Accessibility Guide

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help.madcapsoftware.com

CREATED USING MADCAP FLARE

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About me

Hi! My name is Katharine Axon, and I am a senior English major with specializations in technical writing, creative writing, and literature as history, as well as a minor in sociology. I have spent the past four years at UMass Amherst learning about different types of writing, and I am especially interested in how we use writing to express ourselves and communicate with others.

Through the Professional Writing and Technical Communication (PWTC) program, I have become proficient in Microsoft Word, MadCap Flare, Adobe Illustrator, Visual Studio Code, and both HTML and CSS.

Outside of class, I am an editorial design and production intern at the UMass Press, an academic press that publishes scholarly works from across the United States with a focus on American studies. I work on proofreading manuscripts and indexes, and tagging manuscripts with styles using Scribe Markup Language (ScML).

In addition to working as an editorial intern, I am also a peer writing tutor at the UMass Writing Center, where I help both undergraduate and graduate students across campus develop stronger writing skills in one-on-one sessions.

Outside of class and work, I love to read, make art, and go rock climbing.

About this project

This project was created as the final project for English 381: Advanced Technical Writing, a class within the Professional Writing and Technical Communications certificate at UMass Amherst. During this class, we learned how to use MadCap Flare and Adobe Illustrator to make a guide for digital content creators who want to learn more about web accessibility. The web and PDF outputs of this project were created using MadCap Flare, while the logo was created using Adobe Illustrator.

Accessibility and technical writing best practices were guiding concepts for this project. Accessibility best practices include using alt text for all images, having a clear hierarchy of information , correctly formatting headings and lists so that they are easy to navigate, and having sufficient color contrast for all text and images. In addition, the web version of this guide was checked using the WAVE accessibility checker, and the PDF version was checked using the Adobe accessibility checker. Tech writing best practices include using plain language in all writing, structuring content into modules, using active voice, and having clear visual hierarchy.

Introduction

Welcome to this Accessibility Guide! If you are a digital content creator wanting to learn more about accessibility, this is the guide for you. The guide is split into three sections, each focusing on a different aspect of accessibility: introduction to accessibility, alt text, and closed captioning.

The first section of this guide provides a broad overview of what digital accessibility is and why it matters. The first module introduces accessibility and web accessibility as general concepts, the second module explains different ways of achieving accessibility, and the third module explains different models of disability.

The second section of this guide focuses on one specific aspect of digital accessibility: alt text. The first module explains what alt text is, the second module provides a guide for writing strong alt text with examples, and the third module explains three different ways of adding alt text in MadCap Flare.

Finally, the third section provides a guide to closed captioning, another specific aspect of digital accessibility. The first module introduces closed captioning and what its purpose is, and the second module explains some of the best practices and standards for creating closed captions.

Continue reading to learn more about how you can make your digital content more accessible!

Chapter 1: Accessibility

Introduction to accessibility

What is accessibility?

Accessibility is the practice of making physical and virtual spaces available to as many people as possible, with an emphasis on making them available to people with disabilities. Accessibility means that no one is excluded from a particular space or resource.

Accessible spaces do not require people to make their own adaptations or modifications to enter them. Instead, they are built to be usable by all. This is important because excluding certain people from spaces like schools or workplaces prevents them from being able to participate in society to the same extent as others.

The United States has a long history of excluding people with disabilities from public spaces and segregating them into institutions. These institutions have often been sites of mistreatment and abuse. Through the disability rights movement, this type of exclusion has become illegal, and accessibility is no longer just an aspiration but a requirement.

Image from the Rocky Mountain ADA Center

What is web accessibility?

Now that technology and the internet are so widespread, and virtual spaces are just as important as physical spaces, web accessibility has become an important part of accessibility as a whole. Web accessibility is the practice of making digital content and software available to and easy to use by everyone, with a focus on making them usable for people with disabilities.

Accessible digital spaces do not require people to make their own modifications just to be able to use them. Instead, accessibility should be built into these spaces from the very beginning.

As with accessibility in general, web accessibility is not just an aspiration but a legal requirement in the United States. The Americans with Disabilities Act (ADA) and Web Content Accessibility Guidelines (WCAG) both provide guidelines for achieving web accessibility.

Some examples of web accessibility are:

- Having high color contrast so that people with low vision or color blindness can read the text
- Including alt text with images
- Including closed captions on videos with sound
- Not having distracting videos or graphics on a web page
- Using simple language

All of these are simple steps that you can implement in your own content to make it more accessible.

Souces:

Crip Camp

Considering Accessibility

How do you achieve accessibility?

Accessible design

Accessible design is the process of designing your product or content to be accessible. There are different types of accessible design, including retrofitting and universal design. While there are some times when retrofitting may be necessary, you should always try and use universal design when possible.

Retrofitting and adaptable design

Retrofitting is the process of adding on accessible features after a product has already been created, while adaptable design is a type of design in which people make their own adjustments to products in order to be able to use them. Unlike with universal design, when you design with retrofitting and adaptable design principles people with disabilities have to work to access spaces and products.

There are some cases in which retrofitting or adaptable design may be required. For example, in a building built many years ago without a ramp, it would probably only be feasible to retrofit a ramp to the pre-existing structure. However, when designing a structure from the beginning it is always important to consider accessibility as integral to the process from the beginning rather than tacked on as an afterthought.

Some examples of accessible design are:

- Adding a wheelchair ramp to the back entrance of a building
- Giving readers the option of changing font color and size on a web page with low contrast and small font

Image from Access Advisors

Universal design

Universal design is another method for achieving accessibility. Robert Mace, who coined the term in the 1980s, defined universal design as "design that's usable by all people, to the greatest extent possible, without the need for adaptation or specialized design" ("Considering Accessibility").

This means that accessibility is built into the design process from the very beginning rather being tacked on as an afterthought. It also means that, while people with disabilities are the focus of the design, everyone benefits because products built with universal design principles are easier to use in general.

In universal design, people with disabilities are a part of the design process from the very beginning, whether as designers and engineers or as members of usability testing groups. This ensures that products are actually built to be useful, rather than filling arbitrary guidelines.

While universal design may feel daunting, it can actually save time and money because when you build accessibility into your product from the very beginning, you don't have to add modifications and retrofits on afterward.

Some examples of universal design are:

- Using correct semantic structure in a web page in the beginning of the coding process
- Designing a building with automatic double doors and a ramp in the front entrance
- Including tactile paving at the corner of every curb
- Having lever door handles instead of spherical door handles

Image from Wikipedia

All of these examples prioritize people with disabilities from the beginning of the design process. When designing your own digital content, make sure to keep these principles in mind so that more people can use and enjoy your content.

Sources:

Considering Accessibility

What is disability?

In order to make things accessible for people with disabilities, it's important to understand what disability actually is. Disability can take many forms and is understood in many different ways, but there are two main models that are helpful for conceptualizing disability: the medical model and the social model. These different models are helpful for different purposes. When designing your own digital content, the social model is likely more helpful for creating accessible content.

The medical model

The medical model of disability is an understanding of disability as relating to certain medical thresholds. Under the medical model, there are sensory, physical, emotional and cognitive thresholds that determine "normal" functioning. If someone falls below any of these thresholds, they are considered to have a disability.

This model can be helpful in a medical setting because it provides doctors with a framework for understanding and diagnosing patients. However, the medical model is not always helpful outside of this setting because it enforces the idea that there is something abnormal or lacking about people who have disabilities. It supports the idea that people with disabilities need to adapt themselves to their environment, rather than adapting the environment to be accessible to people with disabilities.

The social model

The social model of disability is the idea that disability is caused by inaccessible environments rather than by something inherent within a person. Under this model, the environment is understood to be disabling, not the person.

For example, under the social model of disability it is the lack of captions on a video that disables someone who is Deaf, not the fact that they cannot hear. If a wheel-chair user cannot enter a building because there is no ramp, it is the lack of a ramp that disables them, not their wheelchair.

This model is often more helpful to use outside of medical settings because it emphasizes how disability is socially constructed. It is also helpful for understanding how design contributes to disability. Good design can prevent environments from being disabling, while bad design can create disabling spaces.

When you design your own content and products, keep in mind how your own design choices influence people's experiences with disability, and prioritize making choices that are not disabling for users.

Different experiences of disability

Disability is not a static thing, and people's experience with disability often changes over time. Disability can be something a person experiences throughout their whole lifetime or a temporary experience. Because of this, it is important to center people's individual lived experiences with disability when making design choices rather than making blanket assumptions.

People can experience permanent, temporary and situational disabilities. For example, someone with one arm has a permanent physical disability, while someone with a broken arm may have a temporary one. Someone holding something in their arms, like a new parent holding a baby, has a situational disability.

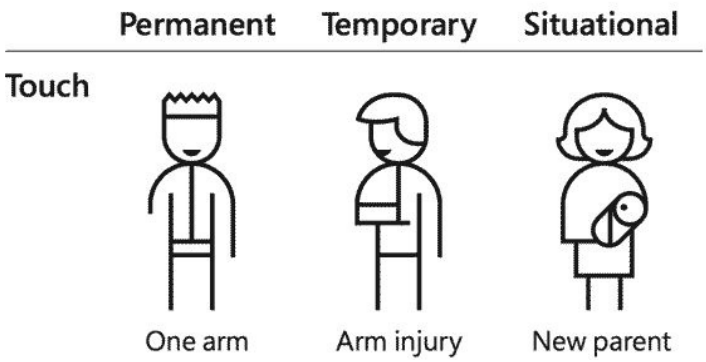


Image from iWeb

According to the CDC, 27 percent of Americans identify as having a disability (CDC). People's experiences with disability fall into different categories. The CDC defines these categories as mobility, cognition, independent living, hearing, vision and self-care.

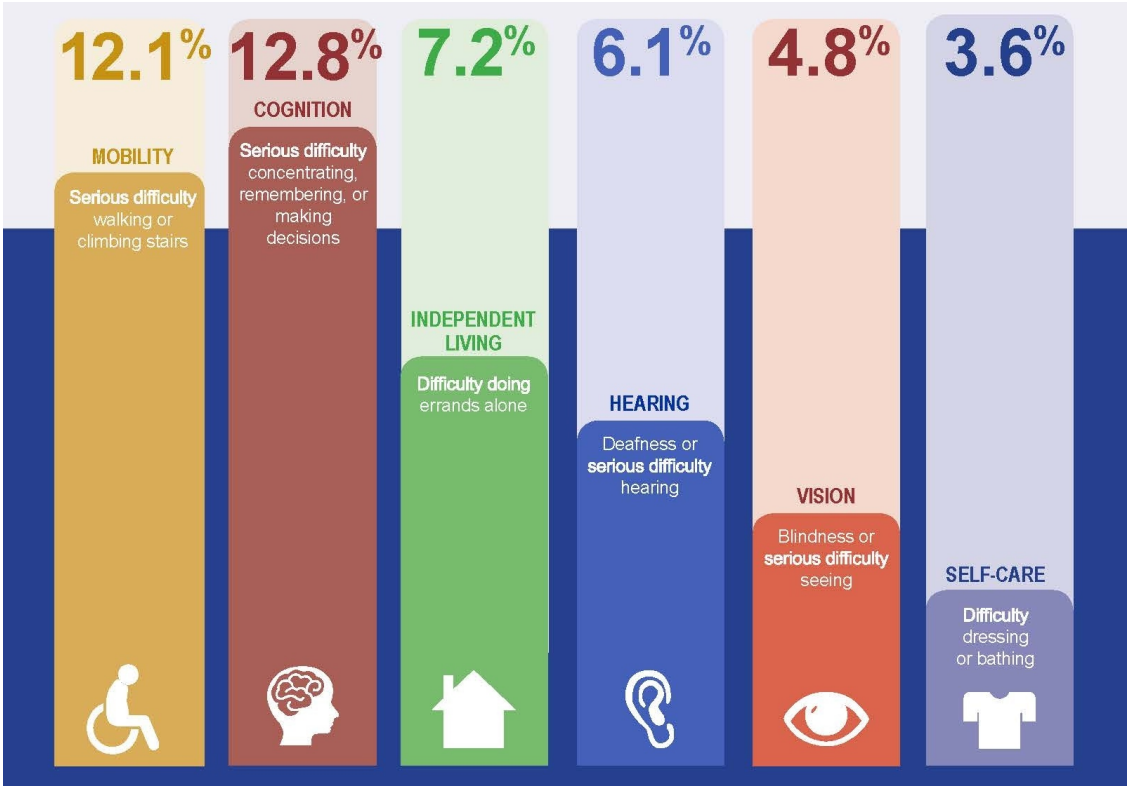


Image from the Center for Disease Control

When designing things to be accessible, it is important to take into consideration how diverse people's experiences with disability are. It is also important to remember that two people with the same disability do not necessarily have the same needs in terms of accessibility.

Sources:

Disability

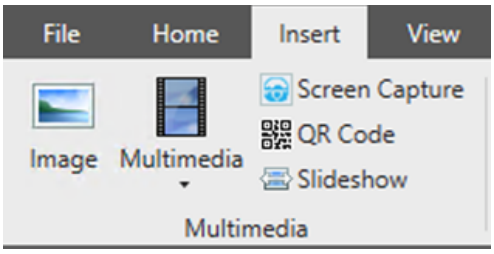
Chapter 2: Alt text

Adding alt text in Flare

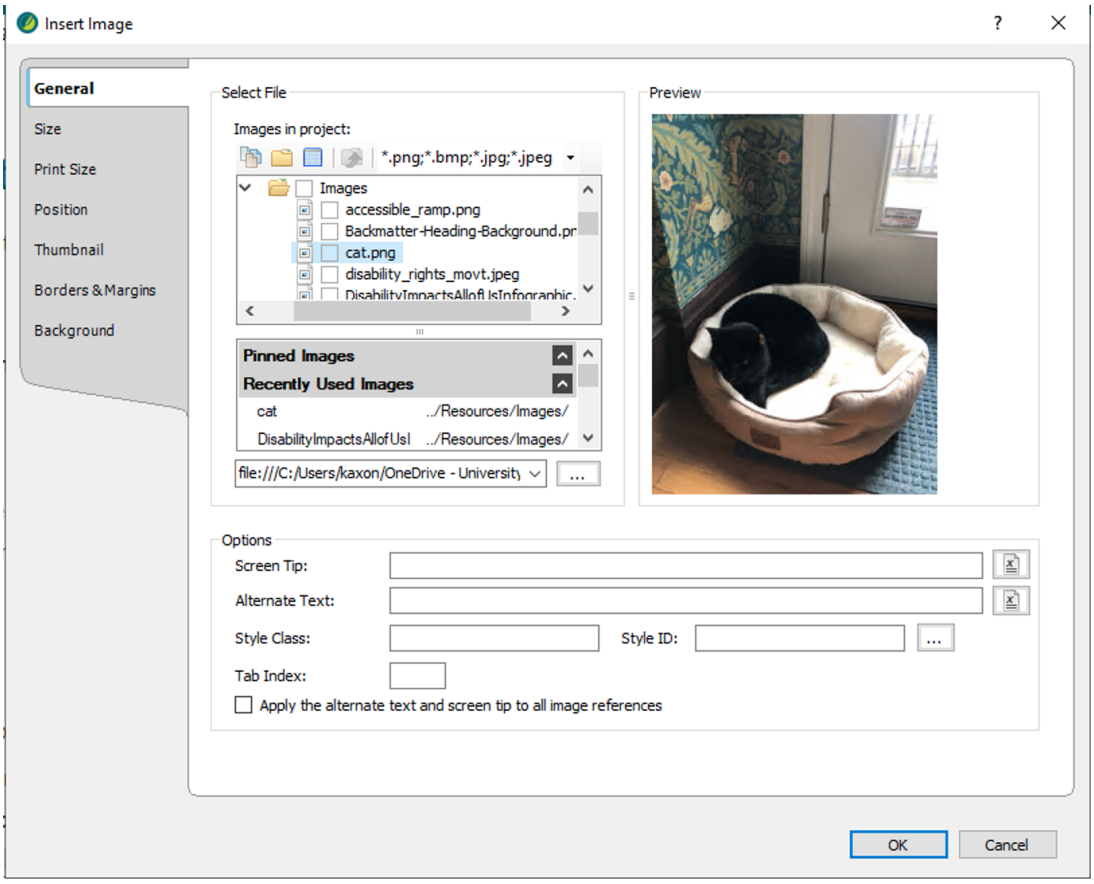
There are three different methods for adding alt text to images in MadCap Flare, depending on how you choose to upload your image. The first is to add alt text while you insert your image using the "insert image" feature on Flare. The second is to add alt text by right clicking on a pre-existing image. The third is to manually add alt text to the Text Editor. When writing your alt text in Flare, keep in mind the principles of "Writing good alt text" on page 26.

Method 1: Insert image

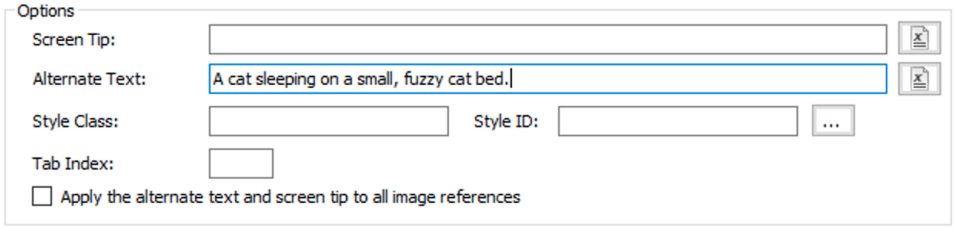
1. Navigate to the **Insert** tab.
2. Select **Image**.



3. A new window appears. Select the image you want to add under **Select File**.



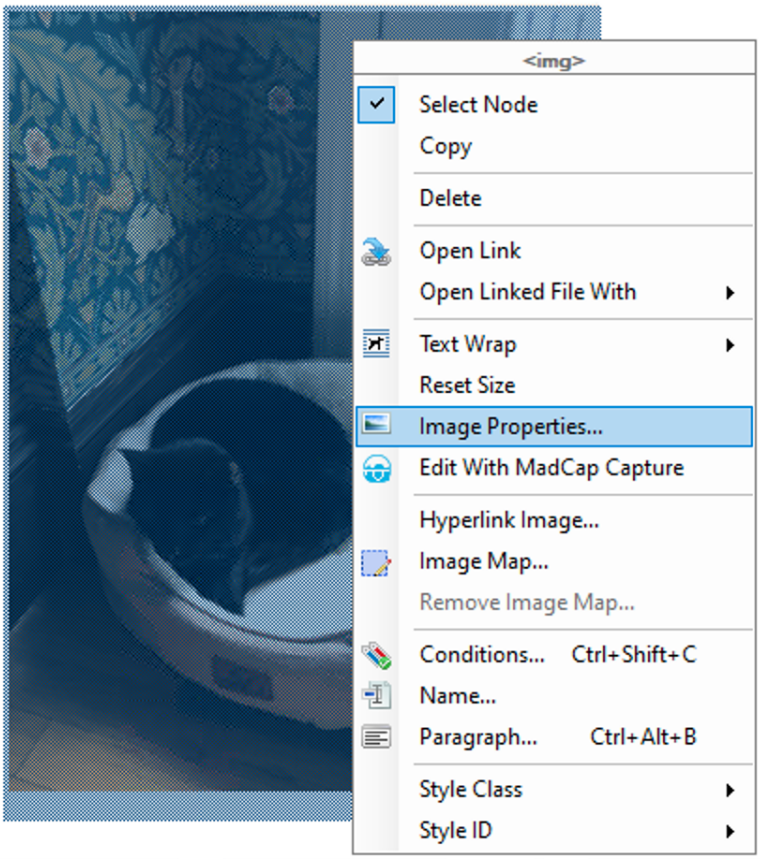
4. Input your alt text under **Alternative Text**.



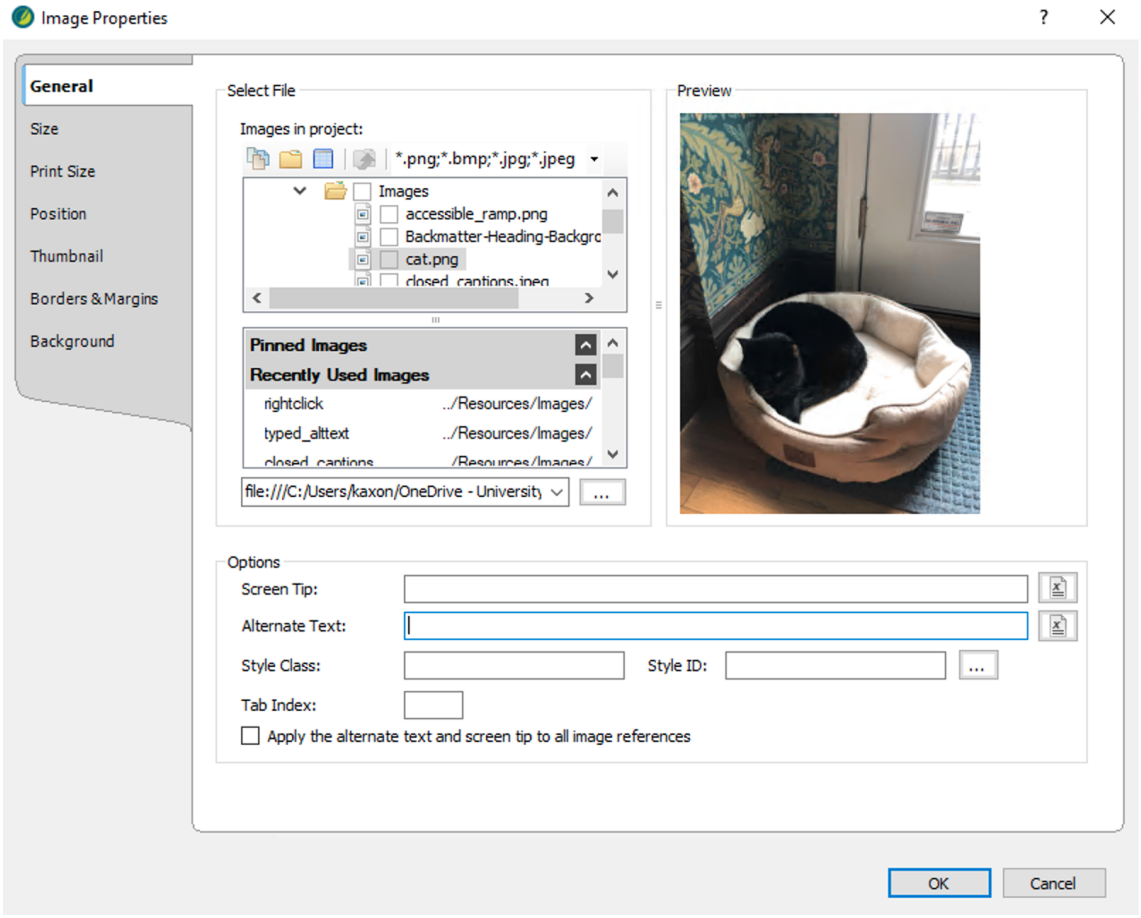
5. Select **OK**.

Method 2: Right click

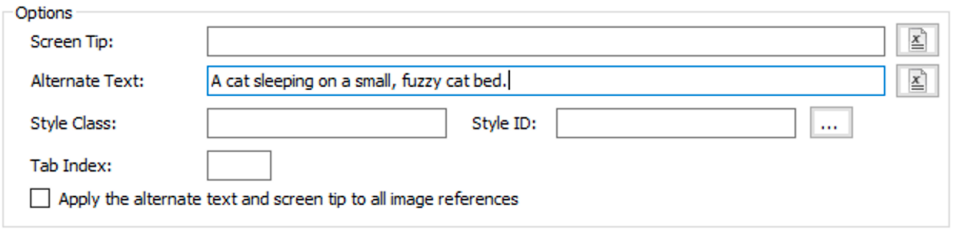
1. Copy and paste your image into Flare.
2. Right click on the image.



3. Select **Image Properties**. A window appears.



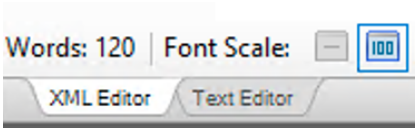
4. Input your alt text under **Alternative Text**.



5. Select **OK**.

Method 3: Text editor

1. Insert your image into Flare.
2. Navigate to the **Text Editor** tab. This opens the HTML code for your project.



3. Locate the <img> tag within your code.

```
<p>The alt text for a particular image changes based on the context of the image. Take this picture of
<p>
    <img src="../Resources/Images/cat.png" style="width: 313px;height: 417px;" />
</p>
<p>If I were including this photo on the About Me page of a personal website, I might use the alt
```

4. Add the alt="" attribute within the <img> tag, typing your alt text in between the quotation marks.

```
<p>
    <img src="../Resources/Images/cat.png" style="width: 313px;height: 417px;" alt="A cat sleeping on a small, fuzzy cat bed." />
</p>
```

Writing good alt text

When writing alt text for the images on your website, there are a few key concepts to keep in mind. These concepts include basing your alt text on the context of your image, and using null alt text when additional alt text would be repetitive or unnecessary.

Context

The alt text for a particular image changes based on the context of the image. Take this picture of my cat for example:

The alt text for this image would change depending on the kind of web page it's on:

About me

If I were including this photo on the About Me page of a personal website, I might use the alt text: "A small black cat sleeping on a cat bed by the door."

Pet bed site

If this photo were used on a website selling pet beds, the alt text would focus on the bed itself. It might read: "A black cat sleeping on a small circular pet bed with a white, fuzzy interior."

Wallpaper forum

If this photo were included on a website discussing different types of wallpaper in homes built in the 1900s, the alt text might read: "A cat sleeping next to a wall decorated with floral green wallpaper. The wallpaper depicts a deer jumping over a white rabbit amid fern fronds and pink flowers."

Null alt text

Sometimes images are decorative, and it is unnecessary to include alt text describing their content. For example, say I want to include a leaf decoration in the corner of my website to make it look more visually pleasing. I might include this image:

Image from Annie Spratt on Unplash

Because this image provides no information and has no function on the page, I would use the null alt attribute. It is important to include the null alt attribute and not just leave out the alt attribute because this way, the screen reader knows to skip over the image. Otherwise, the screen reader might try to substitute for the missing information by reading out the file name.

You would also use the null alt attribute if a relevant description of the image is already given in the image caption or surrounding text. This prevents a screen reader from reading out redundant information.

Introduction to alt text

What is alt text?

Alt text is text that describes the content of an image. The goal of alt text is to serve as a replacement for images for people using screen readers or if an image does not load on a web page. Alt text also helps search engines factor in the content of images into their assessment of a web page.

Alt text is usually included as a part of the alt attribute, but captions and surrounding text should also be considered when writing alt text because they provide written descriptions of what is included in the image.

What makes good alt text?

Good alt text serves as a replacement for a visual element on a web page. This means that it has to convey the content and function of the image in as a succinct way as possible.

Good alt text:

- Is dependent on context - the same image may need different alt text if it is used in a different context on different web pages
- Only describes information visible in the image
- Is as succinct as possible - a good rule of thumb is to try and keep alt text under 150 characters

- Describes the function of the image - if the image is a link to a PDF, for example, this should be conveyed in the alt text
- Does not start with the phrase "image of" - this is redundant because the screen reader announces this already
    - Include "painting of" or "photo of" only if the medium of the image is integral to someone's understanding of the image
- Has a null text attribute for decorative images, or if all important information about the image is conveyed through the caption or surrounding text

Keep all of these guidelines in mind when writing alt text for your own images, and your website will be easier for people to navigate, especially if they are using screen readers!

Sources:

Alternative Text

Chapter 3: Closed Captioning

Introduction to Closed Captioning

Closed captioning is one important aspect of accessibility, providing an alternative to the audio in a video. When you make any kind of content that contains audio, it is important to include closed captioning so that your content is accessible to the widest possible audience. Closed captions particularly benefit people who are Deaf or hard of hearing and cannot hear the audio, but many people use closed captioning for a variety of different reasons as well.

A brief history of captioning

The concept of captioning actually goes back to the very beginning of the film industry. When film was first developed in the late 1800s, all film was silent and text called intertitles appeared between scenes to provide context or dialogue. In the 1920s, however, filmmakers began to add sound to films and to remove these captions, and films became inaccessible to Deaf and hard of hearing people.

Emerson Romero, a Deaf actor and producer, found himself out of a job when the silent era of film ended. He started to work on developing captions so that this new era of films would be accessible to the Deaf community. Romero's captions did not immediately take off, in part because his captioning technique was not very advanced, but his captions did provide the basis for captions to become more widespread in the future.

Emerson Romero, the silent film star who helped to develop closed captions. Image from HearingLikeMe.com.

Through the work of Deaf activists, captioning became more and more common throughout the 19th century. In 1972, Julia Child's *The French Chef* became the first television program to have open captions embedded into the show, meaning captions were burned into the video and always visible. Then, in 1996, the Telecommunications Act made captioning on televisions a federal requirement.

Captioning has become more and more common in recent years. In 2012, the Federal Communications Commission (FCC) made a new law requiring that the technology to decode captions be built into all electronics, not just televisions.

Closed Captions vs Subtitles

Closed captions and subtitles are very similar, and the terms are often used interchangeably. However, there are key differences between the two of them. Subtitles assume that the viewer can hear the audio but can't understand the language, so they only provide transcription for the dialogue in a video.

Subtitles only provide dialogue text, with no other sound cues. Image from Wikipedia.

Captions, on the other hand, assume that the viewer cannot hear the audio at all. This means that they include not just dialogue but sound effects, music, speaker tags and any sound relevant to someone's understanding of the story.

Sound effects like "keys jangling" are included in captions when they provide important context for the story. Image from 3PlayMedia.

Even silence can be included in closed captions, when it helps someone's understanding of the story. Image from Digital Writing and Research Lab.

Closed vs Open Captions

Open captions are the same as closed captions, but they are burned directly into the video, meaning they cannot be turned off. Closed captions, on the other hand, exist in a separate file and can be turned on and off for a video. Open captions are useful in certain situations because they are supported by all video formats. They are often used on social media videos, as well as at film screenings.

Who uses closed captions?

Closed captions are specifically made for people who are unable to hear the audio in a video, and their purpose is to serve as a complete visual replacement for the audio. However, many people use closed captions for reasons other than being unable to hear the audio. According to Preply, 50% of Americans use subtitles or captions most of the time when consuming video content. This number actually rises for younger generations, with 70% of respondents from Gen Z reporting that they use subtitles or captions frequently.

Some of the main reasons people choose to use captions are:

- To better understand dialogue with heavy accents
- To stay focused on the content
- Because they are listening in an environment with lots of background noise
- Because they are listening to a video with the sound turned off

Because captions are so popular, and because they can provide so many benefits both to hearing and Deaf viewers, adding captions to your digital content is vital. Captions make your content easier to understand and more accessible to wider audiences.

Sources:

The History of Closed Captioning: The Analog Era to Today

How a deaf, silent film actor pioneered closed captioning

The Ultimate Guide to Closed Captioning

Survey: Why America is obsessed with subtitles

How Many People Use Captions and Subtitles?

Closed Captioning Standards

When you add closed captions to your video content, it is important to follow a certain set of standards so that your captions are as clear and easy to follow as possible. This page provides a guide to get you started on some of the basic standards and best practices for closed captioning, but a more thorough guide can be found at the Described and Captioned Media Program.

FCC guidelines

The Federal Communications Commission (FCC) provides a set of guidelines for closed captions that everyone must follow to be in compliance with federal law. They split their general guidelines into four categories: accuracy, synchronicity, completeness, and placement.

- **Accuracy**: Captions must be accurate to the fullest extent possible, meaning they completely transcribe all spoken dialogue, and they use correct spelling, grammar, and punctuation.
- **Synchronicity**: Captions must be displayed at the same time as the audio that they describe, and they must be displayed long enough to be read by viewers.
- **Completeness**: Captions must run from the beginning to the end of all programs, without skipping, paraphrasing, or cutting off any information.
- **Placement**: Captions should be placed so that they do not block any important information on the screen, and so that none of the caption itself is cut off by the screen.

Best practices for writing captions

In addition to the FCC's general guidelines, there are a few specific guidelines to follow when writing and formatting your captions. These guidelines are split up into three categories for you to refer to: font and case, line division, and duration and placement.

Font and case

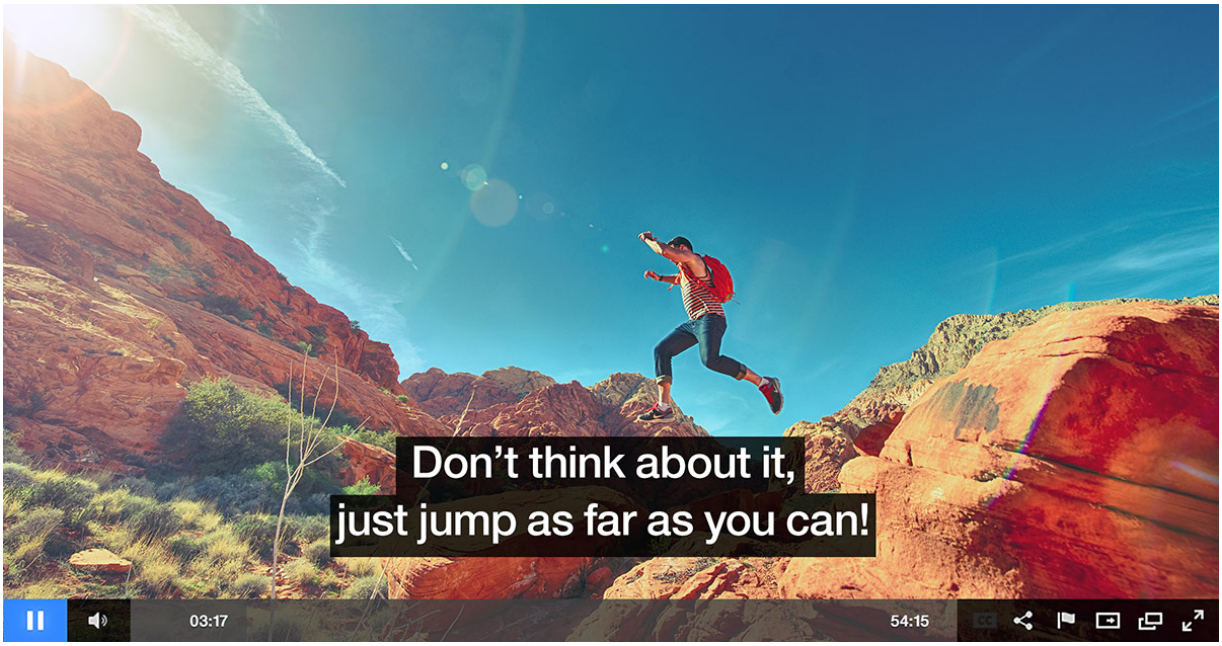
- Use a proportionally spaced, medium weight, and sans serif font.
- Ensure that there is enough contrast between the text of the caption and the content of the video. There are a couple ways of doing this:
    - Use a white font with a black rim.
    - Add a gray or black background behind the text of the caption.
- Use mixed case for dialogue, unless a character is shouting, in which case you should use all uppercase.
- Use lower case for sound effects.

Hulu's closed captions are written in a sans serif font, they have sufficient contrast against the image, and they are written in mixed case. Image from Lifewire.

Line division

- Keep modifiers with the words they modify
    - Good: The red car / is getting away!
    - Bad: The red / car is getting away!
- Keep prepositional phrases together
    - Good: I'm sitting / across the hall
    - Bad: I'm sitting across / the hall
- Keep full names and titles together

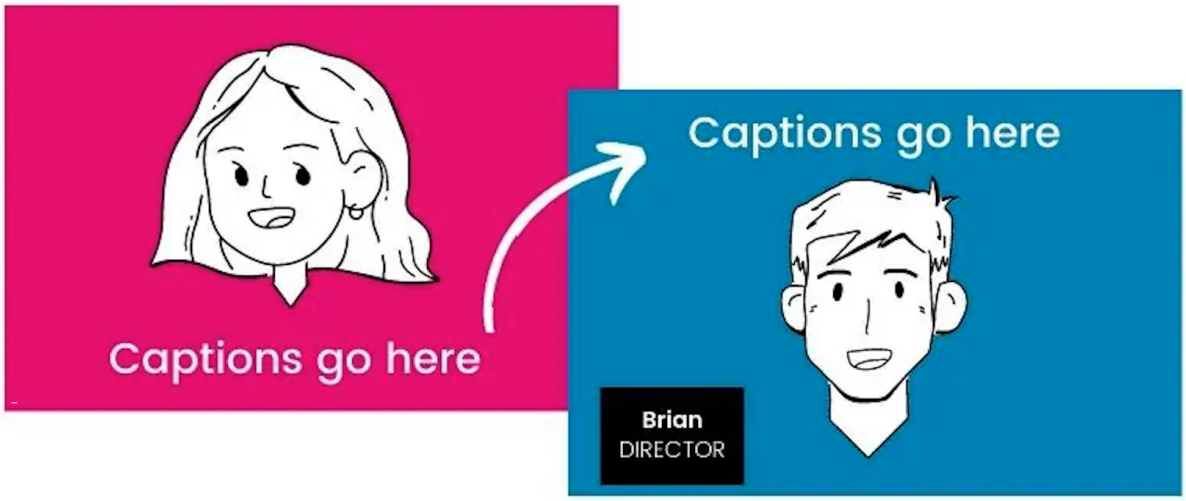
    - Good: I went to see / Doctor Smith
    - Bad: I went to see Doctor / Smith
- Make line breaks before conjunctions, not after
    - Good: My bag is packed, / and I’m ready to go
    - Bad: My bag is packed, and / I’m ready to go
- Keep auxiliary verbs with the words they modify
    - Good: She told me she / had lost her keys
    - Bad: She told me she had / lost her keys
- Start new sentences on a new line instead of starting them on the same line
    - Good: I’m tired. / Let’s go now
    - Bad: I’m tired. Let’s / go now



The line break for this caption occurs at a natural pause in the sentence, making it easy to read. Image from IBM.

Duration and placement

- Display captions for 1 to 6 seconds
    - An exception is background music, which may be displayed for longer
- Left align all multi-line captions when possible
- Position captions at the bottom of the screen, unless this blocks important information
- Keep captions between 1 and 2 lines when possible
- Place captioned dialogue underneath the speaker when possible



Captioned dialogue usually goes at the bottom of the screen, underneath the speaker, but it is moved to the top of the screen when it would block important information, such as the director's name. Image from 3PlayMedia.

Sources:

FCC Closed Captioning Quality Standards for Video Programming

Captioning Key - Text