Layers in the timeline where media can be placed.

Transitions:

A visual effect that joins together two clips.

Attribution & References

Except where otherwise noted, Terms and definitions are adapted from the pages and original sources cited within chapter 6, CC BY-NC 4.0.

References for terms from outside sources

Holmes, T. (2023, January 4). What is Aspect Ratio? <https://wistia.com/learn/production/what-is-aspect-ratio>

Leonard, M., & Kurniawan, M. (n.d). A beginner's guide to video resolution. <https://www.adobe.com/ca/creativecloud/video/discover/video-resolution.html>

Transitions

CHAPTER 7 COMMUNICATION STRATEGIES FOR MULTIMEDIA PROJECTS

Multimedia Communications by Marie Rutherford

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Please visit the web version of Multimedia Communications (<https://ecampusontario.pressbooks.pub/multimediacomm/>) to access the complete book, interactive activities and ancillary resources.

Learning Outcomes

- Explore professional writing within the context of multimedia communications
- Outline the effective use of visual storytelling as a communication strategy
- Explore, practice, and apply effective communication strategies
- Identify key terms related to effective communication in a multimedia presentation

Writing and Multimedia Communications

Combining multiple media formats like text, audio, images, animation, and video to convey information and boost communication and collaboration across diverse contexts like education, entertainment, business, marketing, and social interaction is often the goal of a multimedia presentation. When developing a multimedia presentation it is critical to consider the communication strategy. A communication strategy encompasses a plan that outlines how the multimedia presentation will communicate with its target audience. Additionally, the communication strategy will recognize the needs of the audience and tailor the communication to address these needs.

It's essential to examine the role of writing in multimedia presentations. Words serves as a guide, providing relevant information and reinforcing messages conveyed through other media included in the presentation. Carefully constructed words helps to clarify complex information and helps to ensure the audience has an understanding of the presentation.

Some recommended practices for communication in a presentation include:

- Keep the words concise
- Aim for clarity
- Use writing to enhance
- Be selective, less is more

This chapter will examine writing techniques, provide writing examples, and share recommended practices for multimedia presentations.

Chapter Organization and Preview

- Communicating with Precision
- Recommended Practices for Digital Writing
- Explore, Practice and Apply
- Key Chapter Terms

Attribution & References

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7.1 COMMUNICATING WITH PRECISION

Introduction

Two key characteristics of professional communication are that it is precise and concise. This precision and concision must be evident at all levels, from the overall document, to paragraphing, to sentence structure to word choice, and even to punctuation. Every word or phrase should have a distinct and useful purpose. If it doesn't, cut it or revise.

The 7 Cs of Professional Writing

A priority list of the 7 Cs (Zicari & Hildemann, 2019).

1. **Clear:** Plan ahead! Know your purpose and convey your ideas in a unified manner.
2. **Coherent:** Organize your thoughts in a logical, structured progression.
3. **Concise:** Budget your words wisely; ensure your writing contains only what's necessary.
4. **Concrete:** Use specific and precise language, use measurable descriptors, and avoid vague language.
5. **Correct:** Adhere to proper grammar, punctuation, and document structure.
6. **Complete:** Give all the important information and answer all relevant questions.
7. **Courteous:** Format so that the document is easy to read. Use appropriate and tactful language.

Be mindful of the tradeoffs, and always give priority to being **clear**: Writing that lacks clarity cannot be understood and therefore cannot achieve its purpose. Writing that adheres to the 7 Cs helps to establish your **credibility** as a business professional.

Consider the effect of clear writing on your credibility

Try revising the following phrases to improve the clarity of the writing

Consider the effect of clear writing on your credibility (text version)

Identify the words in the following sentence that require greater clarity, and attempt to rewrite the sentence to be more clear.

1. We spent several hours in there trying different machine settings and techniques.
2. Several good parts were molded using two different sheet thicknesses.
3. Our latest attempt at molding preform protectors led to some positive results.

Check your answer in footnote¹

Activity source: *Communication Essentials for Business*, CC BY 4.0.

Revise for clarity

Try revising the following memo so that it adheres to the 7 Cs; make it clear, coherent, concrete and concise, while also being complete, courteous and correct.

MEMO

When workloads increase to a level requiring hours in excess of an employee's regular duty assignment, and when such work is estimated to require a full shift of eight (8) hours or more on two (2) or more consecutive days, even though unscheduled days intervene, an employee's tour of duty shall be altered so as to include the hours when such work must be done, unless an adverse impact would result from such employee's absence from his previously scheduled assignment.

Sentence Variety and Length

While variety makes for interesting writing, too much of it can also reduce clarity and precision. Business writing tends to use simple sentence structures more often than the other types. That said, simple does not necessarily mean "simplistic," short, or lacking in density. Remember that in grammatical terms, simple just

means that it has one main clause (one subject and one predicate). You can still convey quite a bit of concrete information in a simple sentence.

The other consideration for precise writing is length. Your sentences should vary in length just as they can vary in type. However, avoid having too many long sentences because they take longer to read and are often more complex, which is appropriate in academic writing but less so in business writing. The goal is to aim for an average of around 20 to 30 words per sentence. Reserve the short sentences for main points, and use longer sentences for supporting points that clarify or explain relationships. If you feel the sentence is too long, break it into two sentences. You don't want your reader to have to read a sentence twice to understand it. If you make compound or complex sentences, ensure that you use appropriate coordinating or subordinating strategies to make the relationship between clauses perfectly clear.

Precise Wording

Business writing is precise writing. Vague, overly general, hyperbolic or subjective/ambiguous terms are simply not appropriate in this genre. You do not want to choose words and phrasing that could be interpreted in more than one way. For example, if you asked someone to define what makes a “good dog,” you might get responses like “obedient, effective hunter/retriever, well-behaved, affectionate, loyal, therapeutic, goofy” and “all dogs are good!” Choose words that most precisely, concisely, and accurately convey the idea you want to convey. Below are some guidelines and examples to follow for using precise wording.

1. Replace abstract nouns with verbs.

Verbs, more than nouns, help convey ideas concisely, so where possible, avoid using nouns derived from verbs. Often these abstract nouns end in *-tion* and *-ment*. See examples in the following chart.

Chart: Abstract Nouns & Their Verbs

Abstract Noun	Verb
acquisition	acquire
analysis	analyze
recommendation	recommend
observation	observe
application	apply
confirmation	confirm
development	develop
ability	able, can
assessment	assess

For example, change the noun into a verb as follows:

Instead of: The inspector made the recommendation for the secure disposal of sensitive documents.

Use: The inspector **recommended** the secure disposal of sensitive documents.

The second sentence is clearer and more concise than the first.

Consider the use of Nouns

Consider the use of nouns (text version)

Review the following sentences. Then, identify the word or phrase containing the normalized noun. Try to rewrite each sentence to be more direct.

1. Your team was asked to investigate the sewer system.
2. Please place an order for several loads of cleaning fluid
3. The client and our company are in agreement with the recommendations.
4. The programmers will undertake a review of the new system installed last week.
5. The environmentalists carried out an analysis of the water samples from Lake Ontario.

Check your answers in footnote²

Activity source: *Communication Essentials for Business*, CC BY 4.0.

2. Prefer short words to long words and phrases.

The goal is to communicate directly and plainly so use short, direct words whenever possible. In other words, don't use long words or phrases when short ones will do. Write to *express*, not *impress*.

Chart 2: Short words to replace long words/phrases

Long	Short
cognizant; be cognizant of	aware, know
commence; commencement	begin, beginning
utilize; utilization	use (v), use (n)
inquire; make an inquiry	ask
finalize; finalization	complete, end
afford an opportunity to	permit, allow
at this point in time	now, currently
due to the fact that	because, due to
has the ability to	can

Consider the use of short words

Consider the use of short words (text version)

Match the more complicated words (numbered 1-7 below) with their simpler meaning (lettered a-g below)

- | | | |
|----------|--------------------|----------|
| a. later | d. try | g. about |
| b. pay | e. discussed above | |
| c. know | f. get | |

1. Aforementioned
2. Subsequent
3. Cognizant
4. Endeavor

- 5. Remittance
- 6. Pertain to
- 7. Obtain

Check your answers in footnote³
Activity source: *Communication Essentials for Business*, CC BY 4.0.

3. Avoid clichés.

Clichés are expressions that you have probably heard and used hundreds of times. They are overused expressions that have largely lost their meaning and impact.

Chart 3: Clichés and Alternatives

Clichés	Alternatives
as plain as day	plainly, obvious, clear
ballpark figure	about, approximately
few and far between	rare, infrequent
needless to say	of course, obviously
last but not least	finally, lastly
as far as ____ is concerned	?

4. Avoid cluttered constructions.

This category includes redundancies, repetitions, and “there is/are” and “it is” constructions.

Regarding “there are/is” or “it is” sentence constructions—the general rule is to avoid beginning sentences with these words since they do not contain information. Rather, begin with information words as follows:

Instead of: There are five computer monitors that need replacing.

Use: Five computer monitors need replacing.

This second sentence is much more concise and clear than the previous one.

5. Use accurate wording.

Sometimes this requires *more* words instead of fewer, so do not sacrifice clarity for concision. Make sure your words convey the meaning you intend. Avoid using words that have several possible meanings; do not leave room for ambiguity or alternate interpretations of your ideas. Keep in mind that readers of business messages tend to choose literal meanings, so avoid figurative language that might be confusing (for example, using the word “decent” to describe something you like or think is good). Separate facts from opinions by using phrases like “we recommend,” “we believe,” or “in our opinion.” Use consistent terminology rather than looking for synonyms that may be less precise.

Qualify statements that need qualifying, especially if there is the possibility for misinterpretation. Do not overstate through the use of absolutes and intensifiers. Avoid overusing intensifiers like “extremely,” and avoid absolutes like “never, always, all, none” as these are *almost* never accurate. Remember Obiwan Kenobi’s warning:

“Only a Sith deals in absolutes.” (Lucas, 2005)

We tend to overuse qualifiers and intensifiers, so below are some that you should be aware of and consider whether you are using them effectively.

Overused Intensifiers

- | | | |
|----------------|----------------|-----------------|
| • absolutely | • assuredly | • clearly |
| • considerably | • effectively | • fundamentally |
| • highly | • incredibly | • indeed |
| • markedly | • of course | • significantly |
| • totally | • very | • remarkably |
| • actually | • certainly | • completely |
| • definitely | • extremely | • drastically |
| • in fact | • inevitably | • interestingly |
| • naturally | • particularly | • surely |
| • utterly | • really | • tremendously |

Overused Qualifiers

- | | | |
|--------------|---------------|-------------|
| • apparently | • basically | • generally |
| • in effect | • kind of | • perhaps |
| • rather | • seemingly | • sort of |
| • arguably | • essentially | • hopefully |
| • in general | • overall | • quite |
| • relatively | • somewhat | • virtually |

For a comprehensive list of words and phrases that should be used with caution, see Kim Blank’s “Wordiness, wordiness, wordiness list (<https://web.uvic.ca/~gkblank/wordiness.html>)” (2015).

Consider the best strategy to make a business message clear

Consider the best strategy to make a business message clear (text version)

1. Review items 3, 4, and 5 above. Which of the following strategies help to make a business message clear?
 - a. Include clichés, slang, and buzzwords in the message.
 - b. Keep messages short and simple.
 - c. Show exuberance in the messages.
 - d. Keep messages short and simple.
2. Which of the following sentences are free of cliché and redundant phrases?
 - a. Although English is not spoken by the largest number of people in the world, English is considered the language of international business.
 - b. It is my personal opinion that a price increase will accompany a reduction in inventory.
 - c. You may be assured that every effort will be made to complete the facilities in time for the plant opening.
 - d. Management has been unable to reach a conclusion regarding contract negotiations with the union.
3. Fill in the missing words:
Expressions such as tremendously important and basically complete are overused _____[Blank 1] and _____ [Blank 2] respectfully.
4. Fill in the missing words.
Expressions such as protest against and mutually agree repeat meaning and _____[Blank 1] expressions.

Check your answers in footnote⁴

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6. Prefer the active voice.

The active voice emphasizes the person/thing doing the action in a sentence. For example, *The outfielder throws the ball*. The subject, “outfielder” actively performs the action of the verb “throw.” The passive voice emphasizes the recipient of the action. In other words, something is being done to something by somebody: *The ball was thrown* (by the outfielder). Passive constructions are generally wordier and often leave out the person/thing doing the action.

Active vs. Passive Voice	
Active	Passive
S → V → O	S ← V ← O
Subject → actively does the action of the verb → to the object of the sentence	Subject ← passively receives the action of the verb ← from the object
Subject → acts → on object	Subject ← is acted upon ← by the object
Example: Bineshii submitted the report.	Example: The report was submitted by Bineshii.

Whenever possible, use the active voice to convey who or what performs the action of the verb. The active voice is used most of the time in business communication because it is a clear, direct, and concise way of conveying ideas. It is appropriate, however, to use the passive voice when you want to distance yourself from the message, such as when delivering negative news. While the passive voice has a place—particularly if you want to emphasize the receiver of an action as the subject of the sentence or the action itself, or if you do not know who is performing the action, or if you want to avoid using the first person—its overuse results in writing that is wordy, vague, and stuffy.

Precise writing encapsulates many of the 7 Cs; it is clear, concise, concrete, and correct. But it is also accurate and active. To write precisely and apply the 7 Cs, look critically at your sentences, perhaps in a way you may not have done before: Consider the design of those sentences, from the words to the phrases to the clauses, to ensure that you are communicating your message effectively.

Consider using Active Voice

Consider using Active Voice (text version)

1. Fill in the missing words: The sentence: “The report was completed by Anuja is written using the _____ [Blank 1] voice.
2. Which of the following is an active-voice sentence?
 1. Job applicants were contacted by the interview panel.
 2. Today, many companies provide a flexible work schedule.
 3. The contract must be also be filed by bidding company.
3. Which of the following is a passive-voice sentence?
 1. Although he was nervous, Micheal joined his department co-workers for lunch.
 2. The company’s profits increased for the first time in over a year.
 3. Liza Tilly wrote a book about technical writing.
 4. The website was redesigned by the new hire in IT.
4. Fill in the missing words: The sentence: “Javier submitted the redesign plans for approval” is written using the _____ [Blank 1] voice.
5. Is this sentence passive or active: Mary was chosen by the voting delegates to be leader of her student union.
 1. Active
 2. Passive

Check your answers in footnote⁵

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Notes

1.
 1. We spent 6 hours in the engineering department trying different machine settings and techniques.
 2. Six good parts were using a 0.030 and 0.015 sheet thickness.
 3. The February 2022 attempt at molding preform protectors has led to a 30% increase.
4.
 1. Your team was asked to investigate the sewer system.
 2. Please order several loads of cleaning fluid.
 3. The client and the company agree with the recommendations.
 4. The programmers will review the new system installed last week.
 5. The environmentalists analyzed the water samples from Lake Ontario.
5. **1. discussed above, 2. later, 3. try, 4. pay, 5. about, 6. get**
6.
 1. d - Keep messages short and simple.
 2. a - Although English is not spoken by the largest number of people in the world, English is considered the language of international business.
 3. Blank 1- intensifiers and blank 2 - qualifiers
 4. Blank 1 - redundant
7. **1. passive, 2.** The website was redesigned by the new hire in IT., **3. Active, 4. Passive.**

7.2 RECOMMENDED PRACTICES FOR DIGITAL WRITING

Digital Writing Concepts

The ChatGPT language model (<https://openai.com/blog/chatgpt/>) has stirred up quite a bit of conversation about the opportunities it provides to create marketing content, brainstorm, edit and revise writing, and compose more creative pieces like songs and poetry (OpenAI, 2022). It seems pretty easy to *use* ChatGPT. You pose the question and then it generates a response based on information from its databases. It is important understand the limitations of ChatGPT when it comes to inaccuracies as well as the more subtle nuances of audience and purpose.

Digital writing skill comes in knowing why one platform is more appropriate for a given message than another or why specific writing strategies might be more effective with a particular audience than others. While it's easy to post a blog article, you probably know that there are a lot of poorly written blog posts available online that don't follow best digital writing practices and don't consider the needs and perspectives of the audience.

This section provides some basic strategies for making sure that your digital writing content is clear.

Digital Text Strategies

Consider

When it comes to digital messaging, what type of information catches your attention? Think beyond the content itself to consider the structure and the overall approach to the message.

- 1. Put the main idea of the text in your title. Many web genres have titles—blog posts, web pages, some social media ads, and emails. The very first thing that readers look at when deciding**

whether the information is relevant to them is the title. Should seem relevant to their needs.

2. Use headings and subheadings. Especially for longer texts, breaking it up into smaller sections with headings and even subheadings can be a very effective way to help readers stay engaged and follow along with the main ideas. .
3. Put the most important information near the beginning. For shorter social media posts and emails, it's usually best to lead with your main point in the very first sentence.
4. Keep the language and sentence structure simple. That doesn't mean that you have to "speak down" to your audience or craft overly simple sentences that are short and choppy.
5. Use hyperlinks. Adding hyperlinks to relevant information is an easy way to clarify information, build credibility, and point readers toward additional resources.
6. Repeat keywords. Repeating certain keywords and phrases that capture the main idea of the text will help readers follow along.
7. Condense information. This is often easier said than done, but many times, writers include unnecessary details and information that could easily be cut and still convey the same overall meaning.
8. Organize information into chunks. While paragraphs in print publications might be fairly long (sometimes up to 10 or more sentences), paragraphs on digital writing platforms are short—around two to five sentences.
9. Use bullets. Another strategy for increasing the readability of your texts is to create bulleted lists where appropriate. Since readers tend to scan long paragraphs, often missing the key information embedded, the bulleted list makes it easier for readers to quickly see all of the key points in a list.
10. Eliminate "be" verbs when possible. Often "be" verbs (am, is, are, was, were, be, being, been) are wordier and less meaningful than alternative verbs and phrases.
11. Write professionally. Writing that demonstrates maturity and an understanding of writing strategies to build your credibility.
12. Engage the audience. Engaging audiences requires a level of author engagement. This is demonstrated by being involved in the conversations with people as they respond to your content, also known as monitoring.

Designing and Writing for Slide Decks

Check out these two resource links, which are considered key primers on the topic of presentation design.

- Garr Reynolds, *PresentationZen: Simple Ideas on Presentation Design and Delivery* [PDF] (<http://ptgmedia.pearsoncmg.com/images/9780321811981/samplepages/0321811984.pdf>) provides a clear, easy-to-read set of tips for cutting through the noise and blather of modern

life and reaching an audience through simple, pared-down slides and story-telling: two techniques that can help you connect with and inspire your audience in an authentic, genuine way.

- Nancy Duarte, *Slideology: The Art and Science of Creating Great Presentations* (<https://www.duarte.com/books/slideology/>) looks to the role of presentation software in the visualization of ideas and information. Its goal is to turn you into a “visual thinker,” so you can design presentation graphics that enable your audience to easily and effectively process data—an especially valuable skill for technical presenters who often have to convey complex data in meaningful ways to non-technical audiences.

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Best Practices for Digital Writing In *Writing for Digital Media* by Cara Miller, CC BY 4.0 and **Slides that Convince and Putting it All Together** are adapted from 9.3 Designing Your Presentation In *Communication Essentials for Business* by Suzan Last and Robin L. Potter, CC BY 4.0 . / Selected key elements from original text and combined for student understanding.

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OpenAI. (2022, November 30). ChatGPT: Optimizing language models for dialogue.” *OpenAI.com*.
<https://openai.com/blog/chatgpt/>.

7.3 EXPLORE, DISCUSSION, AND APPLY

Overview: Explore, Discussion, and Apply

Activities found on this page are designed to provide opportunities to explore, practice, and apply concepts presented in chapter 7.

Explore

Explore Activity 1

Social media platforms are full of posts that you can use to critique and improve your own writing. Find a social media post or blog article that relies heavily on written content and evaluate it for the best practices identified in the chapter. The exercise will probably work better if you identify content written by a company or organization as opposed to an individual on a personal account.

Now review the content of the post you've selected. Is it clear? Concise? Professional? Engaged (in the discussion thread)? What are the post's strengths? What could still be improved? Write a revised, improved version of the post that follows each of the best practices.

Discussion Questions

1. What are some other important strategies for making sure that your message is clear and

easy for your intended audience to understand?

2. What are some key strategies for concise writing?
3. In the context of this chapter, what does “professional” writing mean? Why is it important?
4. What is social media monitoring and why is it important? What are some ways that an author can effectively engage with their audience?

Apply

Apply Activity 1

Refer to the explore activity 1 on this page. Write a revised, improved version of the post you used for the explore activity that follows the best practices outlined in this chapter learning.

Apply Activity 2

Refer to Chapter 1 Apply 1 Activity

Revise the content of these slides to apply digital writing strategies reviewed in this chapter.

In the notes pane of each revised slide list what you changed and why you changed it. Submit your work for evaluation as required by you instructor.

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- **Explore and Discussion questions are adapted from 12 Best Practices for Digital Writing In *Writing for Digital Media* by Cara Miller, CC BY 4.0**

7.4 KEY CHAPTER TERMS

Chapter 7 Terms

Downloadable Chapter Key Term Worksheets

View or download & print the PDF or Word format of the worksheet shown below.

Design Chapter Key Terms Worksheet [Word] (https://ecampusontario.pressbooks.pub/app/uploads/sites/4248/2024/11/Design_Chapter-Key-Terms-Worksheet.docx)

Design Chapter Key Terms Worksheet [PDF] (https://ecampusontario.pressbooks.pub/app/uploads/sites/4248/2024/11/Design_Chapter-Key-Terms-Worksheet.pdf)

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CHAPTER 8 PLANNING MULTIMEDIA

Multimedia Communications by Marie Rutherford

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Please visit the web version of Multimedia Communications (<https://ecampusontario.pressbooks.pub/multimediacomm/>) to access the complete book, interactive activities and ancillary resources.

Learning Outcomes

- Outline the stages of project planning and its application in a multimedia presentation
- Detail the significance of developing a plan for a multimedia project
- Develop a multimedia project plan considering audience, format, and content, and resources
- Explore, practice and apply project design strategies
- Identify key terms related to planning multimedia

Project Planning

The planning stage of a multimedia project is the backbone of the presentation's success. When completed effectively high quality standards are met and goals achieved. The planning step lays out the foundational elements of the presentation. Consider the following steps of the planning stage or phase:

- **Set clear objectives which captures the vision of the presentation**
- **Identify resources needed**
- **Assemble the member involved**
- **Collaborate with project members, ensuring everyone understands their role and**

responsibilities

- **Quality control, allows for the establishment of standards and identify the benchmarks of the project**
- **Build in flexibility and adaptability, this allows to adjustments to be made during the project especially when encountering unexpected challenges**

This chapter will explore the elements of planning a multimedia presentation considering the content strategy and design principles.

Chapter Organization and Preview

- Overview of Project Planning
- Plan it!
- Planning Multimedia Web Pages
- Google's Search Engines
- Explore, Practice and Apply
- Key Chapter Terms

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8.1 OVERVIEW OF PROJECT PLANNING

Introduction to Project Planning

Project planning is at the heart of the project life cycle, and tells everyone involved where you're going and how you're going to get there. The planning phase is when the project plans are documented, the project deliverables and requirements are defined, and the project schedule is created. It involves creating a set of plans to help guide your team through the implementation and closure phases of the project. The plans created during this phase will help you manage time, cost, quality, changes, risk, and related issues. They will also help you control staff and external suppliers to ensure that you deliver the project on time, within budget, and within schedule.

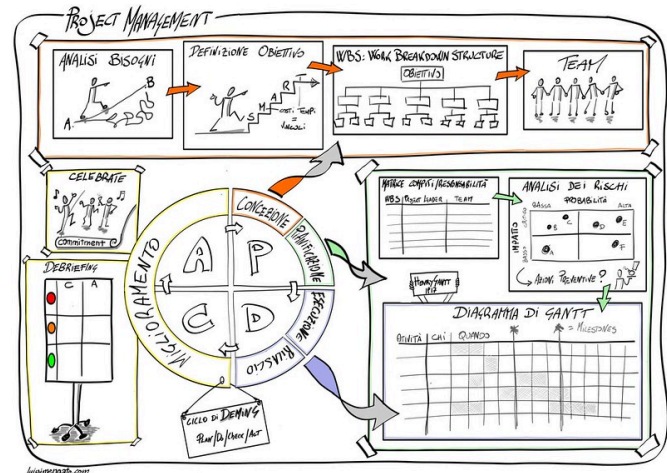
The project planning phase is often the most challenging phase for a project manager, as you need to make an educated guess about the staff, resources, and equipment needed to complete your project. You may also need to plan your communications and procurement activities, as well as contract any third-party suppliers.

The purpose of the project planning phase is to:

- **Establish requirements**
- **Establish cost, schedule, list of deliverables, and delivery dates**
- **Establish resources plans**
- **Obtain management approval and proceed to the next phase**

The basic processes of project planning are:

- **Scope planning – specifying the in-scope requirements for the project to facilitate creating the work breakdown structure**
- **Preparation of the work breakdown structure – spelling out the breakdown of the project into tasks and sub-tasks**



A project management sketchnote, showing different aspects of planning, including defining objectives, team, a Gantt chart, etc. **Source:** Image by Luigi Mengato, CC BY 2.0

- **Project schedule development** – listing the entire schedule of the activities and detailing their sequence of implementation
- **Resource planning** – indicating who will do what work, at which time, and if any special skills are needed to accomplish the project tasks
- **Budget planning** – specifying the budgeted cost to be incurred at the completion of the project
- **Procurement planning** – focusing on vendors outside your company and subcontracting
- **Risk management** – planning for possible risks and considering optional contingency plans and mitigation strategies
- **Quality planning** – assessing quality criteria to be used for the project
- **Communication planning** – designing the communication strategy with all project stakeholders

Users will often begin describing their objectives in qualitative language. The project manager must work with the user to provide quantifiable definitions to those qualitative terms. These quantifiable criteria include schedule, cost, and quality measures. In the case of project objectives, these elements are used as measurements to determine project satisfaction and successful completion. Subjective evaluations are replaced by actual numeric attributes.

Example 1

A web user may ask for a fast system. The quantitative requirement should be all screens must load in under three seconds. Describing the time limit during which the screen must load is specific and tangible. For that reason, you'll know that the requirement has been successfully completed when the objective has been met.

Example 2

Let's say that your company is going to produce a holiday batch of eggnog. Your objective statement might be stated this way: Christmas Cheer, Inc. will produce two million cases of holiday eggnog, to be shipped to our distributors by October 30, at a total cost of \$1.5 million or less. The objective criteria in this statement are clearly stated and successful fulfillment can easily be measured. Stakeholders will know that the objectives are met when the two million cases are produced and shipped by the due date within the budget stated.

When articulating the project objectives you should follow the SMART rule:

- **Specific** – get into the details. Objectives should be specific and written in clear, concise, and understandable terms.
- **Measurable** – use quantitative language. You need to know when you have successfully completed the task.
- **Acceptable** – agreed with the stakeholders.
- **Realistic** – in terms of achievement. Objectives that are impossible to accomplish are not realistic and not attainable. Objectives must be centred in reality.
- **Time based** – deadlines not durations. Objectives should have a time frame with an end date assigned to them.

If you follow these principles, you'll be certain that your objectives meet the quantifiable criteria needed to measure success.

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8.2 PLAN IT!

Planning Multimedia

Review the infographic below as you think about how you will plan your project. Review the steps identified in the infographic to serve as a guide for planning.

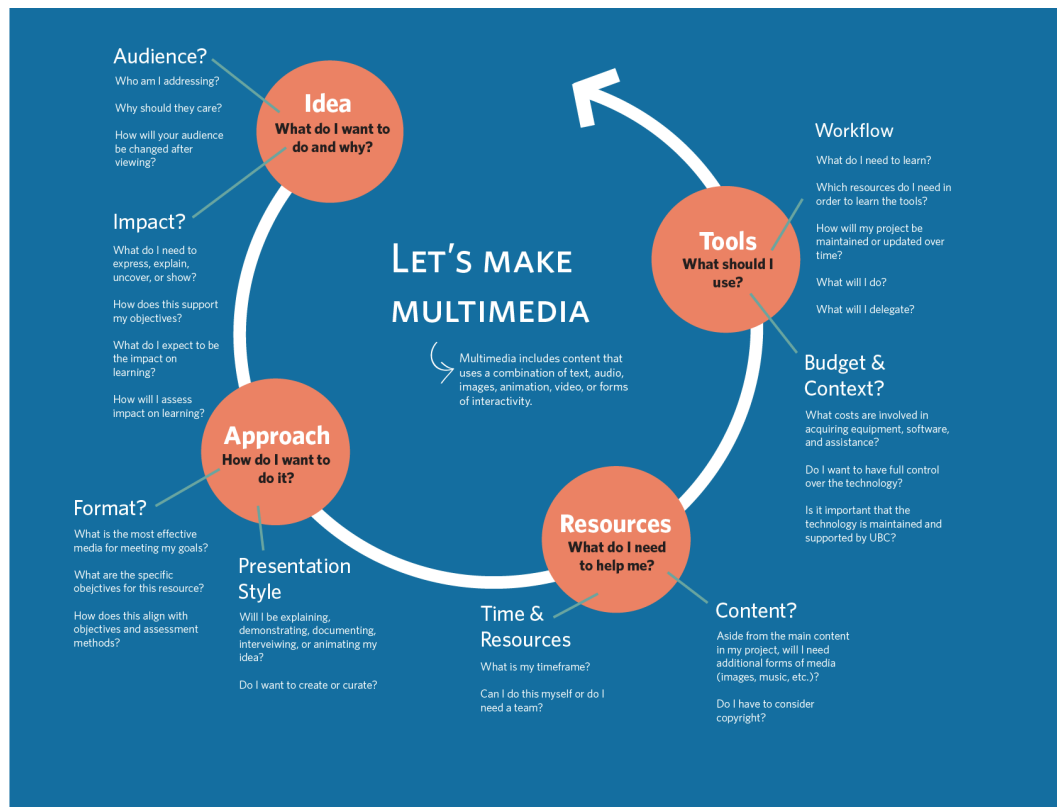


Figure 8.2a: Let's Make Multimedia
[Figure 8.2a Image Description]

Idea

The following questions can help you refine your idea:

- **What is my objective?**
- **What do I want to express, explain, uncover, show or document?**
- **Why is it important?**
- **How will this resource be used?**

Approach

The following questions can help you refine your approach:

- Does a similar resource to the one I am envisioning already exist online somewhere? You may want to check Creative Commons licensed sources (<http://copyright.ubc.ca/help-and-resources/creative-commons-guide/>) as well as resources in the Public Domain (<http://copyright.ubc.ca/help-and-resources/public-domain/>) to start.
- Can you curate content by building some activities or context around a video that already exists or do you need to create something new?
- What is my timeframe?
- Can I do this by myself or will I need a team?
- What approach will best help me meet my goals? To get a sense of what approach might serve your needs, review this table:

Table 1: What approach might serve your needs?

Goal	Ingredients	Approach
Expose common misconception	Demonstrate a concept, interview students/others for predictions	Video
Demonstrate a process	Whiteboard or application on-screen to show actions	Screencast
Document experience	Go to a location if it is field experience you want to document, or conduct an individual interview if it is a personal story you want to document	Video interview
Set tone for the course/learning community	You and your TAs can use a web-cam to make a welcome or introductory video message	Web cam style video recording
Tell a story	Audio, video, images or some combination	Podcast, screencast, narrated slides, or video
Explain a complex concept or phenomenon	Expose details that are impossible to see, or highlight connections	animation, stop motion animation, screencast

Questions to consider:

- What do I need to know about copyright? (if you are producing resources and publishing online)?
- Plan Your Project Worksheets: Video [PDF] (<http://wiki.ubc.ca/images/e/e9/>)

Plan_Your_Project_-_video.pdf), Audio [PDF] (http://wiki.ubc.ca/images/2/27/Plan_Your_Project_-_audio.pdf), Screencast [PDF] (<http://wiki.ubc.ca/images/5/5a/PYP.pdf>): Guides to help you work out the learning objectives, content and associated learning activities.

Further questions to consider:

- Am I intending to publish to content? If so, how will I handle permissions?
- What will I need to budget for?
- Will I need to purchase equipment or can I borrow it?
- Can I do what I want to do with the equipment I have?
- What sort of permission(s) will I need to obtain (ie student permissions)?

Tools

The following questions can help you choose your tools:

- Will I incur any costs related to the use or maintenance of the tool I select?
- How much of an investment will I need to make to learn the tool or approach I have selected?
- Is there a return on investment of my time in learning this tool?
- Will I need to update the project ongoing? Will the tool or service I choose support that?
- Have I tested it? (ie. the file formats it exports to, transferability of those files, etc.)
- What training and skills are required?
- What are the benefits to collaborating on, hosting or embedding my work in an open environment (ie YouTube, Blogs, Wiki, Wikipedia, etc)? What are the risks?

Resources Worksheets and Checklists

Planning Worksheets: to help you work out your goals, and associated learning activities. **Disclaimer:** These worksheets are geared for educators however, the steps related to planning a multimedia project are both helpful and valid.

- **Plan Your Screencast Project Worksheet [PDF]** (<http://wiki.ubc.ca/images/5/5a/PYP.pdf>)
- **Plan Your Video Project Worksheet [PDF]** (http://wiki.ubc.ca/images/e/e9/Plan_Your_Project_-_video.pdf)
- **Plan Your Audio Project Worksheet [PDF]** (http://wiki.ubc.ca/images/2/27/Plan_Your_Project_-_audio.pdf)

Checklists

- **Audio planning checklist [PDF]** (http://wiki.ubc.ca/images/2/29/Audio_Planning_Checklist.pdf)
- **Video planning checklist [PDF]** (http://wiki.ubc.ca/images/6/6a/Video_Planning_Checklist.pdf)
- **Screencasting planning checklist [PDF]** (http://wiki.ubc.ca/images/c/cc/Screen_Recording_Checklist.pdf)

Image description

Figure 8.2a Image Description:

Let's make multimedia. Multimedia includes content that uses a combination of text, audio, images, animation, video, or forms of interactivity.

Idea: What do I want to do and why?

Audience?

- **Who am I addressing?**
- **Why should they care?**
- **How will your audience be changed after viewing?**

Impact?

- **What do I need to express, explain, uncover, or show?**
- **How does this support my objectives?**
- **What do I expect to be the impact on learning?**

Approach: How do I want to do it?

Format?

- **What is the most effective media for meeting my goals?**
- **What are the specific objectives for this resource?**
- **How does this align with objectives and assessment methods?**

Presentation style

- Will I be explaining, demonstrating, documenting, interviewing, or animating my idea?
- Do I want to create or curate?

Resources: What do I need to help me?

Time & resources:

- What is my timeframe?
- Can I do this myself or do I need a team?

Content?

- Aside from the main content in my project, will I need additional forms of media (images, music, etc.)?
- Do I have to consider copyright?

Tools: What should I use?

Workflow:

- What do I need to learn?
- Which resources do I need in order to learn the tools?
- How will my project be maintained or updated over time?
- What will I do?
- What will I delegate?

Budget & Context?

- What costs are involved in acquiring equipment, software and assistance?
- Do I want to have full control over the technology?
- Is it important that the technology is maintained and supported by UBC (or another institution)? [Back to Fig 8.2a]

Attribution & References

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- **Original source:** https://wiki.ubc.ca/Sandbox:Plan_It

8.3 PLANNING MULTIMEDIA WEB PAGES

Strategies for Multimedia Web Page Design

In this section, we'll look at the planning principles of design and the different ways they might be applied to a web page, blog post, or social media ad. Then in the next sections, we'll drill down to consider some of the design strategies that are particular to digital writing.

Web Page Structure

Often the first design decision relates to the bigger picture of the overall page structure—which different elements (or *modes*, if you think back to our chapter on multimodality) will be placed on the page and where they will go.

- **Limit the amount of information on the page.** Too much information becomes overwhelming for readers and limits their ability to respond appropriately.
- **Emphasize the most important information.** It's important to draw readers' attention to key ideas and action items.
- **Stick with what readers know.** Khazanova (2022) suggests using “familiar scenarios and logic” that will make a page more intuitive for readers, who are used to certain page structures and design elements.
- **Create a page that has balance.** According to Steven Bradley (2017) in this *Smashing Magazine* article (<https://www.smashingmagazine.com/2015/06/design-principles-compositional-balance-symmetry-asymmetry/>), “Balancing a composition involves arranging both positive elements and negative space [white space] in such a way that no one area of the design overwhelms other areas” (para. 3).



Different page layouts shown here illustrate how ads could be placed at the top, left and right sides of content, as well as in the middle of content. **Source:** Ad layouts, by JuralMin, on Freerange under Equalicense.

For some examples of different types of page layouts, take a look at Paul Boag's article on WebsiteSetup.org (<https://websitesetup.org/website-layouts/>). It not only provides layout options, but it explains how the different options fit with different types of content and purposes.



Visual hierarchy shows a bold, black box, largest at top, with 5 boxes underneath becoming slightly lighter in colour, smaller in height until the bottom box, which is a light grey and only a fraction of the height of the first box. **Source:** Visual Hierarchy, by Cara Miller (CC BY 4.0)

Visual Hierarchy

The visual hierarchy and overall structure of a design go hand in hand. While an effective page structure creates visual appeal and makes the information easier to navigate, visual hierarchy directs readers' attention to the most important elements on the page, often because of their placement as well as their size.

Grouping Similar Items

Several of the Gestalt principles of design relate to the way people will naturally group items together based on visual cues, which once again helps them understand how items relate to each other and engage with the content of a page more quickly.

Consistency

Many of the design principles we've already discussed relate to consistency (also known as *repetition*) so that readers know what to expect and can easily read and interpret the content provided. This relates to a lot of different choices, from organizational structure to smaller design considerations like color, spacing, and font.

Variety

An effective design uses a variety of design elements to engage readers as well as to clarify information. Chapter 10 in this textbook discussed multimodal messages and the power that various modes—images, text, color, video, sound—have to help clarify and enhance the meaning of a message. For that reason, and because it's more visually appealing and interesting, you should think about how to use a variety of elements to draw readers' attention.

Quality

It should probably go without saying that the elements that you do include on a page should be high quality, creating a professional look and feel. This relates to all of the design principles we've discussed up to this point, but here let's focus specifically on pictures and videos. A quality photo, for instance, is one that is in

focus and is a high enough resolution so that it isn't pixelated or blurry. It has a clear focal point with the image positioned appropriately, so that it fits comfortably into the frame.

Videos can be an excellent tool because they provide clear visuals that can help viewers see a particular process, event, or product. They can also create emotional connections as viewers see people's faces and hear their voices.

Special Considerations for Digital Design

As you put together designs that will be viewed on digital devices, there are a few special considerations that enhance usability:

- **File sizes.** We've already discussed the fact that you should only use quality images and videos to engage viewers, but the other side of that is that higher-resolution images and high-quality videos are usually really big files that take up precious storage space and often result in longer loading times, which can quickly frustrate impatient users. Fortunately, web graphics don't need to be as high-resolution as print graphics (72 dpi compared to 300 dpi), which means the files will be significantly smaller.
- **Cascading style sheets.** With so many WYSIWYG (What You See Is What You Get) platforms, it's no longer necessary for you to know how to code a website in HTML to create one. Cascading style sheets describe a way of coding the elements on a web page so that they are consistent across different pages—so that the title of each page, for instance, has the same font style, font size, color choice, and spacing. Most web platforms have these types of choices built in so that you can make selections that will be consistent across different pages of your website without having to know the HTML code. Utilizing these options will help you more easily create consistency and unity.
- **Hyperlinks and buttons.** Here's where your design choices can leverage concepts that your audience is familiar with, and since your hyperlinks and buttons usually accompany your call to action—inviting readers to take some sort of step toward your desired goal—it's important that they recognize these elements. It's pretty simple, really. While some of the more subtle style choices might vary, it would be to your benefit to make your buttons look similar—not only from one page to the next but also in comparison to other websites.
- **Mobile responsiveness.** A mobile-responsive website (<https://www.constantcontact.com/blog/website-mobile-friendly-vs-mobile-responsive/>) is one that reformats for maximum readability and usability depending on the user's device (Constant Contact, 2022). So instead of displaying the same, shrunk-down version of the home page on your cell phone, the overall format changes so that key items are bigger and formatted vertically, so it's easier to scroll through and click on the items that you want. This is helpful not only when going from a laptop to a

cell phone but also when switching from one screen size to the next or one type of browser to the next. It ensures that the items are reformatted appropriately. Once again, many web platforms are mobile responsive and make it possible for you to toggle back and forth between multiple views as you put a page together.

- **Testing.** One great thing about digital design is that it's relatively easy to change. Content strategists and web developers are constantly “testing” the effectiveness of their pages, not just through form feedback but also through various metrics that show how long viewers stayed on a specific page, how many people clicked on the CTA, and so on. Playing around with different versions and monitoring the results lets you gauge how your design choices are landing with your audience and to make improvements along the way.

Attribution & References

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8.4 GOOGLE'S SEARCH ENGINES

Introduction to Google's Search Engines

It is helpful to have a better understanding of how search engines work to find and sort relevant content. According to Google (<https://developers.google.com/search/docs/fundamentals/seo-starter-guide>), this process happens automatically as web pages are added, but there are definitely key strategies that make it easier for Googlebot (<https://developers.google.com/search/docs/crawling-indexing/googlebot>) to access and correctly index content (Google Search Central, n.d.-b; Google Search Central n.d.-c). Since Google is by far the most dominant search engine, capturing 90% of all searches (<https://www.broadbandsearch.net/blog/google-statistics-facts>) worldwide (Broadband Search, 2023), we'll focus on its process, which involves three basic steps (<https://developers.google.com/search/docs/fundamentals/how-search-works>) (Google Search Central, n.d.-a):

1. **Crawling.** Googlebot is programmed to constantly send out “spiders” that locate new and updated web pages so they can be added to the list. These spiders “fetch” pages by following the links on existing pages and then following the links on those new pages and so forth, which adds to billions of web pages that have been identified.
2. **Indexing.** As the name implies, this is the process of discerning what a particular page is about so the page can be accessed later on in response to a relevant query. This includes the content on the page that is visible to users—the titles, subheadings, and other written content. It also includes meta descriptions, content tags, and alt descriptions that can be used to label videos and pictures.
3. **Providing search results.** This is where ranking comes into play. When a person does a Google search, Google tries to match the keywords from the search to the pages it has indexed in order to find the content that is the most relevant. The more relevant and high quality the content, the higher it will rank on the search engine results page.

Watch How Google Search crawls pages (7 minutes) on YouTube (<https://youtu.be/JuK7NnfyEuc>) for a better understanding of how this process works.

What is Search Engine Optimization (SEO)?

Search engine optimization is the process of getting your webpages and content to rank higher in non-paid (also known as “organic”) search engine results so that you increase the quality and quantity of traffic to your website or content.

Please note that the goal of SEO is not simply to optimize for the search engines, but rather to structure your content so that target audiences can easily find content that provides the answers they seek.

Understanding what people are searching for online, the kinds of words or terminology they are using, and the types of content they want to consume are critical in any search engine optimization strategy. When done correctly, SEO allows marketers to better reach and connect with people searching for the products and services their organization offers.

From your customer personas, you should know what your target audience wants and is interested in. SEO simply helps marketers structure their content so that search engines can find, understand, and index it and ultimately, deliver it when a target customer is looking for it.

Creating Keywords

At its core, SEO is about identifying the keywords that the target audience will use when they search for information and then using those keywords throughout your web content so that the page is properly indexed and ranks high on the Search Engine Results Page (SERP) for queries that use those keywords. As we’ve already mentioned, this is largely about understanding your audience—their needs, values, priorities, and potential obstacles—so that you can provide meaningful content that will engage their interest.

Watch What are keywords? | SEO for beginners training (6 mins) on YouTube (<https://youtu.be/Xb-DXstOD2E>) for a brief overview of keywords for websites, and how they are used

You’ll learn more this topic in Content Strategy & Website Design Interface in Chapter 11.

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- **What is SEO?** is adapted 2.3 Search Engine Optimization In Foundations in Digital Marketing

by Rochelle Grayson, CC BY 4.0

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[guide#:~:text=SEO%20%2D%20Search%20engine%20optimization%3A%20the,our%20presence%20on%20the%20web](https://developers.google.com/search/docs/fundamentals/seo-starter-guide#:~:text=SEO%20%2D%20Search%20engine%20optimization%3A%20the,our%20presence%20on%20the%20web)

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[search/docs/crawling-indexing/googlebot](https://developers.google.com/search/docs/crawling-indexing/googlebot)

8.5 EXPLORE, PRACTICE AND APPLY

Overview: Explore, Practice and Apply

Activities found on this page are designed to provide opportunities to explore, practice, and apply concepts presented in chapter 8.

Explore

Explore Activity 1

Let's put some of the design principles covered into action. Review the FedEx home page (<https://www.fedex.com/en-us/>) —or any other website of your choosing. Consider what planning steps were involved to create this webpage. Do you think any planning steps were missed? Which aspects of the webpage do you consider most effective in both engaging readers (both visually and emotionally) and helping them easily navigate the information on the page? Why?

Explore Activity 2

Find an example of a web page that uses keywords effectively. Start by identifying a question or keyword phrase and doing a Google search. Select one of the top search results and review the web page to see how and where the keywords you used in your search are used throughout the page. Now compare this web page with another one further down on the list, perhaps on the second or third results page. Is there a difference between the way the two pages use keywords? Why do you think the second page is ranked so much lower than the first?

Practice

Practice Activity 1

Consider the list of topics below. Select one of these topics. Outline the steps involved for planning to bring this idea from concept to completion. When selecting the topic approach it from the perspective this information is intended to be viewed on a web page or social media platform. Consider what you will need to ensure it has multimedia elements.

- Yard sale announcement
- Graduation open house announcement
- Ad for a neighborhood block party
- Public service announcement about suicide awareness
- “Closeout” sale

Discussion Questions

1. Name some important strategies that will help you create relevant keywords for a web page.
2. How can you prioritize keywords so that you don't have too many?

Apply

Apply Activity 1

Using the webpage reviewed in the explore activity 1. Now consider how the page might have been structured differently. Create a new plan that organizes the elements in a different way.

Consider how you could utilize some of the other design principles to engage readers in this new page design.

Apply Activity 2

Let's review the presentation created in week 1 or create a new presentation for this activity. Design and create a planning grid to outline the project. Submit the planning grid as identified by your instructor.

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- **Explore Activity 1 and Apply Activity 1 adapted from from Basic Design Principles In *Writing for Digital Media* by Cara Miller, CC BY 4.0**

8.6 KEY CHAPTER TERMS

Chapter 8 Terms

Downloadable Chapter Key Terms Worksheet

View or download & print the PDF or Word format of the worksheet shown below.

[Design Chapter Key Terms Worksheet \[Word\]](#)

[Design Chapter Key Terms Worksheet \[PDF\]](#)

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CHAPTER 9 CREATING A PROJECT STORYBOARD

Multimedia Communications by Marie Rutherford

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Please visit the web version of Multimedia Communications (<https://ecampusontario.pressbooks.pub/multimediacomm/>) to access the complete book, interactive activities and ancillary resources.

Learning Outcomes

- Describe and outline the importance of an effective storyboard design when composing a multimedia project or presentation
- Organize, capture, and map the sequence of events or activities occurring in a presentation
- Create a visual narrative that effectively communicates key concepts and engages the audience and summarize the steps involved in storyboard creation
- Explore, practice, and apply storyboard design strategies
- Identify key terms related to storyboarding for multimedia

What is Storyboarding?

A storyboard is a visual representation of a film sequence and breaks down the action into individual panels. It sketches out how a video sequence will unfold. A storyboard is similar to a trial-run for your finished film, video, or commercial, laid out in a comic book-like form. Watch the following video from University of Guelph for an overview of how you might use a storyboard when planning your project.

Watch What is a Storyboard? (3 mins) on YouTube (https://youtu.be/BzxmGy80L_g)

Why is Storyboarding Important?

1. It helps you to visualize your script and identify scenes and camera angles
2. It helps save time by being able to plan out everything you intend on doing
3. Identifies the key components of your video and initiates the creative process

Storyboard Creation and Multimedia

The storyboard is a highly effective tool for multimedia creators as it helps to streamline the creative process. The action of creating a storyboard sets the stage to bring the initial idea from a concept to a tangible visual representation. A storyboard forces the developer to focus on the content of the presentation, not necessarily the design, it can identify gaps in the project plan, and it helps to determine if the content flows logically. Multimedia creators understand the power of visual planning using a storyboard.

The chapter explores storyboard composition and provides strategies for effective storyboard creation.

Chapter Organization and Preview

- Building a Storyboard
- Good Storytelling and Writing a Script
- Transforming Storyboards and Scripts into Videos
- Explore, Practice and Apply
- Key Chapter Terms

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- **What is storyboarding & Why is storyboarding important** adapted from **39. Storyboarding In *Open Source for Digital Communications & Learning Objects* by David Kwasny & Matthew Humphries, CC BY-NC-SA 4.0**

9.1 BUILDING A STORYBOARD

Storyboarding is a project planning technique which uses a combination of text and images to lay out your ideas. Storyboards can be used to help you plan an essay, a presentation or a digital media project.

A storyboard is a graphic organizer, in the form of illustrations or images, displayed in sequence for the purpose of pre-visualizing a multimedia product. The storyboarding process, in the form it is known today, was actually developed at Walt Disney Productions during the early 1930s, after several years of similar processes being in use at Walt Disney and other animation studios.

Benefits to Creating a Storyboard

Storyboards can:

- Help you plan and communicate the main idea of your project.
- Keep your work clear and focused.
- Be used for many tasks in different contexts. For example, they can help you plan an essay, a presentation or a digital media project.
- Be created in a variety of ways, and there is no single, 'right' way to create one. Every storyboard will look different depending on the project.



A simple storyboarding template might have 12 rectangles, with space to write script or details underneath each box. **Source:** Storyboard for a Video! by David King, CC BY-NC-SA 2.0

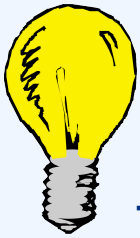
Essential Elements of a Storyboard

Storyboards are typically made up of these five elements:

1. Set of shapes made up of made up of text and images, which are often squares, rectangles or circles. These shapes can be placed vertically, horizontally or in meaningful clusters and are often referred to as 'panels.'
2. Shapes are placed in a logical sequence. For example, boxes should be read across the page the

same way we would read a book—starting in the top left, returning at the end of each line.

3. Boxes are filled with pictures, symbols and text. This should include the graphics, text, information about the atmosphere and tone, angle of the camera, and a place for feedback.
4. Any length, from two to two thousand shapes. The length of your storyboard will depend on the length of your work.
5. Simple or complex as you need them to be. You can use stick figures and short text, or more detailed drawings and longer sentences.



Tip: Use Sketchnoting Techniques

You can apply some of the elements and techniques you learned when reading about Visual Language and Sketchnotes to storyboarding. Consider using basic shapes, icons and symbols as you plan out your storyboard.

The panels in your storyboard should tell a clear and coherent story, providing enough detail for others (including potential users) to provide feedback. The storyboard includes representations of each screen in your product, including information about what happens when users mouse over, click on, or otherwise interact with each interactive element in the product. The storyboard should answer questions like: How do users interact with this element? What happens when they do? Which screen are they taken to after they click?

Consider

Before starting your storyboard, you have a few decisions to make:

1. Are you going to create your storyboard by hand?
2. Are you going to create your storyboard using a digital tool?
3. Are you going to use a storyboard template that's already been created?
4. Are you going to create your own storyboard template?

Basic Steps for Storyboard Creation

Step 1: Write a Script

Draft it, review it, mark it up however you feel will be most beneficial, such as adding directives and actions. See “Writing a Script” for more detail on how to approach this part of the process.

Step 2: Make a shot list

A shot list can easily be made by going back to the script and identifying the areas within the script that you envision new clips, frames, or scenes

Scene 1 _____

Scene 2 _____

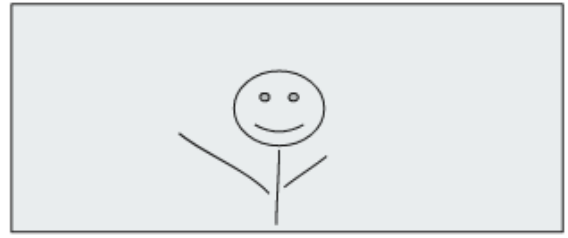
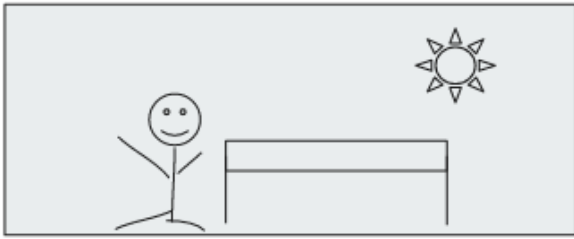
Scene 3 _____

Step 3: Sketch it out

Based on your script, you should now have a good idea of how many frames you will need. Start creating. Add shapes, arrows, pictures, graphics, gifs, and text to illustrate your intention for each scene. The purpose is to convey your idea, however you can best communicate the intention.

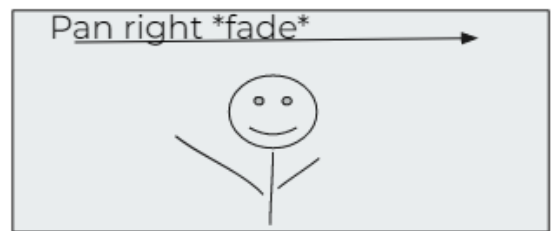
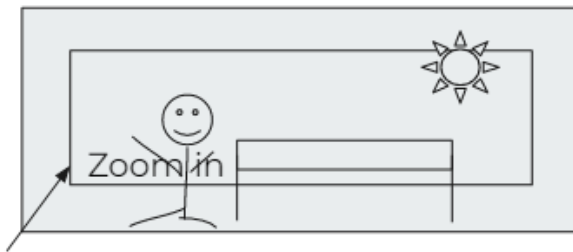
Google slides can easily be used to create storyboards.

You don't have to be an amazing artist to storyboard – stick figures work just fine.



Storyboard sketches do not need to be elaborate. They can be simple stick figure sketches or various clip art components that assist in conveying the appropriate idea of the scene. **Source:** *Open Source for Digital Communications & Learning Objects*, CC BY-NC-SA 4.0

Your storyboard is for your interpretation, use images that make sense to you. If your storyboard is to be used to share your vision, make a legend for your symbols you use or add descriptions to your symbols



This storyboard adds animation and movement directions to the storyboard to help communicate the flow of the scene. **Source:** *Open Source for Digital Communications & Learning Objects*, CC BY-NC-SA 4.0

Step 4: Add Your Context

Remember to add your script to each slide, in the notes

Add a line for actions, directives, purpose

Example:

Script: "Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore"

Directives: hold frame for 3 sec., zoom into top left, fade out to next scene

Purpose (optional): This scene is to convey...

Conclusion

Concluding these steps, you will now have an initial draft of the video content you will be producing. This storyboard will assist in communicating with others and collaborating. It will be easier to understand the material the flow, layout, and intension of the video. Providing this prior to initiating media editing and

creation can save a lot of time. It will greatly assist in ensuring the content of the video you are creating meets the expectations of all stakeholders.

Attribution & References

Except where otherwise noted, this page is adapted from

- **Create a Storyboard for your Digital Project** by University of Guelph, McLaughlin Library, CC BY-NC-SA 4.0
- **39. Storyboarding In *Open Source for Digital Communications & Learning Objects*** by David Kwasny & Matthew Humphries, CC BY-NC-SA 4.0 and / Reused the introductory material from first source to compliment the basic steps to creating a story board.
- **Creating a Storyboard** by Lumen Learning, attribution from original source: Storyboard. Located at: <http://en.wikipedia.org/wiki/Storyboard>. Project: Wikipedia. License: *CC BY: Attribution*

Reference from original source

Burgess, C. (2018). *How to make a storyboard for video*. <https://photography.tutsplus.com/tutorials/how-to-make-a-storyboard-for-video-cms-26374>

9.2 GOOD STORYTELLING & WRITING A SCRIPT

A script is the foundation to a good digital story. It is the plan for the structure, narration, dialogue, pacing, and sound of the story you want to tell. It is the skeletal structure from which everything else is mounted. A good script is organized based on scene and employs good storytelling techniques to present information or perspective.

Consider

- What makes a story captivating and interesting?
- How do you engage your audience?

Different techniques can be used in a variety of ways to craft an engaging story. Good storytelling draws upon all the senses and specific details in order to create a world for the audience to occupy. It also requires good structuring so that the audience can follow along. These elements include

1. **Hook**
2. **Character**
3. **Setting**
4. **Tension**
5. **Conclusion**



A storyboard allows you to plan visuals that align with the script you've drafted. **Source:** Customer Journey Storyboard by visualpun.ch, CC BY-SA 2.0

Before moving on, think about what each of these elements involve. Take a moment to brainstorm another word for each of these elements:

Elements of Good Storytelling

1. Hook

The Hook is what grabs the audience's attention and pulls them into the story. Hooks can be created in different ways:

- **Asking questions**
- **A provocative or shocking statement**
- **Stating your purpose or perspective**

There isn't just one way to create a hook. Think about what makes your project yours and how to share that perspective with your audience.

2. Character

The character can be a real person or perspective that you're presenting. It could be the overall tone you're trying to accomplish.

There is always someone telling the story, making decisions about what to share and what to hold back or leave out. Character is created through

- **Turns of phrase, word choice and sentence structure**
- **Dialogue and character voice**
- **Specific details about the character which could be related to appearance, personality or activities**

Think about the point of view you are trying to present and how you can create a character to embody that vision to make your story stronger and more immediate to the audience.

3. Setting

A strong story or script creates a very specific time and place for the audience. Where does the story take place? What time period? Your script should provide details to help create a world for the audience. This can be done by drawing upon sensory details

- **What sounds can the audience hear?**
- **What do they see and touch?**
- **Are there smells?**
- **What do the characters feel when they move through this world?**

Drawing on sensory experience will make the script and story feel more immediate and real.

4. Tension/Plot

To move the story forward, there should be a tension in the story. What needs to be resolved? What is the problem you are presenting or trying to work through? The tension should relate to your hook and is connected to the purpose of your story. Tension can be created by

- **Unanswered questions**
- **An awkwardness or discomfort for your audience**
- **Conflict**
- **Push and pull between calm and action**

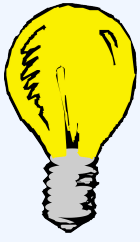
The way you create tension will depend on the story you want to tell. Think of how you want to build your story, sometimes referred to as an arc, but there is no right or wrong way to lay out the plot points; some just may be more effective at bringing your audience with you and building tension.

5. Conclusion/Resolution

Think about how your story ends.

- **What message are you leaving with your audience?**
- **What change do you hope to ignite?**
- **Is there a feeling that you want to evoke?**

Return to the stated purpose of your story and see if you've managed to tell the story you wanted to tell. Is it meeting the purpose? Is that purpose clear to the audience?



Tip: Use Free Tools

Using a free digital tool such as Google Slides (https://workspace.google.com/intl/en_ca/products/slides/) or Google Documents (<https://docs.google.com/>) can be helpful if you need to collaborate with others to write your script, or assemble your storyboard. You can use these tools to create your draft script, have others contribute or add comments and review and edit your work. These tools are ideal because they are accessible to all types of computers and work on most mobile phones (web-based access, or download the app). Use the built in-sharing tools to invite others to participate.

Strategies for Script writing

A **two-column script** is an easy way to structure and plan for your digital story. It is a simple way to organize what the audience is seeing and hearing at the same time. Even if you don't know exactly what images or sounds you will acquire, writing a script *predicting* what you want your final digital story to look like is a great way to stay organized. Once you do gather all your images and sounds, you can update your two-column script to reflect what you actually have to work with.

In the left column of your script, you will describe all the **VIDEO** your viewer will see (*photographs, images, graphics, text*). In the right column, you will describe all the **AUDIO** the viewer will hear (*interview bits, music, narration, sound effects, etc*). Think of each row as one scene in your digital story, with the audio playing over the video.

Script – Example

Writing a Script (text version)

Table of Video and Corresponding Audio track for script

Video	Audio
A photo of students checking out equipment at the front desk.	DIGITAL MEDIA LIBRARIAN(V.O.) Students love the resources we have to offer!
A head shot of the Digital Media Librarian in her office.	LIBRARIAN We offer a wide array of audio and video equipment, tablets, projects, and more.
Several photos of students using library-borrowed equipment to make an action movie.	STUDENT I really love making films but there is no way I could afford to rent or buy any of this equipment on my own. I think it's pretty cool that I can borrow this stuff from the library.
A scanned blueprint of the library's first floor.	DIGITAL MEDIA LIBRARIAN There is definitely an interest in new media and we try to develop that interest by offering frequent workshops and training sessions.
Montage of images of students, faculty, and staff in various settings:receiving training, working in groups, using equipment,and editing in a editing lab.	music: "Flight of the Bumblebee"

Source: Writing a Script by University of Georgetown Libraries, CC BY-NC 4.0

Scripts can be useful, but they may vary depending on the type of video you want to produce. Creators who

wish to establish a more casual, conversational, and connected video format may want to work from only a few notes, whereas those who are interested in a more formal presentation may write their script verbatim, including notes about timing, pauses, and transitions. Of course, your script can fall somewhere between as well.

Some things you may want to consider adding into your script include:

- **Words, phrases, and sentences that are important to your project and that trigger your memory**
- **Direct quotes**
- **Citation information such as important names, books, specific tv or podcast episodes, etc.**
- **Phonetic pronunciation guides for new or difficult words**
- **Timing guidelines to ensure you are on track and on time**
- **Pauses**

Take ten minutes to consider these points alongside your own presentation comfort and style and create a script outline. You may wish to spend longer developing your script.

Scripts – Further Examples

- See a more detailed script that includes notations about location, visuals and audio [PDF] (<https://openpress.usask.ca/app/uploads/sites/225/2024/02/MPScriptSample.pdf>) from the University of Saskatchewan.
- Review some basic scripts for business related Explainer videos (<https://voice123.com/blog/voice-over-scripts/explainer-video-scripts/>) from Voice talks

Attribution & References

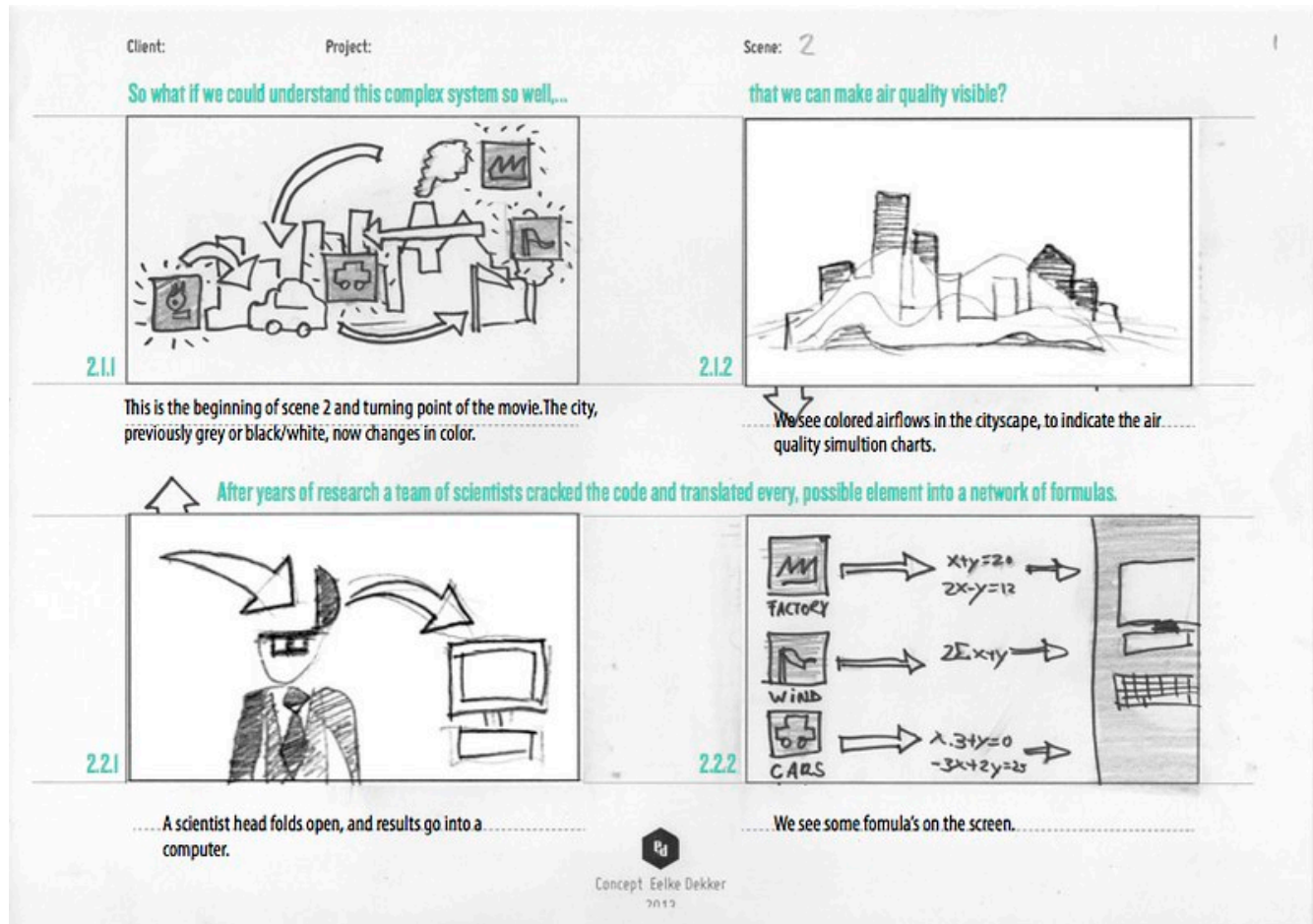
Except where otherwise noted, this page is adapted from “Writing a Script” and “Elements of Good Storytelling” In *Introduction to Scripting and Storyboarding* by University of Guelph McLaughlin Library, CC BY-NC-SA 4.0

Strategies for Script writing section adapted from:

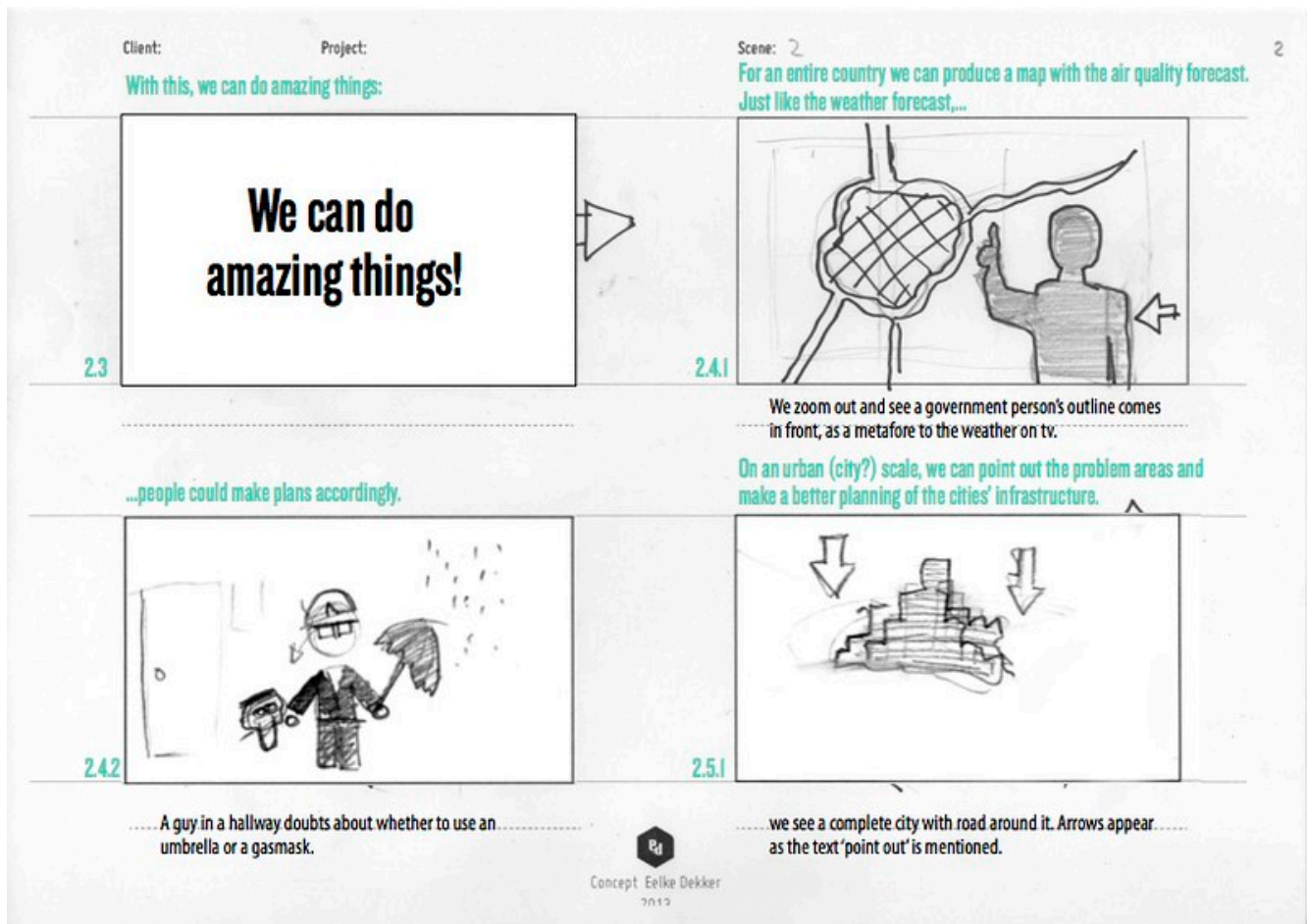
- “Two column script” content is adapted from **Writing a Script** by University of Georgetown Libraries, CC BY-NC 4.0
- **7.5 Video Workshop: Writing and Preparation** In *Digital Methods for Disability Studies* by Esther Ignagni, CC BY-NC 4.0 / Small sections of text reused to enhance this section.

9.3 TRANSFORMING STORYBOARDS & SCRIPTS INTO VIDEO

Storyboard Examples



Storyboard 1 shows 4 panels with a sketch of each scene and a brief textual explanation of the scene. In this example, the storyboard illustrates the video changing from black and white to a coloured city scape, air quality shown by coloured simulation charts, a scientist's head opening up to send info to a computer, and formulas on the screen. **Source:** "Storyboard 1" by Eelke, CC-BY 2.0.



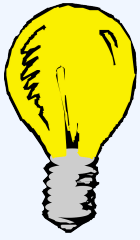
Storyboard 2 shows another 4 panels/sketches, with the first panel having just the text “we can do amazing things” the second one showing a person’s outline with a weather map, a stick figure with an umbrella in the third, and a city with a road around it in the fourth. **Source:** “Storyboard-3” by Eelke, CC-BY 2.0.

In the storyboard examples above, the script appears on the top then a box with a sketch of what will appear on the screen. Underneath each sketch, is a brief description of the action on screen, what will appear or disappear and how the scene will move.

Consider

Review the two storyboard examples above.

- What sort of music or audio enhancements do you think would complement these scenes?
- What types of video editing techniques could you use to enhance the tone of the video?



Tip

Remember that a storyboard is a planning tool. It doesn't mean that your ideas can't change or evolve while you're working. In fact, we encourage you to look back on the ideas you had in your first attempt and see if they can be revised to enhance meaning.

Think of it as a jumping off point. Often our ideas change as we create and we get a better understanding of what exactly we're creating.

Moving from Storyboard to Video Clip

How does a storyboard translate into a video clip? Watch the video below for a few short clips that were created from the storyboards shown.

Watch How to Make a Storyboard (even if you can't draw) | Storyboarding for Film & Video | 4 Simple Steps (6 mins) on YouTube (<https://youtu.be/zmP4AZ4bCFI>)

Attribution & References

Except where otherwise noted, this page is adapted from “What is a storyboard?” In *Introduction to Scripting and Storyboarding* by University of Guelph McLaughlin Library, CC BY-NC-SA 4.0

9.4 EXPLORE, PRACTICE AND APPLY

Overview: Explore, Practice and Apply

Activities found on this page are designed to provide opportunities to explore, practice, and apply concepts presented in chapter 9.

Explore

Watch a Video + Identify the Elements

Watch the video Digital Storytelling Example: MINE (3 mins) on YouTube (https://youtu.be/2RUfpM2_CWQ)

As you watch, try to identify the following elements in the video:

1. a hook
2. character
3. setting
4. tension
5. conclusion

Practice

Write a Script

- Write 5 sentences of a script, incorporating at least two of the elements discussed earlier.
 - Hook
 - Character
 - Setting
 - Tension
 - Conclusion
- Set a time for 5 minutes to see what you can get done.

Apply

Create a storyboard

- Return to the script you wrote earlier
- Using the script and storyboard template, or paper and pencil, jot down ideas about what images you want on screen.
- Feel free to use words to describe what you want, sketch something on paper or use a drawing app.
- Set a timer for 5 minutes to see what you can get done.

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9.5 KEY CHAPTER TERMS

Chapter 9 Terms

Downloadable Chapter Key Terms

View or download & print the PDF or Word format of the worksheet shown below.

[Design Chapter Key Terms Worksheet \[Word\]](#)

[Design Chapter Key Terms Worksheet \[PDF\]](#)

Attribution & References

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CHAPTER 10 COPYRIGHT AND ATTRIBUTION ESSENTIALS

Multimedia Communications by Marie Rutherford

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Please visit the web version of Multimedia Communications (<https://ecampusontario.pressbooks.pub/multimediacomm/>) to access the complete book, interactive activities and ancillary resources.

Learning Outcomes

- Explore the concepts of copyright, fair dealing, and Creative Commons licensing
- Describe public domain and what is considered as public domain
- Explain the importance of open licensing and applying appropriate attribution practices in the context of content management
- Explore, practice, and apply copyright and attribution practices
- Identify key terms related to copyright and attribution essentials

Copyright and Multimedia

Understanding how to properly use and cite images and content is essential to your academic integrity, but understanding copyright, permissions, and the use of openly licensed materials also extends to your professional life.

The practice of giving proper credit to the original creator is an essential practice. Citations are used to give credit for academic and legal reasons with a stylized format. An attribution statement is similar to a citation with the difference it does not typically follow a stylized format. Following copyright and attributions standards is an ethical practice, ensures credit to the originator, and helps the creator maintain their

credibility. When creating a multimedia project many creators reuse, remix, or adapt pre-existing content rather than creating all elements from scratch. This can be both an effective and efficient use of available resources.

Copyright is an intangible right granted to creators however, with the evolution of multimedia additional challenges are evident. Consider a multimedia project may encompass several parts and each part may have its own unique copyright owner.

In this chapter, we'll review what types of images, sound, and other resources you can use when creating presentations, video and other multimedia.

Chapter Organization and Preview

- Copyright and Fair Dealing Basics
- Openly Licensed, Public Domain, and Free to Use
- Finding and Attributing Openly Licensed Content in your Multimedia Projects
- Explore, Practice and Apply
- Key Chapter Terms

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- **Introduction is adapted from Copyright, Fair Use, and Creative Commons Basics In *Writing About Literature* by Rachael Benavidez and Kimberley Garcia, CC BY-NC-SA 4.0**

10.1 COPYRIGHT AND FAIR DEALING BASICS

Anything you find on the Internet is free, right? Nope!

As the saying goes, “Information wants to be free, (https://en.wikipedia.org/wiki/Information_wants_to_be_free)” which might lead you to believe that anything you find on Google (or any other search engine) is actually free. Google will serve you all the information you need, most of it at no cost, but when it comes to locating images to use for a visual media project, do not confuse “free information” to also mean “free images.”

Copyright rules, fair dealing, and the terms of Creative Commons are complex, but knowing the basic rules will help you to ask the right questions.

Even experienced authors of visual media wrestle with the precise details about copyright. This chapter will help get you centered.

Consider the following questions as you think about your multimedia project:

1. **Can I use a copyrighted image in my project?**
2. **Is the use of certain copyrighted images permissible under fair dealing?**
3. **How can something be both copyrighted and available under Creative Commons licensing?**



A copyright symbol and a question mark overlap each other. **Source:** Image by Arrow303. / A derivative of Copyright red.svg and Not-known.svg, CC BY SA 3.0.

What is Copyright?

Canadian copyright law has been evolving since the creation and passing of the Canadian Copyright Act in 1924. The Act itself is focused on promoting use and access to copyrighted works, while giving creators and/or rights holders recognition and protection for their work (Government of Canada, 2017, para. 1-2).

Since then, numerous laws have been passed to refine the meaning of copyright and the terms upon which an author’s rights extend. The following video will give you an introduction to Copyright, public domain and fair use. While Canada has a “fair dealing” exception instead of fair use, many of the principles are the same.

Why do we have laws that restrict the copying and sharing of creative work? How do those laws work in the context of the internet, where nearly everything we do involves making a copy?

Copyright law is an important area of law, one that reaches into nearly every facet of our lives, whether we know it or not. Aspects of our lives that in some instances are not regulated by copyright – like reading a physical book – become regulated by copyright when technology is used to share the same book posted to the internet. Because almost everything we do online involves making a copy, copyright is a regular feature in our lives.

Copyright Fundamentals

You might not realize it, but copyright law is as integral to your daily life as local traffic laws. Copyright law is the area of law that limits how others may use the original works of authors (or creators, as we often call them) — works spanning the spectrum from novels and operas, to cat videos, to scribbles on a napkin.

Although copyright laws vary from country to country, there are certain commonalities among copyright laws globally, largely due to international treaties.

There are some important fundamentals you need to be aware of regarding what is copyrightable, as well as who controls the rights and can grant permission to reuse a copyrighted work.

1. **Copyright grants a set of exclusive rights to creators, which means that no one else can copy, distribute, perform, adapt or otherwise use the work in violation of those exclusive rights. This gives creators the means to control the use of their works by others, thereby incentivizing them to create new works in the first place. The person who controls the rights, however, may not always be the author. It is important to understand who controls the exclusive rights granted by copyright in order to understand who has authority to grant permissions to others to reuse the work (e.g., adding a CC license to the work).**
2. **Copyright does not protect facts or ideas themselves, only the *expression* of those facts or ideas. That may sound simple, but unfortunately it is not. The difference between an *idea* and the *expression* of that idea can be tricky, but it's also extremely important to understand. While copyright law gives creators control over the expression of an idea, it does not allow the copyright holder to own or exclusively control the idea itself.**
3. **As a general rule, copyright is automatic the moment a work is fixed in a tangible medium. For example, you have a copyright as soon as you type the first stanza of your poem or record a song in most countries. Registering your copyright with a local copyright authority allows you to officially record your authorship, and in some countries this may be necessary to enforce your rights or might provide you with certain other advantages. But generally speaking, you do not have to register your work to become a copyright holder.**
4. **Copyright protection lasts a long time. More on this later, but for now it's enough to know**

that copyright lasts a long time, often many decades after the creator dies.

Consider

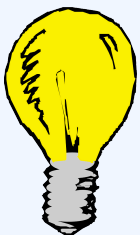
Do you know a professional graphic designer, photographer, artist, musician, writer or a content creator?

- How does this person earn their living?
- How does Copyright protect their interests – both financially and creatively?
- How does using someone else's copyrighted material without permission or payment (eg. a song, a book, a website design) affect the creator/copyright owner?

Watch Understanding Copyright, Public Domain and Fair Use (3 mins) on YouTube
(<https://youtu.be/XzzkSZ0Jrko>)

What is Fair Dealing / Fair Use?

As mentioned in the Understanding Copyright video, fair use/fair dealing is an exception to the rules of copyright, though what qualifies as fair can be tricky. The principle of Fair Use is related to American copyright law. In Canada, we rely on Fair Dealing as an exception to Canadian Copyright law.



Tip: Fair Dealing and Educational Exceptions

When living and studying in Canada, much of your use of copyrighted materials in your school work will be covered under the fair dealing exception to Canadian Copyright law,

because your use of these works is educational and not-for-profit. One caveat to this use is that you **MUST** cite and attribute the copyrighted materials that you use.

Watch Fair Dealing with Copyright Protected Works (3 mins) on YouTube (<https://youtu.be/YleW-MLVs6Q>) **for an overview of fair dealing in your academic work**

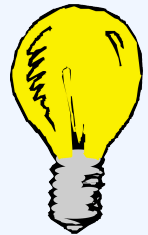
Your use of copyrighted content will depend on a large variety of factors. Here are some general guidelines to guide your thinking.

Always check with your professor, your institution's library team, or your employer before embarking on projects that may use copyrighted materials under fair dealing or another exception. In a commercial / work setting, you may need to pay for access to particular software/apps, for use of materials that were free in an educational setting, and more.

Tip: Copyright and Fair Dealing at work

When you move to a work environment, the use of copyrighted materials may become much more complicated. In the work world, the use of copyrighted works may fail the fair dealing assessment because the use is no longer educational or for research purposes.

Check with your employer for guidance before using any copyrighted work in commercial / for-profit situations.



Best practices for Copyright Compliance at School

1. Use openly licensed resources whenever you can, giving proper attribution, especially when using images for decorative purposes.
2. Cite and reference any materials that you quote, paraphrase, summarize or use as inspiration in your academic work.
3. Use Fair Dealing and Educational exceptions if you need to use copyrighted content in your work – check with your professor or library team for help to apply these exceptions properly.
4. Check the terms of use and license agreements for websites that provide content you may use (eg: Unsplash, Pixabay and other image collections), and software/apps to ensure your use falls within appropriate terms of service (eg: Canva, other multimedia packages).

Best Practices for Copyright Compliance at Work

1. Ask your employer what software/apps, media collections and multimedia components are available and already licensed for use within the company. Often, employers will have specific software, images and other resources available.
2. Read website terms of use and license agreements for any free software or apps, or content you may want to use. They may prohibit commercial use, and you may have to pay for access/use. Check with your employer to confirm that the use of these tools is appropriate.
3. Use openly licensed resources that are designated for all purposes, and do not have a non-commercial clause.
4. Be aware that you may need to purchase a license or pay for use of other people's work in order to remain copyright compliant.

In the following sections of this chapter, you'll learn more about Creative Commons and Open Licenses, Public Domain, and how to find openly licensed materials for use in your projects.

Attribution & References

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Licenses and Attributions from original source

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- Adapted from Covell, S. (2022). *Visual Communication: A General Education textbook for the study of visual rhetoric*. Granite State College. <https://granite.pressbooks.pub/comm543/>(opens in a new tab)
- Government of Canada. (2017, October 16). *History of Copyright in Canada*. Canada.ca. <https://www.canada.ca/en/canadian-heritage/services/history-copyright-canada.html>

10.2 OPENLY LICENSED, PUBLIC DOMAIN AND FREE TO USE

There are many resources that you can use on the web that are openly licensed, in the public domain, or free to use for various purposes. This can help you to create multimedia and other projects while remaining copyright compliant in your work. As we noted, earlier in this chapter, the internet and all of its content is **not** free for the taking. However, with some knowledge of different licensing models, you can complete projects confidently, demonstrating copyright compliance. On this page, we'll discuss Creative Commons/ openly licensed, public domain, and free to use options for content that you can find on the web.

What is Creative Commons?

Let's say that you are on vacation in Yosemite National Park and you woke up from your campsite and saw the most beautiful sunrise coming through El Capitan. You took a picture of it just as a bald eagle swooped down into the framing. You captured a once-in-a-lifetime shot that couldn't be staged even if you tried.

Since you were the one who captured this image, you automatically hold copyright to it even if you don't apply to register it officially. But you feel like it ought to be seen and used by others simply because you want your work to be shared. As the owner of the photo, you can upload it to a Creative Commons image repository and place a Creative Commons license on the work so that it can be discovered and used according to your wishes without placing a burden on the users to apply for permission from you or arrange a licensing agreement.

Creative Commons licensing *does not remove, revoke, or replace* your copyright. It simply enables your work to be used as you specify, according to the license you select. The video below explains Creative Commons and the various terms that can be placed on media that determine how others can use it.

Review the video Using Creative Commons Content (2 mins) on YouTube (<https://youtu.be/1OULrgm4iW4>) for an overview of how this licensing works

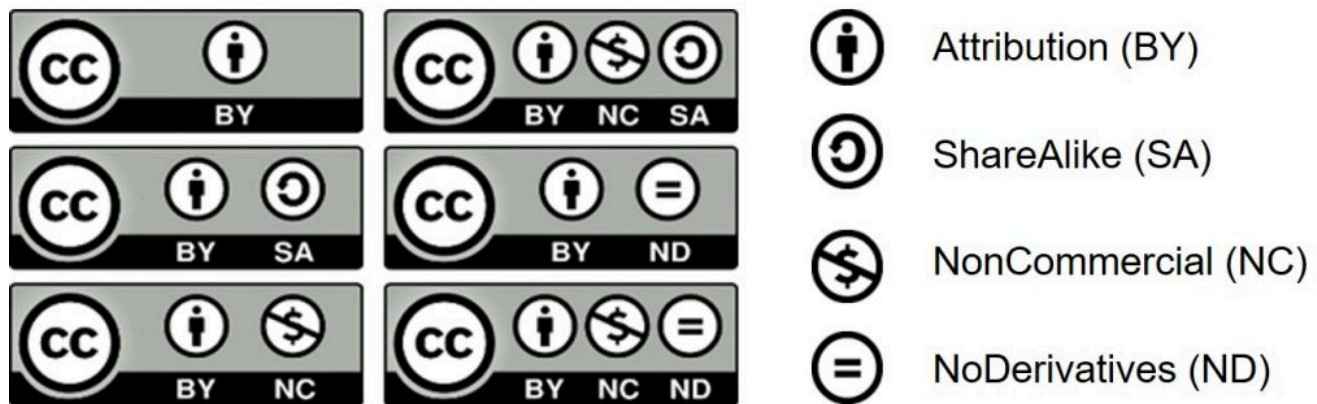
Creative Commons Open Licenses

Creative Commons licences (<https://creativecommons.org/>), are open licenses which act like copyright, but

with permissions. They enable collaboration, development, access, and inspiration from your creative works without requiring you to give up the rights (copyright) automatically granted to you for your creation. Creative Commons (<https://creativecommons.org/>) (CC) is the global body that provides open-copyright licences, so as an author, you can give your permission to share and reuse your creative work, with the conditions you choose.

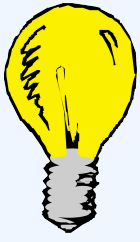
When a creator applies one of the six licences on their work, they retain their copyright but allow the public to share, remix, adapt, and reuse the work legally without having to ask permission or pay additional fees, provided that the user complies with the conditions of the licence.

The six CC licences consist of three elements: the CC logo, icons representing a combination of conditions (which can also be represented by two letters or written out in long form), and the version (4.0 International is the most recent).



Creative Commons license images include the letters CC in a circle, followed by the particular conditions on the license, including a graphic of a person (BY – Attribution), a circular arrow (SA – ShareAlike), a dollar sign crossed out (NC – NonCommercial), and an equals sign (ND – NoDerivatives). The six licences include CC BY, CC BY-SA, CC BY-NC, CC BY-NC-SA, CC BY-ND and CC BY-NC-ND. **Source:** OER By Discipline Guide Version 2, CC BY 4.0 / A derivative of Creative Commons Icons.

The most open of these licences is CC BY (<http://creativecommons.org/licenses/by/4.0/>), requiring attribution only. The most restrictive (but still more open than copyright’s “all rights reserved” approach) is CC BY-NC-ND (<https://creativecommons.org/licenses/by-nc-nd/4.0/>), which requires attribution but does not allow for commercial use and adaptations.



Tip: Using Openly licensed materials at work

Many materials in the public domain or with a Creative Commons license can be used in commercial and for-profit settings. Always confirm the public domain or Creative Commons license, and read the terms of use/license agreement carefully. If the material is marked with a clause that prohibits commercial use (such as NC), you will need to choose something else.

What is Public domain?

Items in the public domain are not protected by intellectual property laws, including copyright, trademark, or patent laws. Public domain belongs to the public. This means that no individual can claim any right to the material, and it can be used by anyone without obtaining permission.

Here are four of the typical ways that works end up in the public domain:

- **The copyright has expired**
- **The existing copyright owner failed to renew the copyright**
- **The work was dedicated to the public domain**
- **Copyright law is not applicable to this type of work (example: short phrases, facts and theories, and U.S. government works)**



"Steamboat Willie Enters the Public Domain" by Doo Lee, CC BY 4.0

Some commonly known characters, including Mickey Mouse / Steamboat Willie, an original Walt Disney creation, are now in the public domain because their copyright has expired. While this 1928 version of Mickey Mouse is now in the public domain, more recent versions are still covered by copyright. [Learn more at: Mickey, Disney, and the Public Domain: a 95-year Love Triangle \(https://web.law.duke.edu/cspd/mickey/\)](https://web.law.duke.edu/cspd/mickey/) . **Source:** "Steamboat Willie Enters the Public Domain" drawn by Doo Lee, CC BY 4.0.

*Note: Copyright law varies from country to country, and a work can be in the public domain in one country, but not necessarily in another.

Materials that are in the public domain because copyright has expired or has not been renewed may not be clearly marked. Typically, this will apply to much older publications, images and more. Since works do not enter the public domain until 70 years after the creator's death, most of what you find on the web will not fall

into this category. Common examples of works that are in the public domain include: historical images, photographs, maps or written works.

Materials that have been dedicated to the public domain will be clearly marked. Similar to applying a creative commons license, many creators will assign a public domain mark to their work, and these can be located by using Advanced Google search (with appropriate license limiter), Google Images, and more.

What are “Free to use” resources?

Free to use resources can be found all over the web, in various formats and on a large variety of sites. Many of these sites have their own specific licenses. Before using “Free to use” resources, you’ll need to carefully read the “license” applied to the resource, and determine if the terms of use / service for that website, resource, or app are appropriate for your intended use. Some examples of free to use resources might include:

- **Image, photo and clipart collections that offer free downloadable content (similar to a creative commons license, but with their own terms)**
- **Software and applications that you log into with a free account, and can be used to create graphics, videos, screencasts, audio/music, and other creative items**
- **Websites with downloadable content that doesn’t require a login or subscription to use**

Before using free to use content, make sure that you check the Terms of service/use and licensing information available from each individual website. Many will have prominent notices about how you can use their work, but some will need a closer look. If you’re unclear about the terms of service or licensing information provided on the website, make sure you consult with someone knowledgeable about copyright issues – your campus library is a good place to start. If you’re in a work environment, ask your supervisor or HR department who to contact.

In some cases, you should be wary of whether or not the content you’ve found is copyright compliant – you will also need to check to make sure that the content you are using has been uploaded by the copyright owner, before reusing.

Consider

You are responsible for maintaining due diligence for Copyright compliance when selecting resources to use in your multimedia projects, both in school and at work. Consider the following scenarios, and try to identify if the use of the resource found would be acceptable or problematic for copyright compliance.

1. You locate the textbook for your course, in PDF format, on a website that gathers resources (eBooks, websites, PDF files) on environmental sustainability. Since the book costs \$150 to purchase at the campus bookstore, should you use the PDF version you found?
2. You need a video clip to liven up a business presentation, and find a funny clip in an episode of a popular netflix show on YouTube, posted by an individual user. Should you use this clip?
3. You are asked to improve the visual appearance of a set of PowerPoint slides, to be used in a new product pitch. You find a photo on a photographer's website that is just perfect, but is marked with a watermark of "copyright" stamped across the bottom of the image. Should you add this photo to the PowerPoint file?

Review the next section for an overview of some common free-to-use resources on the web, and what you should consider before diving in to use them in your academic or professional projects.

Using Web Content and Resources in your Projects

As we've discussed, the individual licenses web content will dictate what you can do with them, either at school or at work. The table below provides an overview of commonly found web content, open licenses and free to use resources, along with guidelines on how you may be able to use them. If you're not sure whether or not your use meets terms of service, be sure to consult with someone knowledgeable about copyright.

Comparing Free Web Resources and Services for School and Work

Resource	License	Use at School	Use at Work	Attribution	Notes
Public Domain Materials <i>Search OpenVerse or other collections</i>	Public Domain, CC0 (https://creativecommons.org/public-domain/cc0/)	Yes	Yes	Recommended	If Copyright has expired, use as you like. If designated Public Domain by copyright holder/creator, check for preferred attribution statement and respect wishes.
Creative Commons <i>Search OpenVerse</i>	CC BY, CC BY-NC, CC BY-SA, CC BY-NC-SA, CC BY-ND, CC BY-NC-ND (https://creativecommons.org/share-your-work/cclicenses/)	Yes	Maybe	Required	Read & abide by license, respecting non-commercial, share-alike and no derivatives conditions when applicable. Provide attribution and make a note of changes/adaptations.
Unsplash Images (https://unsplash.com/)	Unsplash license (https://unsplash.com/license)	Yes	Yes	Recommended	Ensure you're using images that are "free to use under Unsplash license" and do not use Unsplash+ images or other stock images that appear on the same pages, without payment.

Pexels (https://www.pexels.com/)	Free to use (https://www.pexels.com/license/)	Yes	Yes	Recommended	Ensure you're using images labeled "Free to use", as the site mixes their free to use with stock photography on search results page. Stock photography requires payment/subscription.
Google Images (https://images.google.com/)	Various licenses	Maybe	Maybe	Required	Do not use images straight from a Google Images search. Go to the source page for any image, and verify it's license before including in your projects. You may use a Creative Commons / Open license search filter, but will still need to verify individual licenses at the page where the image is posted.
YouTube videos (https://www.youtube.com/)	Standard YouTube License (https://www.youtube.com/static?gl=CA&template=terms)	Yes	Probably	Recommended	Use of materials uploaded to YouTube is governed by the Standard YouTube license, which creators agree to when they upload their content. Review the license to ensure your use fits. Check to ensure that the content appears to be uploaded by the copyright owner before using.

Canva (https://www.canva.com/) – app/software	Terms of Use (https://www.canva.com/policies/terms-of-use/) Licensing Explained	Yes	Probably	Recommended	Canva's free account can be used for a variety of personal and work related uses. A free account is limited to a subset of resources, and you are responsible for ensuring that your use is limited to that which is appropriate under the terms of use.
Websites and webpages	Copyright, unless otherwise noted	Maybe	Maybe	Required	Read website terms of service/ use and ensure your use is appropriate. Quote, paraphrase, summarize, cite and reference typically okay, but only within regular limits.

Now that you're aware of some of the openly licensed, public domain, and free to use options available on the web, read through the next page for tips on locating these resources for use in your projects.

Attribution & References

Except where otherwise noted, this page is adapted from Copyright, Creative Commons and Public Domain In *OER By Discipline Guide Version 2* by Joanne Kehoe; Olga Perkovic; and Supriya Bains, CC BY 4.0. Includes content from What is creative commons? is adapted from Copyright, Fair Use, and Creative Commons Basics In *Writing About Literature* by Rachael Benavidez and Kimberley Garcia, CC BY-NC-SA 4.0. Original content on free to use and using web content added.

References

Jenkins, J. (n.d.). *Mickey, Disney, and the Public Domain: a 95-year love triangle*. Duke University School of Law. <https://web.law.duke.edu/cspd/mickey/>

10.3 FINDING AND ATTRIBUTING CONTENT IN YOUR MULTIMEDIA PROJECTS

Multimedia projects often require the use of images, video, or sound clips and music to help improve the overall effect of your project, be it video, presentation, infographic or other format. You can make use of openly licensed, free to use, and public domain materials to enhance these projects, but first you have to find them. Once located, you'll need to pay special attention to the licenses and terms of use for each site.

Consider

When planning for copyright compliance in your multimedia projects, consider the resources you need to create engaging multimedia. What resources do you already have access to?

- Does your employer or school have a subscription to products such as Canva or another software package that already contain elements you can make use of?
- Does your employer or school have a stock image collection?
- Does your employer or school have branding guidelines or resources to get you started?

If you answered no to these questions, you will likely need to find open/free resources to help create your message.

Finding openly licensed images

There are several excellent sources for finding high quality images and graphics online. Some use licenses similar to Creative Commons and simply require the attribution and a link to the original author.

- **Unsplash (<https://unsplash.com/>):** Great free images, but need to verify that they are free to use under Unsplash license – paid access images and Unsplash+ are mixed in with the free images. After searching, use the License dropdown to indicate ‘free’.
 - **Pexels (<https://www.pexels.com/>):** Great free images. Verify that they’re free to use under Pexels license.
 - **Pixabay: Images (<https://pixabay.com/images/search/free%20images/>):** Great free images. Verify that they’re free to use under Pexels license.
 - **The Greats (<https://thegreats.co/>)**
 - **Flickr: Creative Commons (<https://www.flickr.com/creativecommons/>):** Sort your Flickr results to identify CC licensed images, and check the license carefully for requirements.
 - **Wikimedia Commons (https://commons.wikimedia.org/wiki/Main_Page):** A large collection of images with clearly marked licenses.
- General Open Content Search Tools**
- **OpenVerse (<https://openverse.org/>):** A robust search that allows you to search for different types of media and specify the open license.
 - **Creative Commons (<https://search.creativecommons.org/>)**
 - **Google Advanced Search (https://www.google.ca/advanced_search):** You can use the search limiters to limit to materials that are free to use, but you will need to check licenses very carefully on the actual page you want to use.



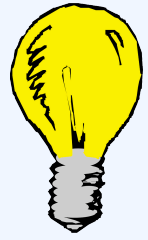
Source: Photo by Markus Winkler, Unsplash license

Openly Licensed Video & Music

- **Pexels (<https://www.pexels.com/videos/>)**
- **Pixabay Music & Videos**

Tip: Always Check Licenses Carefully.

You must carefully review licenses on the original page where the resource (image, video, music) is found. Watch for statements such as “non-commercial use only”, “personal use”, “no derivatives” and other statements that may indicate that content could be problematic if you’re creating projects for work or school. If you’re not sure, check with your employer or your academic library.



Providing Attribution for Creative Commons resources

We give others credit for their work, not only because it is a requirement of the license but also because it is the right thing to do. Your creation would not exist without the original author’s work, so it is only fair that you acknowledge their contribution by including a well-done attribution in your work. Below is a guide to providing proper attribution for Creative Commons (CC) licensed resources.

What Information Do I Need?

The ideal Creative Commons attribution will include the following information:

1. **Title:** Name of the material if provided; however, some creators choose to leave their works untitled.
2. **Author:** The name of the author or authors of the material; unless the author has specifically requested that you not attribute content to them.
3. **Source:** Where can the content be found? This is usually a link to a website or document.
4. **License:** Provide which type of CC license the content is published under and provide a link.

The shaded area below is an example of how attribution information is typically be formatted:

A Typical Attribution for Creative Commons materials

“Student Guide to Open Educational Resources ” by Ashlyne O’Neil is licensed under CC BY-NC-SA 4.0

You may also need to add the following information, depending on what notices were present when you accessed the material and how you used it:

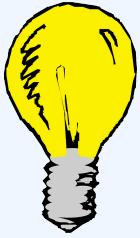
- **If there any other copyright notices, notices that refer to the disclaimer or warranties, or notices of previous modifications, you should keep this information and copy it into your attribution.**
- **If you modified the material yourself, you should add a note indicating what modifications you made and what terms the new work is being licensed under.**
- **If you are using an adaptation of an already adapted work, you should credit the creators of the previous works and the creator of the adaption.**

Where Should I Display Attribution Information?

Attribution should be given in a manner that is reasonable for the medium you are working in. Here are some of the most common practices for attributing content.

- **Written documents and images:** place the attribution information next to the Creative Commons material or include it as a footer toward the bottom of the page.
- **Slideshows:** include the attribution information as a footer on the bottom of the slide that the work appears on.
- **Videos:** show the attribution information for the material used when it appears on screen.
- **Podcasts:** mention the artist’s name, that the work is under a Creative Commons license during the podcast, and provide full attribution next to where the podcast is available online.
- **Music:** Audio cannot be used if copywritten under CC No Derivatives (CC BY-ND). Audio has very strict copyright restrictions. For more detail, review the information available about audio licensing on the Creative Commons website (<https://creativecommons.org/about/program-areas/arts-culture/arts-culture-resources/legalmusicforvideos/>)

If the standard attribution methods are not suited for your particular project, you can always include a credits section in your work to display the necessary attribution information.



Tip: Providing Attribution for other Resources

When using free-to-use materials (such as images from Unsplash, music from Pixabay), check to see if the source website has a recommended attribution statement and use that format. Even if attribution is not **required**, it is good practice to provide it, giving credit to the original creators. If you're using materials under fair dealing or a Creative Commons license, you **must** provide a proper reference/attribution statement.

Resources

If you are new to attributing content, consider using the resources below:

- **Open Washington's Attribution Builder**, (<https://www.openwa.org/attrib-builder/>) a site to help create and format attribution information
- **Attributing Creative Commons Materials [PDF]**, (<https://creativecommons.org.au/content/attributingccmaterials.pdf>) a detailed guide to attributing Creative Commons content

Attribution & References

Except where otherwise noted, this page is adapted from “Finding Images, Multimedia, and Attribution” in *EDCI 336: Technology and Innovation in Education*, by University of Victoria, Educational Technology, CC BY 4.0 and from Attributing Openly Licensed Content In *Making Open Educational Resources: A Guide for Students by Students* by Ashlyne O'Neil; Jykee Pavo; Mikayla Bornais; Tariq Al-Rfouh; Chris Nardone; Elijah Annoh-Waithe; Lawrence Villacorte; Lorenzo Pernasilici; Marianne Kantati; Mitchel Macmillan; Mohamed Eldabagh; Norman Ha; Devin Wacheski; Anas Al-Chalabi; Dave Cormier; Brandon Mailloux; Ghanem Ghanem; Kamaal Kusow; Kristen Swiatoschik; Patrick Carnevale; Rana Kilani; Steven Shlimoon; and Zain Raza, CC BY-NC-SA 4.0 . / Added in Tips, questions for consideration, and streamlined content to focus on multimedia projects.

10.4 EXPLORE, PRACTICE AND APPLY

Overview: Explore, Practice and Apply

Activities found on this page are designed to provide opportunities to explore, practice, and apply concepts presented in chapter 10.

Explore

Visit the website of a free content provider, listed below. See if you can locate the license under which they share their free-to-use content. Read the license very carefully, and identify what restrictions they place on use of that free content. Would you be able to use this content in a work context? What about at school?

- Pixabay Music (<https://pixabay.com/music/>)
- Pexels Video (<https://www.pexels.com/search/videos/videos/>)
- Unsplash photos (<https://unsplash.com/>)

Practice

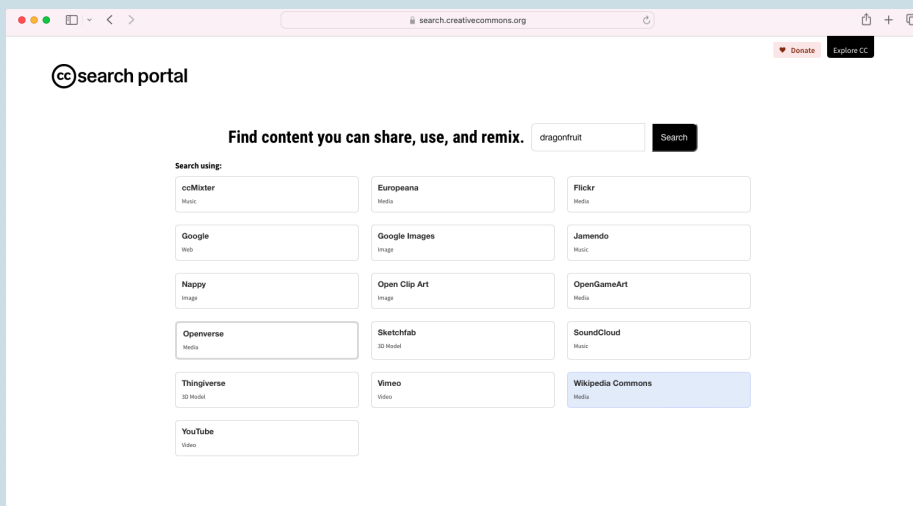
Review the following free-to-use images, and prepare an attribution statement that gives credit to the creator.

- Photo from Unsplash (<https://unsplash.com/photos/a-disco-ball-sitting-next-to-a-potted-plant-QGKK8poYTSA>)
- Photo from Wikimedia Commons (https://commons.wikimedia.org/wiki/File:Fluorescence_rainbow.JPG)
- Music clip from OpenVerse (<https://openverse.org/audio/462aff1d-8daa-4694-9761-1b384506f530?q=music+clip>)

Apply

For this exercise, you will be conducting a search through Creative Commons for an open licensed or creative commons licensed image. Your topic to search for is “dragonfruit”.

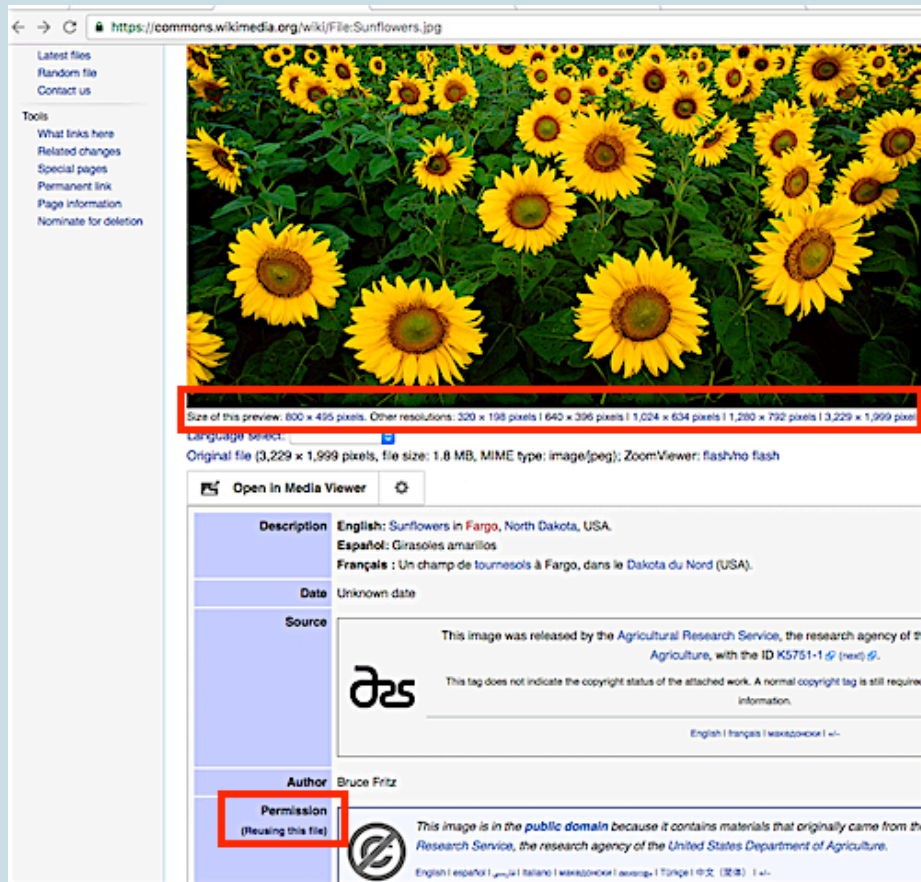
1. Go to the Creative Commons Search Portal at <http://search.creativecommons.org/>
2. For your search query word, enter **dragonfruit**
3. Choose **Wikipedia Commons** as your search engine.
4. Click the **Search** button to run your search.



Source:
Screenshot of CC
Search Portal, CC
BY 4.0

5. Choose a photo from the list of results. Explore this page. See if you can find various image

resolutions/sizes to download and the image copyright information.



Example of a search result for “Sunflowers” on Wikimedia Commons. Copyright and licensing details for each image are located below the image, labeled “Permission (Reusing this file)”. **Source:** Display page of image via Wikimedia Commons, CC BY-SA 4.0.

Choose an image by clicking on the resolution size desired. Now right click on the image and save to your desktop or chapter folder. This is the image you would use for a project.

6. You also need to record the copyright information and restrictions on the image for your records. This proves you have permissions to use the image if needed. Create a new text document and record each of these things on it:

- name of the image
- name of the image creator
- web link [url] to the image and CC copyright information

If this was for an actual job, the image and the licensing information document would go in your folder for your client’s project.

Activity source: “Digital Foundations – Intro to Media Design” by Xtine Burroughs and Michael Mandiberg is licensed under CC BY-NC-SA 3.0 / This is a derivative from the original work. Content is available under Creative Commons Attribution Non-Commercial Share Alike unless otherwise noted.

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- **Apply activity adapted from 2.4 Exercise 4: Searching and using Creative Commons or Public Domain work for your projects In *Digital Foundations – Intro to Media Design* with Adobe Creative Cloud” by Xtine Burroughs and Michael Mandiberg is licensed under CC BY-NC-SA 3.0 / This is a derivative from the original work. Content is available under Creative Commons Attribution Non-Commercial Share Alike unless otherwise not**

10.5 KEY CHAPTER TERMS

Chapter 10 Terms

Downloadable Chapter Key Terms

View or download & print the PDF or Word format of the worksheet shown below.

[Design Chapter Key Terms Worksheet \[Word\]](#)

[Design Chapter Key Terms Worksheet \[PDF\]](#)

Attribution & References

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CHAPTER 11 WEB CONTENT CREATION AND MANAGEMENT

Multimedia Communications by Marie Rutherford

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Please visit the web version of Multimedia Communications (<https://ecampusontario.pressbooks.pub/multimediacomm/>) to access the complete book, interactive activities and ancillary resources.

Learning Outcomes

- Examine steps for organizing web content
- Review procedures for creating a Google Sites website
- Review protocols for uploading content to the web

Web Sites and Multimedia

Technology and creativity go hand in hand with multimedia. Multimedia elements are critical elements for modern website design. Most web sites aim for the immersion of digital experiences through engaging the user. When a user is engaged it increases the time spend on the web page, while creating a memorable that may lead the user to return to the site again and again.

Strategic planning for a website content is the blueprint for success. Always start with a plan which identifies goals, target audience, and the message of the website. From a professional perspective aim for clean layout, informative content, and related infographics is a solid approach.

The performance of a website is essential. The goal of a website is a seamless experience whereby multimedia components enhance the site without compromising performance.

This chapter explores basic website considerations encompassing creating, organizing, uploading, and hosting web content.

Chapter Organization and Preview

- Web Design Basics
- Content Strategy and Design Interface
- Creating and Organizing Web Content
- Putting Your Website Content Online
- Creating a Website with Google Sites
- Explore, Practice and Apply
- Key Chapter Terms

Attribution & References

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11.1 WEB DESIGN BASICS

As more and more writing goes digital, having a basic understanding of web design is useful. Designing websites is very similar to designing print documents. The basics are essentially the same: you need to understand space and layout, how to handle fonts and colors, and how to put it all together in a way that delivers your message effectively.

Like all effective technical communication, good web design caters to the needs of the **audience**. Will your audience be seeking information, products to purchase, technical assistance or instructions, entertainment, or some kind of interaction? Knowing your purpose and audience will help inform your design choices—each page or part of your website should have a **clear purpose** and work to fulfill a specific need for your audience.

Goals

Before designing a website it is important to set goals. As we noted above, ask yourself what purpose the website is serving. Not all sites serve the same purpose. For example, a retail site will have very different goals than a nonprofit site.

Some common website goals are:

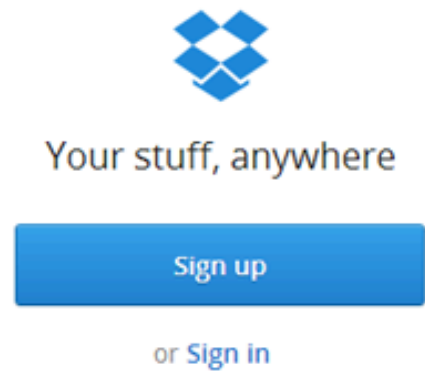
- **Increasing sales**
- **Marketing**
- **Updating information**
- **Generating leads**
- **Distributing information**

Goals, in any setting, are important to business success. By setting goals for one aspect of the business, in this case, the website, it will help in accomplishing other goals of the business, such as:

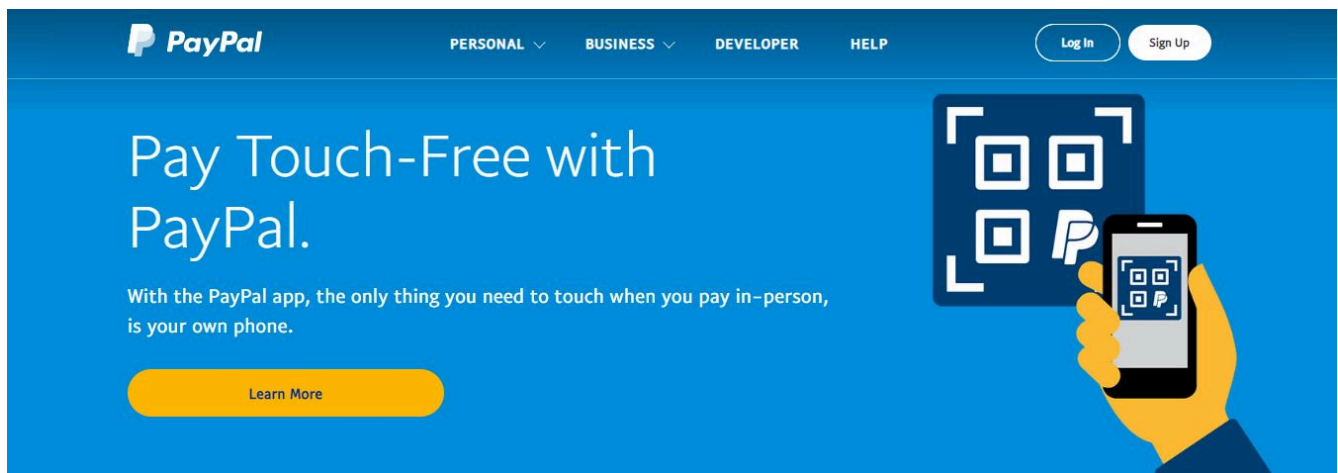
- **Expanding the audience**
- **Connecting other businesses or other parts of the company**
- **General communication**

Design Message

The design message is the image the organization wants to portray to the reader. This can also be called *the brand*. When creating the look of the website you must consider logos, colors, fonts, and images. These must all support the personality of the organization. Note in **Figures 3.6.1** and **3.6.2** below how the companies Dropbox and Paypal make use of their brands:



The dropbox brand/logo is a cardboard box, in blue. In this screenshot, they use the same blue tones to align graphics with branding. **Source:** Screenshot © Dropbox.com, used under Fair Dealing.



In this screenshot, the login page of the PayPal website displays numerous elements that contain the PayPal logo – a double P that overlaps with shading. You see it on the website, in the QR code, and on the phone that the user is holding up to the QR code. Branding colours are repeated in different parts of the image to create unity. **Source:** Screenshot © PayPal.com, used under Fair Dealing.

Giving web pages a consistent look will help define it as a cohesive website and make it easier to navigate. Since many companies build their workplaces around the “theme” or “brand,” the website should as well. In fact, it is necessary for brand identification, thereby helping the company advance and succeed. A consistent brand and image also help build a company’s value and credibility.

Consider: Consistent Branding

Some important points to consider for consistent branding:

- The brand, whether communicated through the website or the customer service, must be consistent
- The brand should be found everywhere—there are no limits to exposure of brands
- Short and simple is almost always the best route
- You are the brand and the brand is you. If your brand does not reflect the values and beliefs of the company, it most certainly should not be on your website.

Audience

Like all technical communication, **knowing your audience** will help you to make better decisions when it comes to deciding how your website should look and function (as well as which browsers to support and which new technologies to endorse). Before designing a new website, it would be helpful to perform an **audience needs assessment** to ascertain users' demographics, their technical knowledge, as well as browser and device preferences. For example, generally speaking, most younger users prefer to access web content on mobile devices, while some older users may favor accessing content via a traditional computer screen.



Tip: Unintended Audience

It's important to note that putting content on the internet exposes that content to a wider audience, perhaps one beyond your intended audience, so the designer must strive for **consistency, clarity, and conciseness**.

Purpose

Figuring out how the site will be used is another important step in website design. Most internet users fall into three categories:

- **those seeking information**
- **those seeking products or services**
- **those seeking entertainment**

For the informational sites, you may want to consider the technology of the user and/or use a more general approach to its design. The same can be said for the sites of those seeking entertainment, more cutting-edge technology can be used to better the experience of the user when they are accessing your site.

As examples, note the differences between these three sites:

- **Centers for Disease Control (CDC) (<https://www.cdc.gov/>) (geared toward providing information)**
- **SONY (<https://www.sony.com/>) (mainly geared toward entertainment)**

- Zappos (<http://www.zappos.com>) (retail)

Content

There are many ways content can be presented, depending on your audience and purpose, but the following are general tips for designing and formatting your web content:

- **Chunking:** The average reader does not want to read long passages of text on a computer screen. Chunking the information can help break up long passages of text into shorter and more digestible bits of information that can be read independently from one other.
- **Using color scheme:** Don't mix a lot of colors. It is best to select only a few colors that either complement each other or are appropriate in representing the group for which the website is written, or appropriate for the audience. Also, colors can call attention to elements of importance.
- **Using images:** Pictures, or video, can sometimes communicate information much more quickly and clearly than text. It is encouraged to include images where appropriate, but the designer shouldn't clutter the page, or use gratuitous images, as this can confuse users.
- **Maintaining consistency:** Visual appearance has a large effect on how users read and value websites, and consistency is a crucial aspect of web design. Information and user interface should be presented in a consistent manner throughout the page and the entire structure of the site. Logos, page titles, headers, and interface elements such as navigation, buttons, and graphics should all to be consistent. This will ensure the users can access the website without error or confusion.

Consider: Content Goals & Audience

As you compose and create your content, think carefully about the following questions:

- What is the goal of the website (its purpose)?
- Who is the website trying to reach (its audience)?
- How much time to people have to spend reading information on the website?

- How did individuals reach this website?
- What is the most important information to the reader?
- What questions might readers have?
- What action is the reader supposed to take after reading the website content?

Another aspect to consider about website content is how it will be searched within different search engines. Key words are needed throughout your website to make sure that the website is found by people who are looking for specific information. It is important to be specific with words, and use them multiple times, so that search engine robots find the word and place it high on the results list.

Creating a Home Page

Your home page will be the most visited page on your website. Your home page may not always have what your viewers are looking for, so you should have something that will draw them in and make them *want* to look further for their information. You have roughly ten seconds to draw your customers into your site, or else they will hit the “back” button and look elsewhere. Your home page should load quickly. The ten seconds you have to draw the customers into your site begins when they click on the link to your site. If it takes five seconds for your site to load, you only have a few seconds left to draw customers in further. Here are some tips to help your site load quicker:

- **Keep media images small**
- **Avoid using ads from external websites on your home page that may slow down the loading time. You cannot control how fast another server will serve its content.**
- **Write your HTML in sections so that when the bottom of the page is still loading, your customers can read the top sections of your home page.**



Tip: Constant Updates

Another important point about home pages is to **never stop modifying them**. Reviewing your log

files once your website is up and working can help you make your home page more user-friendly. Updating the links or the colors may improve the appeal or ease of use to your site. Remember that everything can be changed, and you don't have to settle for something if it's not working.

Understanding a few basic web design concepts and being able to know the difference between good and bad design will give you the confidence and skills to begin designing your own websites or revising existing ones.

Additional Resources

- “Does a Technical Writer Need to Understand Web Design? (<https://idratherbewriting.com/2010/07/06/does-a-technical-writer-need-to-understand-web-design/>)” by Tom Johnson, *Idratherbewriting.com*
- “How to Make a Website: Complete Beginner’s Guide (<https://www.wpkube.com/how-to-make-a-website/>)” by Colin Newcomer, *Wkub.com* (a good starting place for people new to website building)
- “How to Make A Website: The Definitive Guide (<https://www.sitebuilderreport.com/how-to-make-a-website/>)” by Steve Benjamin, *Sitebuilder.com* (a comprehensive overview of website building)
- “Introduction to HTML (<https://softchalkcloud.com/lesson/serve/Gv5hWnx4cipsZN/html>)” by Tiffani Reardon, *Open Technical Communication*

Attribution & References

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11.2 CONTENT STRATEGY & WEBSITE DESIGN INTERFACE

Content Strategy

When creating a website, content strategy is a necessary first step. What will the website say? All websites have a specific audience so finding out about what your audience needs, wants and expects from the business is the key to its success. This means web content, as well as design, must be human-centered.

When we build content with a specific strategy for success it also meets search intent, a key component of search engine optimization. Writing effective content focuses on the *readability* or *usability* so that the target audience is more likely to get the message you want them to receive, and your website is more likely to achieve its intended purpose.

Donal Miller and Dr. J.J. Peterson (2020) identify some key things to *avoid* in their book “Marketing Made Simple”:

- “You are using too much insider language
- You are using too many words in the heading
- The call to action buttons use passive language
- The call to action buttons are not repeated down the page
- The images do not relate to the product or back up the words you’re using on the page
- The language is cute or clever but not clear
- The site does not promote a lead generator
- You’re using a slideshow so the text changes too fast a frustrates potential customers
- The site tells *your* story rather than inviting customers *into* a story.”

A website should clearly indicate the “problem” the business is trying to solve. This includes what happens when the problem is solved, by using or purchasing the service/product and **most importantly** how to go about purchasing it.

Designing a website is like designing anything: it requires a clear purpose. Understanding your target audience, writing content and choosing design features that will best achieve your purpose. In essence, you must understand the **flow** of content and how you can most effectively convey the desired message to that audience.

Search Intent

Interviewing existing customers helps copywriters and business owners better understand what content is expected on the site. Without a direct link to the company's main stakeholders, the customer, and copy editors may miss the purpose as seen by the audience. If the business is new and there are no "users" to interview, then considerable market research should be completed. What are businesses in the same field doing well, where is their space for excelling and differentiating?

While there will probably be many different types of customers, the main target audience is what the content should be directed towards. Finding this data and separating it into themes is often cost prohibitive, both in-terms of time and money. There is an alternative though, and that is through the use of search intent analysis through search data. Google is the king of search engines with more than 90% of the market share worldwide (<https://gs.statcounter.com/search-engine-market-share#monthly-201712-201812-bar>).

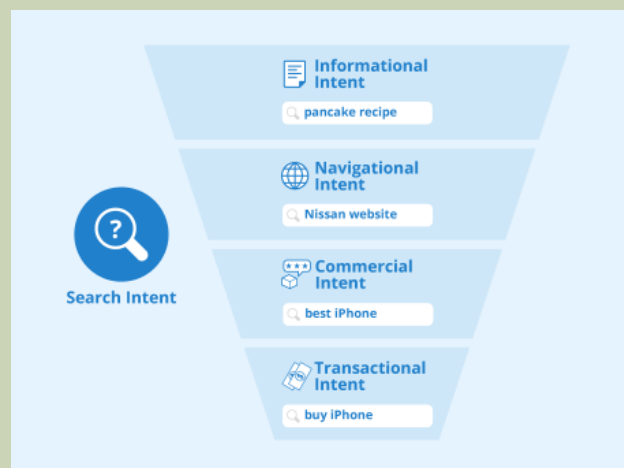
Watch What is Search Intent? Keyword Search Intent Explained For Beginners (7 mins) on YouTube (<https://youtu.be/83aDlCwmlns>) for a concise outline of search intent and keywords.

Google's 4 Types of Search Intent

Google uses search intent categories to design its Search Engine Results Pages (SERPs). When researching which terms and categories you should emphasize on a business website, make sure to note that some searches may fall under multiple categories.

This taxonomy was developed by Andrei Broder, back in 2002 when they were the vice president of research at AltaVista.¹

The categories are summarized below by Rebekah Baggs & Chris Corak, from the book: SEO for Everyone (<https://abookapart.com/products/seo-for-everyone>)



Search Intent examples include informational intent (eg: pancake recipe), Navigational intent (eg: Nissan website), Commercial intent (eg. Best iPhone), Transactional intent (eg. buy iPhone). **Source:** Search Intent by Seobility, CC BY-SA 4.0

“Informational.” The user wants to learn about a topic. Informational searches might look like:

- “is life insurance tax deductible”
- “how long do running shoes last”
- “income tax brackets”
- “fender jaguar vs jazzmaster”

Transactional. The user wants to take action – to make a purchase, say, or download a product manual. Transactional search intent is not always tied to buying something. Transactional searches might look like:

- “life insurance quotes”
- “fugazi in on the kill taker on vinyl”
- “RACI chart template”

Navigational. With this kind of search, someone wants to go to a specific website or find a specific page (perhaps one they’ve visited before). There’s typically only one destination the searcher is trying to get to. Navigational searches look like:

- “amazon.com”
- “powell books”
- “healthline keo diet”

Google has more recently added:

“Visit-in-person.” These searches have local, real-world intent; someone is seeking an in-person experience or a brick-and-mortar interaction. Visit-in-person searches look like:

- “Thai restaurants open now”
- “movie times”
- “barber shops”
- “discount tires near me”

Using a search engine can provide you with lots of great content ideas. Break the results into content topics; and don’t forget to go back to the initial search result in Google to see related search queries.

Website Header Space

When someone lands on your website for the first time they first need to determine if they have found the site

they were expecting. Having your business name and logo front and centre on your website is a must. Below that the next item of content should be a very short description of what the business does; what services or products they offer, ideally in 5-words or less. This is the main sub-heading.

The main sub-heading is undoubtedly the most important content piece on your website. It ensures users that they are on the right site and that you have the solution for a deep-seeded problem of not enough money, time, status, etc. Do not be overly specific with the main sub-heading: Ensure the broad scope of services and products are included while also indicating how it will solve a real problem in the customers life.

Call to Action

Many business websites fail to clearly define how you can purchase their product or service. The solution: have multiple “call-to-action” buttons throughout the site, specifically on the top-right menu or under the main sub-heading. For example: “Book a free consultation” is a great way to funnel leads to your inbox.

Make your target audience part of your story

When writing content for a website it is important to bring the customer into the story. For example, at SupaDesign we know you are the type of customer who wants to be seen and heard. Your voice matters and will be emphasized throughout the design process. When you position your customers at the heart of the business and show them that you truly understand the problem you are solving for them, you will get much better conversions on your content.

Use Testimonials & Stats to Build Authority

Using testimonials on your site helps builds reputation and authority. Interview your customers, or draft a testimonial of a conversation or sentiment they have expressed from you for their approval. Having at least 3 testimonials on your website helps build authority but also shows the humanistic-side of the business.

Statistics have the effect of giving fast authority. For example, 100+ satisfied customers, \$100,000s of dollars saved. Even adding the number of years you have been in business will add authority to the content.

Smart Interface Design

Websites should be unique, content-driven and show a clear business purpose. Coming up with a new solution for design issues can be very time consuming. Smart design patterns allow us to ask the right questions of our website layout to ensure maximum cross-cultural usability.

The guidelines below have been curated through usability sessions, design iterations and A/B testing. Before we dive into patterns, we want our website to be usable by all and that starts with adhering to website accessibility standards.

Website Accessibility Standards

An Introduction to Web Accessibility (<https://www.w3.org/WAI/fundamentals/accessibility-intro/#context>) outlines patterns you must implement when designing a website to make sure the site works for everyone.

Review the Tips for Getting Started (<https://www.w3.org/WAI/tips/designing/>) and pay close attention to the requirement for alternative text on media, as it is a requirement for all images that are non-decorative. A decorative image does not add value to the content and is seen more as a placeholder on the site to ensure consistent flow of the page layout.

Layout patterns

Navigation

Besides being consistently stylized across all pages on your website, your navigation should also have the following features:

- **Customizing the style of your navigation can dramatically make your website more user-friendly. Add a “home” button/link and set the logo as a link which returns home. On the left-most side of your menu, people will usually look for a way to get back to your homepage. This link is often called “home”, is the businesses logo or the name of the business.**
- **Navigation items look like a button/link. All links in your navigation should look like a link rather than plain text. WordPress.com will stylize your navigation to stand-out, however, using a specific colour pallet will ensure that your navigation links/buttons have sufficient contrast and “pop” when compared to the content on the rest of the page, is a must.**
- **Add a hover effect. People often read the web by moving their cursor over the content. When they go to click on a navigation link with their cursor, as opposed to tapping with a finger/thumb, the link is expected to change to indicate that you will be taken to another page.**

Active White Space

Are there any glaringly large empty spaces on your pages? Are any of the images touching directly next to text?

If so you need to think about “white” space on your page. For example, images should usually have some margin around them to prevent text from touching the side.

Active white space is used to create eye-catching space between components on your web page to make them easy to read and aesthetically appealing.

Too much white space leaves the layout looking plain and empty. Placing a decorative image in that space may enhance the layout and a non-decorative image may add value to the content.

Form layout

Every business website should have a contact form to make it easy for individuals to contact the business.

Forms are tricky but there are a few key patterns to follow:

- **For complex forms, not typically of contact forms, break down the form into *tasks* (i.e. name and personal details, then order of relevant information)**
- **Put the tasks in a sensible order and use verbs to describe them (i.e. Shipping information)**
- **Tell users what they need before they start (i.e. documents, time)**
- **Make the submit button large enough and close enough to the form that it is easy to find.**

Strategy, Usability and Style

In the article How To Evaluate A Websites Design? (<https://www.rivmedia.co.uk/how-to-evaluate-a-websites-design/8486>), Hardingham (2020) pays particular attention to the Strategy, Usability and Style, which are relevant to knowing if your website is effective, or not.

Attribution & References

Except where otherwise noted, this page is adapted from 3.1 KEY CONCEPT: Content Strategy and 3.3 Website Design Interface and Patterns In *Maintaining an Online Presence* by Julia Grav, Camosun College, CC BY 4.0

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W3C. (n.d.). Introduction to Web Accessibility. <https://www.w3.org/WAI/fundamentals/accessibility-intro>

W3C. (n.d.). Designing for Web Accessibility. <https://www.w3.org/WAI/tips/designing/>

Notes

1. <https://www.cis.upenn.edu/~nenkova/Courses/cis430/p3-broder.pdf>

11.3 CREATING AND ORGANIZING WEB CONTENT

Options for making websites

Websites are everywhere! In fact, you're on a website right now. The world wide web opened up the internet and for a long time it has been a space where people can create their own content. But how do you go about making a website?

There are many ways in which you can create a website, from learning how to code it from scratch and then getting a domain and hosting, to using a service that allows you to create a website using a simple editor and customisable sections.

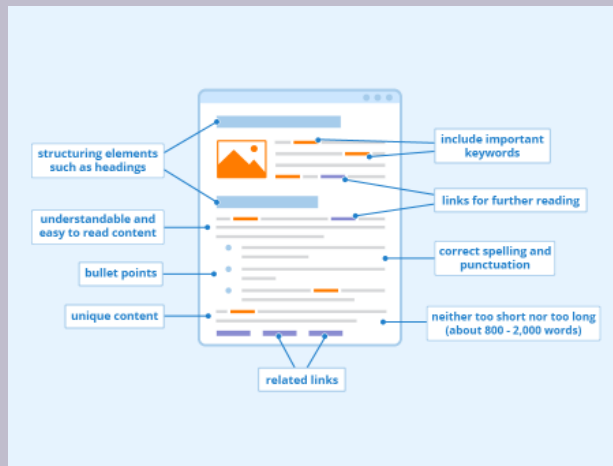


Tip

If you want to learn how to code websites, then starting with HTML and CSS (<https://subjectguides.york.ac.uk/coding/websites>) to understand the structure and style of the web is very useful. If you're looking for other options where you don't need to write any code, then **Google Sites** is good, and there are many other website services like WordPress and Squarespace. Coding Practical Guide: HTML and CSS (<https://subjectguides.york.ac.uk/coding/websites>) is another great resource for learning about these building blocks.

What makes a good website?

Consider different websites that you've visited recently. Can you think of a good example of a site and outline why you think it's effective?



Structured elements such as headings, easy to read content, bullet points, unique content, related links, including important keywords, links for further reading, correct spelling and punctuation and content that is neither too short nor too long (about 800-2,000 words) all contribute to optimized website content.

Source: Content optimization by Seobility, CC BY-SA 4.0

Features of good websites

Structure

Websites are made up of pages that link to other pages. Think about the “journey” users will take through the site. This may include tables of contents or “back to homepage” buttons.

Navigation

Navigation bars are crucial for allowing people to get around your site.

Icons

Icons communicate things to the user. Use them as short hands for buttons or diagrams.

Branding

Might sound like a horrible term, but it just

means what kind of “vibe” you want to have. Think colours, fonts, styles, images...

Fonts

The font you choose can indicate the style of your website. Choose wisely! Some fonts are more readable than others, especially on screens. Font size and spacing are also important to consider the readability of your website.

Text and hyperlinks

It is very useful and helpful to write your written information(text) as clearly and concisely (and with not too many words)as possible as doing this kind of thing may make it easier or less annoying to read your website and help people to actually understand what on earth you might be saying to them.

Designing for users – Universal design

Whether you're writing code or creating other digital content and applications, you need to think about the users of your program. More importantly, you need to be aware that “users” are not all the same, and design with different needs in mind.

Universal design focuses on designing with everyone in mind from the start, trying to give as many people as possible a good experience with whatever you are creating. It is about using universal design principles to embed flexibility, usability, and reliability into anything digital you create, rather than seeing digital accessibility as an ‘extra’ or something that must be done separately.

From the very start of your design process, you need to be thinking about what the goal of your project is, who it is aimed at, and how they will be using it. You need to get feedback from other people and make sure you take into account other people's experiences.

You can read more about Designing for Users (<https://subjectguides.york.ac.uk/coding/design>) on the University of York website.

Web code

HTML, or HyperText Markup Language, is the coding language by which the web is structured. These days it is used alongside **CSS** (Cascading Style Sheets), which controls the appearance of the page content.

You will often find guides and tutorials to HTML and CSS together as they work together to display web pages in your web browser.

There's a third part of a web coding trinity in the form of **JavaScript**, which is a scripting language that makes the web interactive. JavaScript interacts with the HTML and CSS on the pages to make websites do things. It is best to know some HTML and CSS before starting with JavaScript.

w3schools (<https://www.w3schools.com/>) is a good place for learning HTML, CSS, and JavaScript, along with other tools for further web development.

Consider: Accessibility and Usability

- Have you ever tried to use a website that didn't work for you?
- What prevented you from accessing the content on that page?

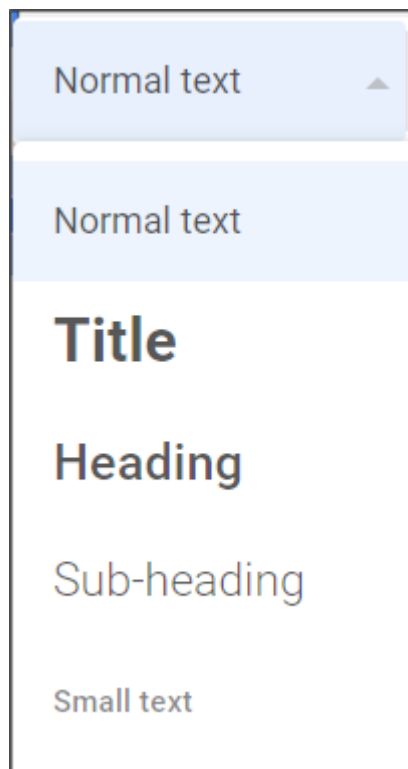
- What did you in this scenario?

Page organization and Accessibility Features

What good is having a Site if not everyone can access it?

Accessibility on your website is crucial for ensuring a smooth experience for all of your audience.

Embracing **universal design** principles means creating content accessible to everyone, regardless of abilities or disabilities. By incorporating accessibility, you not only adhere to ethical design practices but also broaden the reach and impact of your content.



Screenshot of Google Site's (<https://sites.google.com/u/0/?pli=1&authuser=0>) dropdown menu for applying heading structure. This menu provides a visual look at how headings will appear in your document.

Source: © Google, used under fair dealing.

Heading styles

Using **heading styles** is a fundamental step in enhancing the accessibility of your webpages and website. These styles help organise and structure your content, making it easier for all users to navigate, including those who rely on screen readers. You can **change your heading styles** when editing text in many HTML editors and Google sites by clicking on the **drop down box** on the formatting toolbar.

Your web document should start with Heading 1 for the title or page name, and then use Heading 2, Heading 3, and so on for subheadings to create a clear hierarchy of information.

Alt text & captions

Adding **alt text** to your images is a critical accessibility feature. Alt text provides a brief, descriptive text that conveys the content and purpose of an image. This text is read aloud by screen readers, making visual content accessible to users who cannot see it. Provide a meaningful but concise description for your image. This practice ensures that everyone can understand and appreciate the visual elements on your site. **Captions** can be added in the same way, but are different to alt text. Instead of being hidden away in the background within the code of your Site, Captions are displayed to everyone. This is important if you need to reference

images or data, or if you need to provide further context to an image beyond its visuals. You can find more guidance from us on how to add alt text and good practice when doing so in this Alt Text Guide. (<https://subjectguides.york.ac.uk/media/images#s-lg-box-wrapper-18695081>)

Colour contrast

Maintaining proper **colour contrast** is essential to ensure that your site is accessible to individuals with visual impairments. Inadequate contrast levels between your text and background colours can pose significant challenges to many. You can use tools like **WhoCanUse** (<https://www.whocanuse.com/>) to check your site's colours for accessibility. This tool helps you identify colour combinations that might be difficult for some users to distinguish by assigning scores to different font & background colour combinations.

Captions on embedded videos

Including **captions** on embedded videos is another crucial step for accessibility. Captions provide a textual representation of the audio content in videos, allowing individuals with hearing impairments to access the information. Most video hosting platforms, including YouTube, offer tools for adding captions.

Accessible hyperlinks

Creating **accessible hyperlinks** is about providing clear and informative link text. Rather than using generic phrases like “click here” or “read more”, use **descriptive link text** that conveys the purpose or destination of the link. This approach benefits users who rely on screen readers, as they can understand the link's context without having to read surrounding text or a gigantic URL! For instance, instead of “**Click here for more information**”, you could use “**Learn more about our research.**” This makes it much clearer what the link leads to rather than a vague promise of “information.”

Website Creation Tools: HTML vs. Editors

Websites are written in code, usually a combination of coding languages. HTML and CSS often form the structure and styling of webpages. You can write websites from scratch using code, or use friendly editing tools that allow you to add and edit elements without any coding.

Some common website creation & hosting tools include:

- **Google Sites (free with Gmail/Google account) – see the textbook section on Google sites for a tutorial on how to create a site using this user friendly system, with drag and drop elements**
- **WordPress (has a free plan but to have a custom domain or better design tools you have to pay)**

Your college/university or employer may have specific spaces and tools available for website creation and hosting. In order to ensure you can access your website after leaving your college or university, make sure you sign up for your space (such as Google Sites) using a free personal Google account – you may not have access to your college email address indefinitely.

Attribution & References

Except where otherwise noted, this content is adapted from “Websites: Skills Guide“, “Google Workspace: a Practical Guide“, and “Designing for Users” by University of York, CC BY-NC-SA 4.0

11.4 PUTTING YOUR WEBSITE CONTENT ONLINE

Typical Website Components

A webpage is a little bit more complicated than a standalone document, such as a Microsoft Word, Excel or PowerPoint file. Traditional websites are made up of a combination of different files that are linked together using code, and uploaded to a server together.

The foundational languages used to create the front-end design of a website are **HyperText Markup Language (HTML)**, and **Cascading Style Sheets (CSS)**. Take a moment to explore the code that is generating this web page by right-clicking on it, and choosing **Inspect (Element)**. You will see the code, styles, image sources and all the data that is being rendered by the browser. The image below shows the basic building blocks of a website.



Many languages and files can be used to put together a website. HTML and CSS are always parsed and rendered in a browser. **Source:** Components of a website: HTML, CSS, PHP, JS © Julia Grav, used under Fair Dealing.

What are HTML & CSS?

Each page on a website is a unique HTML file. This file contains the content (text and file paths to images stored on the server) that you see on the page. The styles and design of how this content is presented are created in the language CSS. CSS can either be linked to the HTML page from an external CSS file (most efficient), or by having the CSS code contained within each HTML page itself.

Note Knowing HTML and CSS allows you to customize your web pages. They are very powerful yet basic coding languages. Useful definitions, references, and tutorials can be available at W3Schools

(<https://www.w3schools.com/>), freeCodeCamp (<https://freecodecamp.org/>) and Codepip.

Uploading your Website to a Web Server

To place pages on the World Wide Web, you will need (1) a domain name and URL and (2) a web server with sufficient space for your files (pages, images, video, audio, and so on).



Tip

Domain names are issued by designated sites such as GoDaddy.com, Domain.com, and numerous others. These sites have a search function where prospective users can see if their desired URL is available. Domain names rent usually annually for \$10 and up. Popular names may cost much more.

The domain provider will offer a “pointer” to connect your URL to the server where the content is located.

If you’re studying web design in a university, high school, or continuing education class, the institution may provide a web server and URLs for students to use during the class.

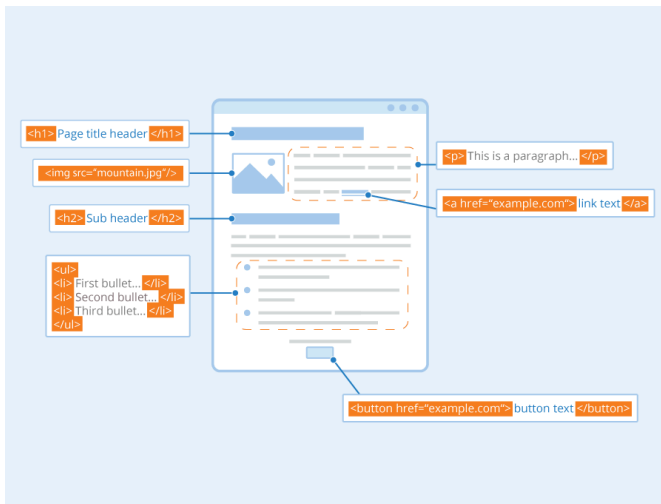


Diagram of a website showing placeholders for elements such as page header, images, subheaders, bullets, paragraphs, links and buttons, along with an example of what the HTML markup looks like for each element. **Source:** Markup Language by Seobility, CC BY-SA 4.0

If you have a URL and service space, you will need a file transfer protocol (FTP) program to upload files to the server and set reader permissions. A multitude of free FTP programs are available for download. At Ryerson University we use FileZilla to place files on a student web server maintained by the Computing and Communication Services department.

File Preparation and Upload

To upload files to a web server, the authors recommend the following steps:

1. **Make a “gold master” folder on your desktop, such as “site,” and place final files in it.**
2. **Place the required .html, .css, and image files for your site into the folder.**
3. **Follow naming conventions for convenience:**
 - **Use all lowercase letters.**
 - **No spaces in file or folder names — use hyphen (-) or underscore (_) to separate words.**
 - **No absolute links to images, .css, .js, or other files (e.g., “file:///MacintoshHD/images/image.jpg”) in your documents.**
4. **Make sure your home page is called “index.html” so the file will load automatically when the folder is entered.**
5. **If placing image, .css, and other files in folders, be sure to cite the folder name in the link. E.g., “images/image1.jpg”**
6. **If placing .html files in a folder, remember you will have to go up one directory level to get to the index file and other folders. Use “../” before the folder name.**
7. **Test the files to make sure all links work.**

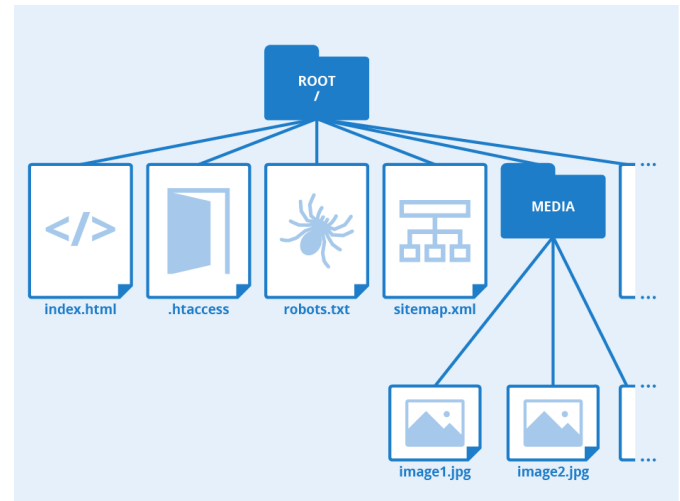


Diagram shows a sample of what folder setup might look like for files being uploaded directly to a web server. A root directory would hold the index.html file, while images and media would be uploaded into a media folder nested within the root directory.

Source: Root Directory by Seobility, CC BY-SA 4.0.

Avoid renaming any files after organizing the folder. The result is to break any links that have been coded since they no longer match to the filename.

Other Types of Websites

Content Management Systems

Businesses may have their own web space as described above, with a traditional website. However, it's becoming more common for websites to be built using a Content Management System (CMS). You have probably heard of at least one of these many popular options: WordPress, Joomla, Wix, Weebly, Squarespace, Shopify, etc. A CMS is an application used to edit and manage a website's content, using a user-friendly Graphical User Interface (GUI) rather than requiring the direct editing of code.

These systems provide a simple way to start up your website, without extensive knowledge of HTML and CSS. They often provide a **What You See Is What You Get** (WYSIWYG) editor that simplifies the process of adding content and makes web publishing much easier.

A CMS:

- **Provides the background architecture to ensure database and server-side functionality.**
- **Maintains and updates the system architecture.**
- **Gives many template options that are easy to utilize and install.**
- **Allows the focus on content and imagery rather than coding.**
- **Creates the site navigation elements.**
- **Supports database integration.**
- **makes content indexed and searchable.**
- **...and much more**

WordPress

WordPress is one of the most popular CMS. According to W3Techs (<https://w3techs.com/technologies/details/cm-wordpress>) 43% of all websites are built using WordPress. Being an open source platform means that anyone can contribute themes or plugins, help validate code and contribute to the system update. When making a site using plain HTML, each new page must be created manually. A CMS like WordPress simplifies the process of creating and adding content and images to your website.

There are two options versions of WordPress: WordPress.com (<http://wordpress.com/>) and WordPress.org (<http://wordpress.org/>). In both you can install and utilize 1000s of plugins to add features to your site. WordPress.com provides a site with limited access to the CSS and HTML code, with some available themes and offers different plans, starting with a free version and adding features and upgrades for a cost. WordPress.org is a highly customizable version of the same platform, but requires you to complete your own site maintenance, have web development knowledge (PHP, HTML, CSS, JS) and gives you full control over themes and other files and settings.

Blogs

Blogs provide another solution for publishing web content quickly and efficiently. While not always suitable for business purposes, some companies may have a blog in addition to their website, and some may use this format to start their web presence quickly.

- **The term blog is an abbreviation for *web log***
- **Blogs often contain an ongoing collection of time-based posts, presented in chronological order**
- **Blogs are often, but not always, written in a journal-style commentary**
- **A website usually contains informational pages, but can also have a blog section**

Blogs can be used to:

- **Drive traffic to your website**
- **Convert that traffic into leads or sales**
- **Establish authority on a topic**
- **Create community**
- **Be creative & have fun**
- **Follow your passion about a particular activity or topic!**

Consider: Types of Websites & Their Applications

There are many different methods for creating a website for personal or business use. Consider your future career path and where you'd like to work.

- What are the benefits of a blog for business purposes?
- Why might a business choose a content management system such as WordPress over a traditional website?

Google Sites

Google Sites is a web-based platform that allows you to create and publish websites with ease. But before we

get into the nitty-gritty of creating your site, let's have a quick overview of what Google Sites is all about. Google Sites are free, and provide many of the benefits discussed in the Content Management System section of this page.

You can think of **Google Sites** as your virtual canvas for presenting information, sharing projects, or even building an e-portfolio. The best part? You don't need to be a coding wizard to make it happen! Google Sites is (relatively) user-friendly and allows you to easily integrate content from other Workspace apps such as Docs and Slides into your site. It's a powerful tool for digital collaboration, and allows you to add a touch of flair when showcasing your academic and personal projects.

How to create a website using Google sites will be discussed in the next section of this OER.

Attribution & References

Except where otherwise noted, this page is adapted from

- **What is a Website? In Maintaining an Online Presence** by Julia Grav, Camosun College, CC BY 4.0
- **Chapter 11 – Uploading Content to a Web Server In *Web Design Primer*** by Richard Adams and Ahmed Sagarwala, CC BY 4.0
- **“Google Workspace: a Practical Guide”** by University of York, CC BY-NC-SA 4.0

11.5 CREATING A WEBSITE WITH GOOGLE SITES

Getting started with Google Sites

Let's take a look at the basics of Google sites to get your first site up and running...

Creating a new Site

Once you have signed into Google, head over to sites.google.com (<https://sites.google.com>) to access the main Google Sites dashboard. Hit the + button or choose the **Blank** template to create a new draft Google site. If you wish to start with a pre-built template, there are several you can use from the **Template Gallery**, but more often than not this just means more work deleting all the things you don't like! You can also create a Google Site directly when in Google Drive by clicking **New +**, **More**, and then selecting **Sites**.

Now you will be in your draft, unpublished Google Site. But before you get to editing, don't forget to **give your site an appropriate name**. The naming box at the top of the site determines how your Google Site will be named where it is stored in Google Drive, whereas the naming box below it determines the name of your site as it will appear when published.

Watch Getting Started in Google Sites (8 mins) on YouTube (<https://youtu.be/1IP0ZJJ4JIY>) for an example of how to create a digital portfolio using Google Sites

Edit Mode vs. Published Version

Understanding the distinction between edit mode and the published version is key when creating your Google Site.

Edit Mode: This is your draft website. It is your creative workspace, hidden from public view. Here you can experiment, refine, and perfect your site without the fear of your changes being seen by others. It will be quite clear when you are in editing mode, but if you are ever unsure, the big purple **Publish** button in the top right hand corner should allay your fears! You can also always tell if you are in edit mode as you will see the three main content editing tabs on the right of your window.

- **Insert, where you can add content to your site.**
- **Pages, where you can choose how people navigate your site.**
- **Themes, where you can start personalising how your site looks through fonts, colours and more.**

You can always get back to edit mode in your website editor by accessing the site file in your Google Drive, through the Google Sites Application, or by pressing the **pencil icon** in the bottom right on any site you have edit rights to.

Published Version: Once your site is all nicely polished and ready for the world to see, simply hit the **Publish** button.

This will make your site go live online, and anyone with the link can access it (depending on your audience settings.) Bear in mind that after publishing, **any edits you make will be immediately visible to your audience.** But don't worry, you can always make updates.

Collaboration and Content Access

Consider: Collaboration

As you plan your Google Site, consider who will need access and what role they play in the creation of the site. This will allow you to add permissions that allow others to contribute to your project.

- Will collaborators review and make suggestions for improvement?
- Will collaborators edit and revise, or be responsible for maintaining aspects of the site once it is created?

Content Access Permissions

Before you dive into adding content to your Google Site, it's essential to remember that when you're including content uploaded from Drive or other Google Workspace apps, the content must be appropriately **shared** to be visible to others. Sharing settings ensure that your content is accessible to your site's visitors. For

example, if you embed a Google Doc and its sharing permissions are **restricted**, this means it will not be visible to any site visitors. **Before adding content, make sure to set the sharing permissions accordingly for your audience.**

Collaborating on a Site

Collaboration is a key feature of Google Sites. You can add **collaborators** to work on your site together in the same way you can on other Workspace apps such as Google Docs, Slides, and so on. It's important to understand that when you add collaborators as **Editors**, you're sharing access to the **Site editor**, not just the published Site, so be careful about who you invite.

To collaborate on a Site, click on the **Share With Others** button located at the top right of your Site editor. You can also do this within **Google Drive** by right clicking the item and selecting **Share**. Enter the email addresses of the individuals or groups you wish to invite and choose whether you want to give them access as an **Editor**, or if you want them to just be able to see the published Site and not the editor, set them as a **Published Viewer**. When adding Editors, you can select **Settings** within the sharing dialogue box to enable or disable the option for **Editors to be able to publish, change permissions and add new people**.

Watch Google Sites 101: Control Access & Share Permissions (2 mins) on YouTube (<https://youtu.be/mxOMh4rR4jg>) for more tips on sharing and collaborating on Google sites.

Adding content to your Site

Adding text

Text is the foundation of your website's content, so it's probably just as well it's the easiest thing to add! Here's how to add text to your site:

1. **Using the toolbar:** While in edit mode, navigate to the section where you'd like to add the image or document. Double click on the section of your page where you want to insert text to bring up the toolbar. Use the Text box icon in the centre of the toolbar to create a text box, and start typing your content.
2. **Using the insert tab:** Text boxes can also be added by going to the Insert tab on your edit pane and selecting Text Box.

Once your text box has been added, you can also **format** your text using the provided toolbar options, including headings, lists, and more. You'll follow a similar process to add other types of content.

Watch How to Add Content to a Google Site (6 mins) on YouTube (<https://youtu.be/OCVMwH0H8HM>) for an overview of adding other types of content

Choosing how people navigate your Site

Adding **pages** to your Google Site is essential for structuring your content effectively. To **create a new page**, navigate to the **pages** tab in your site editor.

Here, you'll find a + button that allows you to add a new page. Select the appropriate page type based on your content and provide a clear name for the page.

Page types

Google Sites offers a variety of page types to suit your Site's needs:

- **Standard Page:** This is your all-purpose page for adding text, images, videos, and more. It's the most versatile and commonly used page type.
- **New Menu Section:** Use this page type to create collapsible menu sections. It's excellent for organising subpages or grouping content together.
- **Full Page Embed:** If you want to embed external content like Google Docs, Sheets, or Forms and have it occupy the entire page, this is the ideal page type.
- **New Link:** This page type allows you to link to external websites or files, making it useful for directing visitors to other online resources.

Navigation mode

You can control how your site's **navigation** is displayed to your audience. The default setting places the navigation at the **top** of the page, but you have the option to change it. By going into the **Settings** and then the **Navigation** section, you can switch between **top navigation** or **side navigation**, depending on your site's layout and your preferences.

Changing how your website looks

Themes play a crucial role in defining your site's overall appearance. Google Sites offers a selection of **preset themes** to choose from, and you also have the option to create your own **custom theme**. All of this can be found under the **Themes tab** of your Site editor.

Here, you can personalise your site's colours, fonts, and other design elements to create a unique style for your Site.

Watch 2 quick ways to change the colors on Google Sites using themes (with example) (2022) (<https://youtu.be/RCj-EHY3I5E>) for an overview of using themes to customize your site

Brand images

Adding **brand images** to your site is great for branding and recognition. Within **Settings**, you can upload a **logo**, which will be displayed at the top of your site, adding a professional touch. You can also upload a **favicon**, which is the small icon that appears in the browser's tab when users visit your site.

Announcement banner

The **announcement banner** is a useful tool to communicate important updates or messages to your site visitors. It is located at the top of your site and can be easily enabled or disabled within the **Settings** menu. You can convey your message effectively through this banner, ensuring that it catches your audience's attention as soon as they open your Site.



Tip: Previewing Your Site

Before publishing your site, it's a good practice to **preview** it to see how it will appear to your visitors. This allows you to make final adjustments and ensure everything looks as intended. In the edit mode, simply click on the **Preview** button at the top right of the screen. The preview will open, allowing you to review your site's appearance and functionality. You can also try the **preview toggles** at the

bottom to see how your Site will appear on different devices. And when you're done, just hit the **X** to take yourself back to edit mode.

Publishing & sharing your site

There's more than one way to cook an egg, and there's more than one way to share your Google Site! Let's take a look at how you can collaborate on a Google Site, set who can see your Site, and then, at last: taking the plunge and **publishing** your Site to make it **LIVE!**

Storing your Site: Shared Drive vs. My Drive

As with all Google Workspace items, you have two options for storing your Site: **Shared Drive** and **My Drive**. It's crucial to understand the differences:

Shared Drive: Storing your site in a shared drive is recommended for collaborative projects. It allows multiple individuals to access and manage the site. This is ideal for ensuring that the site remains available and under control, even if the original owner leaves the University or organisation.

My Drive: Storing a site in your personal My Drive may lead to complications if you leave the university or if you're the sole owner. Access could be lost, and the site may become unmanageable.

Carefully consider the long-term use and ownership of your site when choosing. If you wish to move a Site from **My Drive** to **Shared Drive**, be aware that the **access permissions** of the Site will **inherit** the permissions of this **Shared Drive**. **For more on how inheritance and ownership works, see our guidance on Managing content in Shared Drives.** (<https://subjectguides.york.ac.uk/google/drive?audience=staff#s-lg-box-wrapper-18870581>)

Version history

Google Sites automatically maintains a **Version History** of your site. This feature allows you to **view and restore older versions** of your Site or specific pages. You can also create **named versions** to keep track of specific iterations of your site. This is a valuable tool for tracking changes, troubleshooting, or simply reverting to a previous design.

To **view your Version History**, go to the **three dot menu** in the top right of your Site editor next to **publish** and select **Version History**. You will be able to see a date stamped list of all the changes you have made to your Site. You can **restore**, **name**, or **make a copy** of specific versions by clicking on the **three dot menu** beside each version. To **restore specific pages**, click on a version, select your page, and then click

on **restore this page version** towards the top of your Site editor. If your Site has already been **published**, you will need to **publish** it again to see these changes go live.

Publishing your site

And **at last, we're here!** You've created a wonderful, unique, accessible Google Site and it's time to share the fruits of your labour with your chosen audience! And guess what? To **publish** your Site all you need to do is hit that big beautiful **Publish** button:

When you first publish your Site, you will need to give it a **Web address** which will form the Site's **URL**. You can change this at any point by clicking on the small drop-down arrow next to the publish button and going to **Publish settings**. Though bear in mind, if you have already given the previous URL out to people this will mean the old URL will not work for them and they will need the new one to access the Site, so be careful! This same drop-down arrow next to the publish button is also where you can **Unpublish** your site if you get cold feet or need to take it down.

You are now free to continue editing your Site in the Site editor and your changes will not go live in the published version until you hit publish again.

Attribution & References

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11.6 EXPLORE, PRACTICE AND APPLY

Overview: Explore, Practice and Apply

Activities found on this page are designed to provide opportunities to explore, practice, and apply concepts presented in chapter 11.

Explore

1. Take a look at **Yale University's School of Art's homepage** (<https://www.art.yale.edu/>). What do you notice about its design? What do find appealing? What improvements could be made?
2. Note the homepage below in **Figure 11.6a**: The color combination is problematical—the gray and black interspersed with bright red and white isn't especially easy on the eyes. The page is also too busy by being overcrowded with content, low-resolution pictures, and varying fonts, all of which can be off-putting to users and make the website difficult to navigate. As you look it over, think about what you would change if you were the site's designer.



Figure 11.6a MGBD Parts & Services homepage image

Practice

Try creating a basic webpage using Google Sites (<https://sites.google.com/>). Here are some suggested exercises to start familiarising yourself with Google Sites:

1. **Create a content block:** Use the content block feature to add a cluster of different forms of content: images, videos, & text.
2. **Create a button:** Improve the user experience on your site by creating a button. Try linking this button to another page within your site or an external resource.
3. **Embed a Google Form:** Add interactivity to your site by embedding a Google Form on one of your pages. Experiment with different question types and settings to create a survey, contact form, or feedback form.
4. **Add or change the Theme:** Change the look and feel of your site by selecting a new theme. Customise your site's colours, fonts, and overall design to match your brand or personal preferences.

Apply

Which of the following issues could create accessibility concerns on a website?

1. Text is yellow on white.
2. Specific HTML elements are used to semantically define content.
3. Text is set to 12pt.
4. Images contain header text.
5. A decorative image does not have alternative text.

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- Practice activity is adapted from “Google Workspace: a Practical Guide” by University of York, CC BY-NC-SA 4.0
- Apply activity adapted from 3.3 Website Design Interface and Patterns In *Maintaining an Online Presence* by Camosun College, CC BY 4.0

11.7 KEY CHAPTER TERMS

Chapter 11 Terms

Downloadable Chapter Key Terms

View or download & print the PDF or Word format of the worksheet shown below.

[Design Chapter Key Terms Worksheet \[Word\]](#)

[Design Chapter Key Terms Worksheet \[PDF\]](#)

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UPDATE AND CHANGE LOG

December, 2024

- **Published**