Accessibility for Technical Writers

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Table of Contents

Introduction

Accessibility is a very broad term with many different meanings. One might be the availability of a person, or how easily resources are made available to users like you. For this discussion I would like to focus on the importance of accessibility as it pertains to professional and technical writers. We will examine the history of accessibility, what it looks like in the world of technical writing, why it is important, and step through procedures you can follow to start applying these essential conventions into your work.

First off, what does accessibility mean in a writer's context? Accessibility is the extent to which a product or service can be used equitably for users of all abilities. When thinking about accessibility it is important to acknowledge that not every user is the same. Each user may have their own methods of reading, accessing, and coming to an understanding of the information they work with. By providing an accessible product, you are establishing a broader user base.

As a tech writer it is imperative to not only understand accessibility but terms such as usability and universal design as well. Usability serves a critical function during the product development stage to address the needs of each user. While universal design looks past accessibility and targets the challenge of forming utilities that are usable by as many people as possible regardless of alterations. This manual will cover all of these practices so that you may learn how to improve your user's experience in more than one way.

Implementing basic accessibility principles is both a relatively simple process and one that can also improve the lives of many users.

Read on to take a Closer Look into Accessibility and a Brief History of Accessibility.

All About Accessibility

Accessibility is one of a technical writer's most crucial responsibilities. It is vital for you to be implementing accessibility principles in your work. My aim is to make these real world applications easier.

In order to expand your understanding of accessibility I urge you to read the following sections.

- A Closer Look into Accessibility
- Brief History of Accessibility

A Closer Look into Accessibility

For accessibility to function properly in society we all have a major responsibility to help people with disabilities. As a technical writer you share this responsibility as a part of your own work. It is also important to acknowledge that accessibility does not only benefit those who have impairments. Rather by practicing accessibility in your work you are providing benefits to all users.

You will find that in some cases accessibility features designed to aid people with certain disabilities can also be beneficial to others as well. A great example of this are video captions and high-contrast text. Closed captioning as it is often called was designed to help people with hearing disabilities but it has also proved to be helpful while watching a video on mute. Additionally, high-contrast text initially designed to help people with vision impairments has become invaluable for reading on devices in harsh conditions such as bright sunlight. In these instances and others, accessibility proved to achieve a much wider range of successes than the main objective of helping people with disabilities. However, as a tech writer it is important to note that accessibility is first and foremost targeted towards benefiting those with disabilities.

Read on for a Brief History of Accessibility including the etymology of the word and the long movement for disability rights.

Brief History of Accessibility

Etymology

The history of accessibility is a quite long one especially in the United States. Some context of this history can be found in the etymology of accessibility. Dating back to 1750 a precursor word called 'accessibleness' was spoken about as "The difficulties, which can be easily supplied by one who is skilled in Hebrew, [should not be] compared with the accessibleness of [the English language]" (Oxford English Dictionary). This example is still relevant for understanding accessibility today. Back then it was distinguished as the degree of difficulty in understanding a language (Hebrew vs English). Today, this difficulty can be found among people with disabilities who may be unable to complete daily tasks due to a lack of accessibility features.

Disability Rights Timeline

Unfortunately, the accessibility features discussed in A Closer Look into Accessibility which have become so commonplace today took far too long to achieve. Just in the U.S. alone, Americans with disabilities have been calling for public awareness of disabilities since the 1900's. Not until World War I would people with disabilities be seen as more than 'abnormal and feeble-minded' individuals. At this time rehabilitation was first implemented to aid WWI veterans who came back with disabilities. By the 1930's the U.S. would begin to make substantial progress both technologically and within governmental assistance as part of FDR's New Deal.

These programs included specialized services such as physical therapy and education programs implemented as part of the Works Progress Administration (WPA). Franklin Delano Roosevelt (FDR) was the first U.S. president with a disability and as such advocated for better recovery programs. Yet even FDR continued to see disabilities as 'abnormal' and 'shameful' (Anti-Defamation League).

As part of the civil rights movements of the 1960's disability advocates would work with other oppressed social groups to argue for better living conditions. The Rehabilitation Act of 1973 would finally be passed following the fervent mobilization of disability rights activists and parents who wished for their children to have equal opportunities. This act was the first time in history that people with disabilities were protected by a law that included equal opportunity for employment and the prohibition of discrimination among other rights (Anti-Defamation League).

In more recent history, the Americans with Disabilities Act (ADA) was signed into law in 1990. This legislation works to strengthen the Rehabilitation Act of 1973 by passing stricter rules to prohibit discrimination against people with disabilities in areas outside of employment such as transportation and accessibility for government programs.

Despite the progress made for people with disabilities there continues to be a social stigma on the disabled community, as if they have done something wrong. This is why it is vital that we as tech writers continue to empower those with disabilities by offering accessibility essentials within our work.

Read on to learn All About Usability and Improving Usability.

Understanding Usability

Usability is extremely pertinent to accessibility. For documentation or a website to be accessible we must address the role our users play. As technical writers we can perform pivotal steps towards improving the usability of our products.

In order to expand your understanding of usability I urge you to read the following sections.

- A Closer Look into Usability
- Improving Usability

A Closer Look into Usability

As a technical writer usability should always be at the forefront of our minds. By crafting comprehensive and accessible documentation our goal is to improve the user experience of our audience. This can only be accomplished by focusing on the relationship between the user and the goal.

First off what does usability mean in a writer's context? Usability is a quality attribute that assesses how easy user interfaces are to use. Additionally, usability can be used as a label for features designed to improve user experience while a product is under development. As a writer this can translate well into conducting planning and research to implement usability features in user-facing documentation (Nielsen Norman Group).

Why is usability important you may ask? Well simply put if a website, manual, or other piece of documentation is difficult to use the user will leave or stop reading. If a homepage fails to state the importance of the website or what it has to offer, the user leaves. If the table of contents for a manual is difficult to navigate and content cannot be found, the user leaves. After all a user cannot buy a product if they cannot find it in the first place (Nielsen Norman Group).

Fortunately, there is a way to improve a product's usability. This method is known as usability testing which encompasses five quality components.

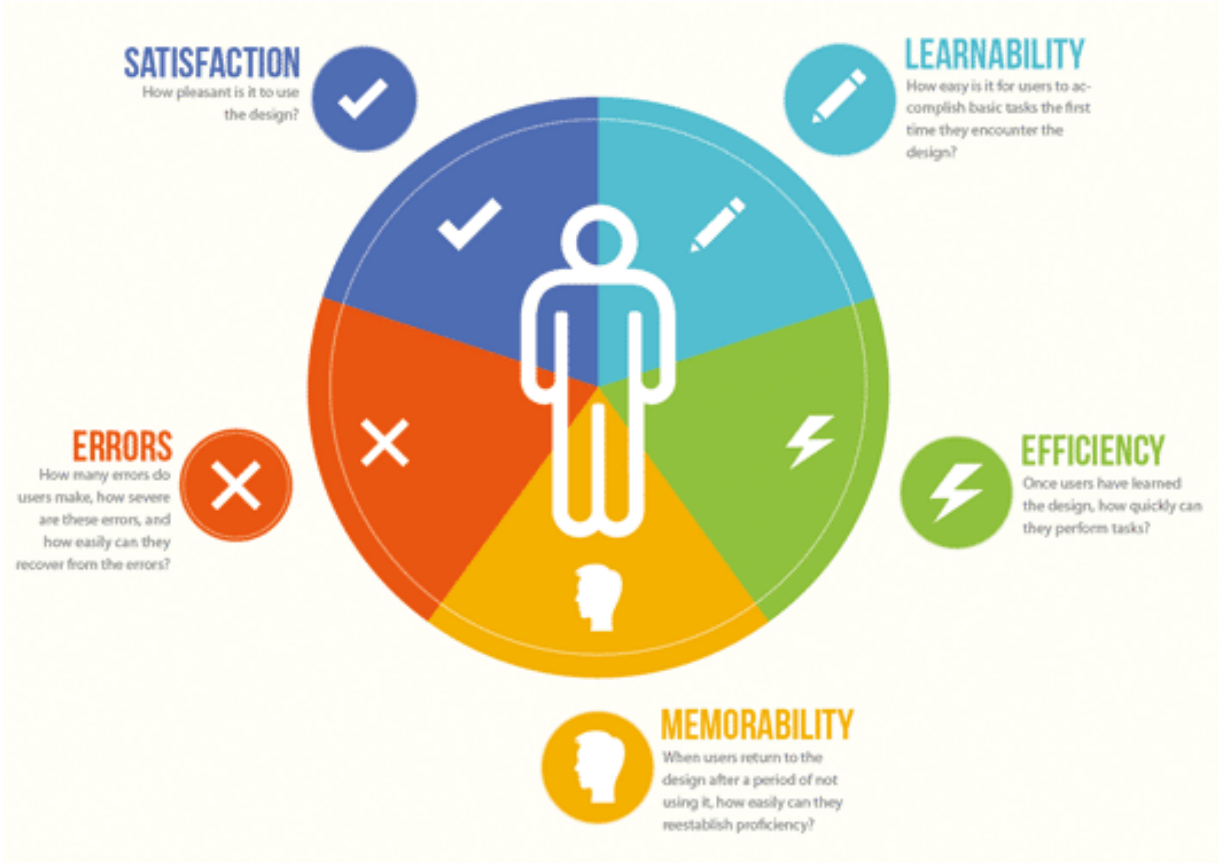
Read on to learn about Improving Usability so that you can incorporate this accessibility principle into your own work.

Improving Usability

The purpose behind these tools is to pose questions directly to the user to improve the user experience.

Five Quality Components

1. **Learnability** - focuses on the ability of the user to catch on to a design
2. **Efficiency** - asks how quickly tasks can be done
3. **Memorability** - determines the ease of relearning a design
4. **Errors** - analyze how many mistakes the user makes and how they can be recovered from
5. **Satisfaction** - rates the general likeability of the design



Performing User Testing

1. Select and gather representative users of your product (5 is ideal).

   Representative users are potential product customers.

2. Ask users to complete representative tasks with the design.

   Representative tasks are real applications of the product.

3. Observe what the users do, where they find success, and where they find complications with the user design.

Allow users to complete tasks on their own.

4. Revise design following each user test.
5. Repeat until each user is satisfied.

Read on to learn the principles of Color Accessibility.

Designing Visual Content

When designing documentation or a website as a technical writer, it is important to verify that all content is visually accessible. Regardless of quality content on a page, there must be proper visual accessibility. For the sake of this website I will address color accessibility and hyperlink text first and foremost.

In order to expand your understanding of visual accessibility I urge you to read the following sections.

- Color Accessibility
- Picking Accessible Colors
- Writing Accessible Hyperlink Text

Color Accessibility

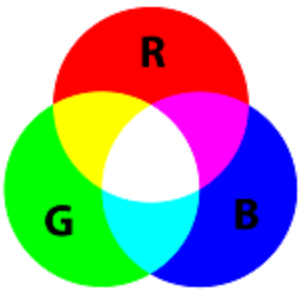
Selecting the proper color palette for documentation or a website can be tricky. As a tech writer you want your work to look aesthetically pleasing while maintaining accessibility for all users. According to the World Health Organization nearly 1.3 billion people worldwide have a vision impairment. By focusing on color accessibility you are making reading easier for everyone.

Here are some of the accessibility principles that you must address in order to achieve a satisfactory color palette.

Defining Colors

There are three main ways to define colors:

1. RGB (0, 127, 255) - the amount of red, green, and blue in a color on a scale of 0 to 255.
2. Hexadecimal (#1d1d88) - a combination of six letters or numbers which represent the red, green, and blue values.
3. Hue, Saturation, and Lightness (50, 75%, 100%) - the amount of hue, saturation, and lightness values using numbers and percentages.



High Contrast

High Contrast is a maximum contrast of light and dark colors.

A classic example of this is black text on a white background.

Web Content Accessibility Guidelines (WCAG)

Contrast Ratio

- Determines the difference in brightness between two colors
- Ratio ranges from **1:1 to 21:1**

Minimum Contrast Requirements (Level AA, most common)

- Contrast ratio must be **at least 4.5:1**
- Larger text (<18 pts.) can be lower at **3:1**

Enhanced Contrast Requirements (Level AAA, uncommon)

- Contrast ratio must be **at least 7:1**
- Larger text (<18 pts.) can be lower at **4.5:1**

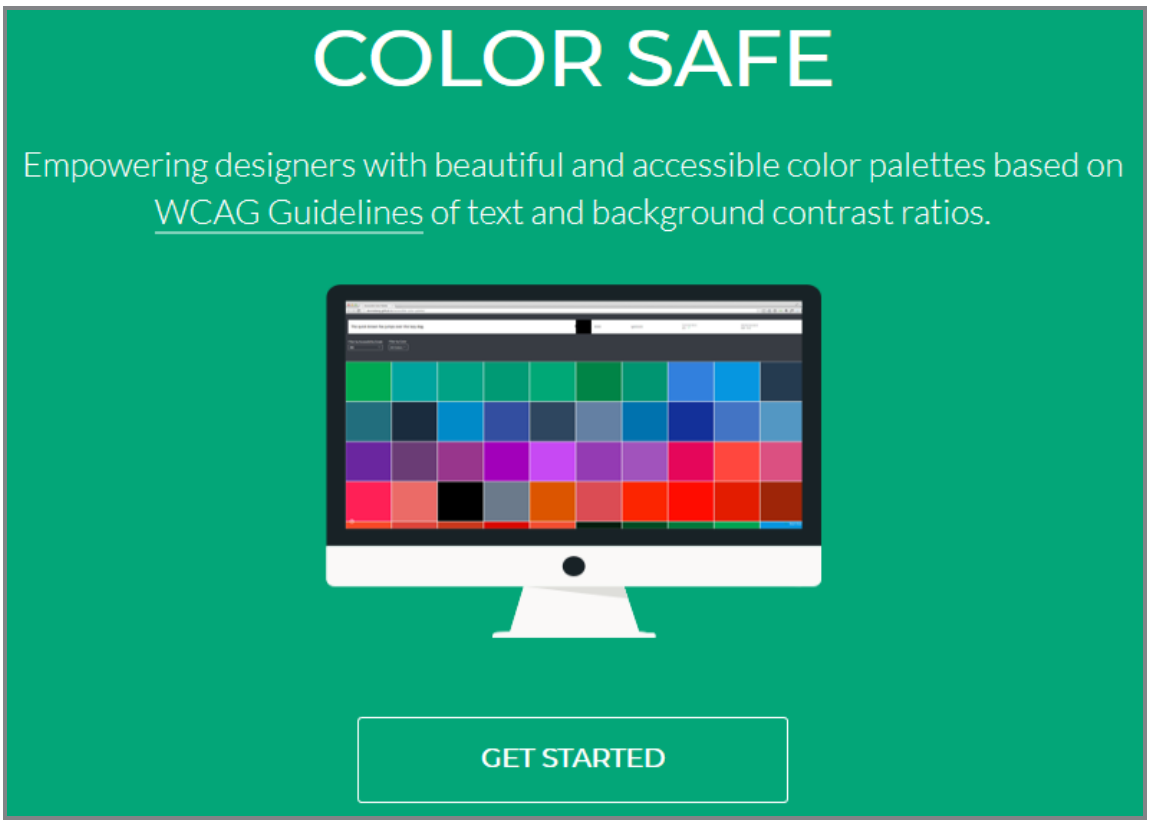
Read on to learn the best practices for Picking Accessible Colors.

Picking Accessible Colors

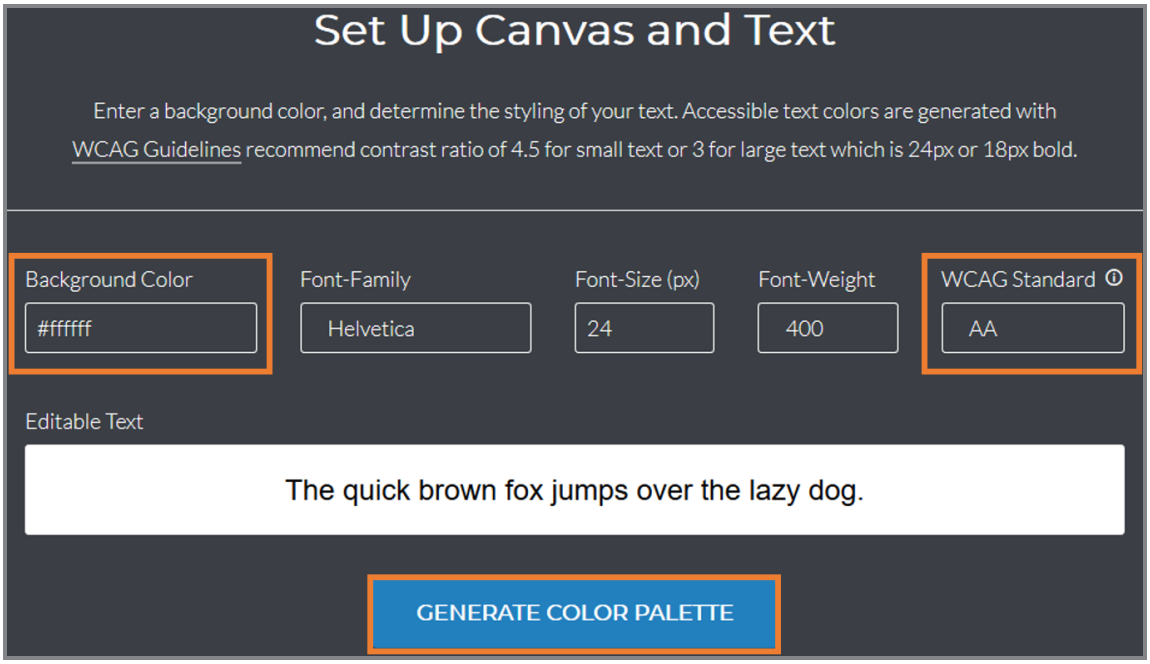
Accessible colors make a significant difference for your user group. With a quality color palette users of all abilities will be able to read your content. A palette generally consists of the contrast between background color and text color. This page explains one simple way to choose a color palette and then how to apply these colors into MadCap Flare. Read about the Color Accessibility principles prior to continuing on this page.

Choosing a Color Palette

1. Open a browser and go to colorsafe.co.
2. Click the **Get Started** button.

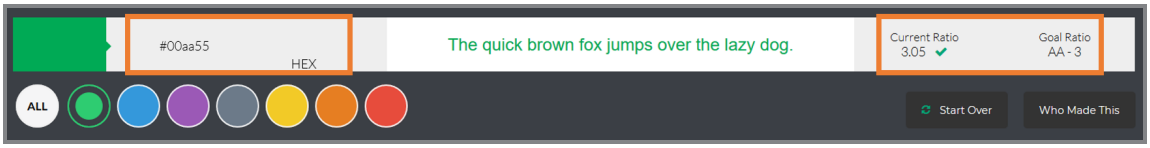


3. Select your desired **Background Color** and **WCAG Standard**.
4. Choose options for the other settings.



5. Click the **Generate Color Palette** button.
6. Select colors and test until satisfied.

   Tip: Notice the **Hex #**, Current Ratio, and Goal Ratio labels at the top.

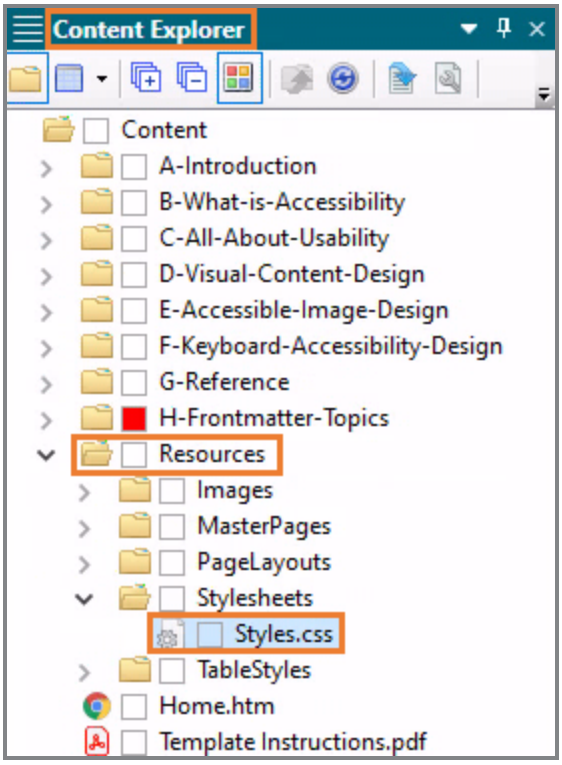


7. Hover over and Click the **Hex #** to save the desired color to your clipboard.

Applying Colors to Flare Projects

1. Open your Flare project.
2. **Content Explorer > Resources > Stylesheets**

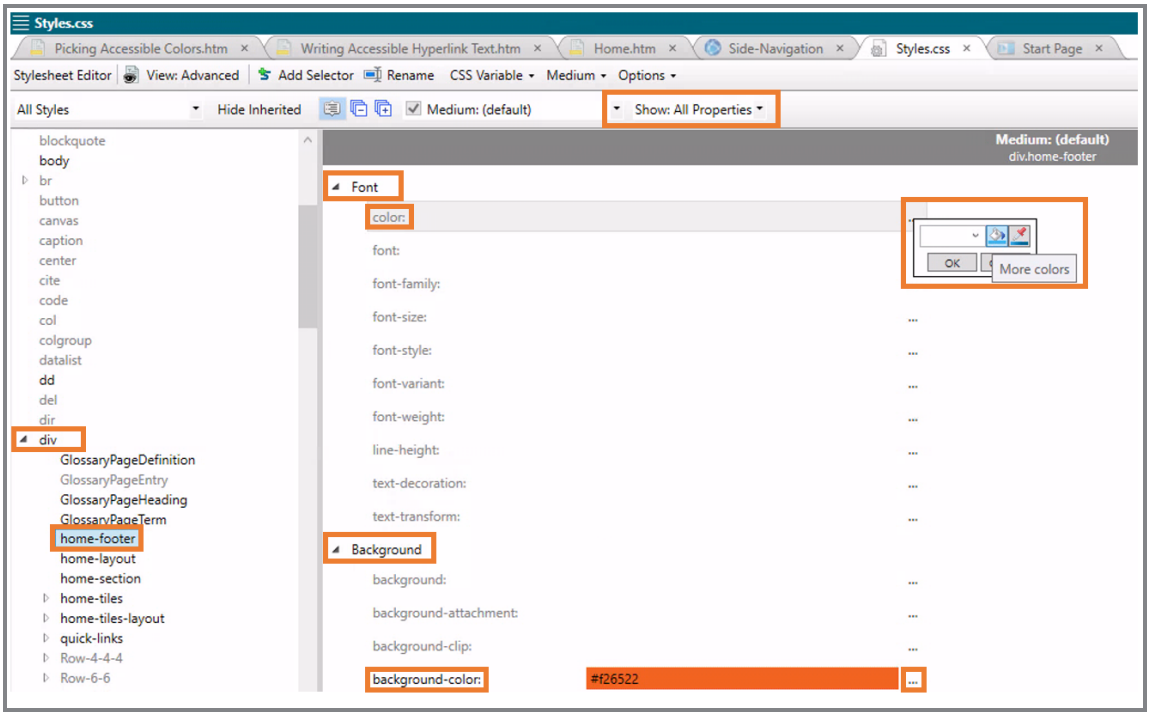
3. Click on the **Styles.css** file.



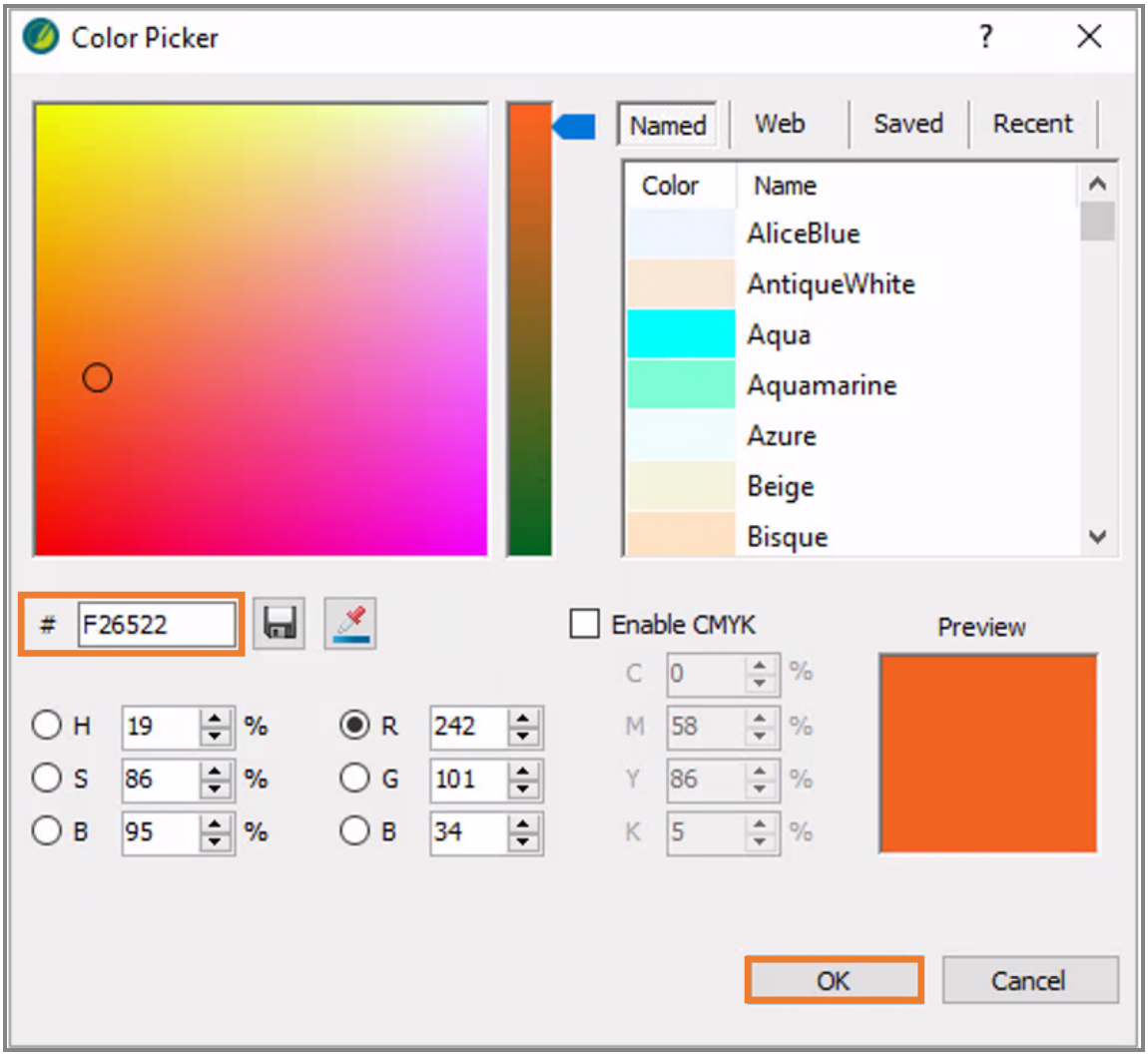
4. Select **Show: All Properties** in the drop down menu to the right of the Medium selector.
5. Click on the appropriate style selector in the left pane.
6. Click on your desired class.

   Example: **home-footer**
7. Select **Font** or **Background** in the right pane to expand the tags.

   Tip: Choose **color** for Font *or* choose **background-color**.for Background.
8. Click on **...** then the **More Colors** icon to open the Color Picker window.



9. Paste **Hex #** value(s) from Choosing a Color Palette into **#** text field.



10. Select **OK** to save changes.

Read on to learn about Writing Accessible Hyperlink Text and how to insert it into Flare.

Writing Accessible Hyperlink Text

Accessibility Principles

Embed Links

Links should be defined by a succinct sequence of text. Never use a lengthy and unclear URL as the link text. Screen reader users in particular have a easier time understanding short text.

Accessible: Accessible Hyperlinks

Not Accessible: https://accessibility.oit.ncsu.edu/accessible-hyperlinks/

Succinct Hyperlinks

Only use a few short words as link text. A URL is difficult to understand when used as link text. The same applies to lengthy link descriptions.

Succinct: Writing Accessible Hyperlink Text

Not succinct: This page explains how to write accessible hyperlink text with helpful accessible principles to follow

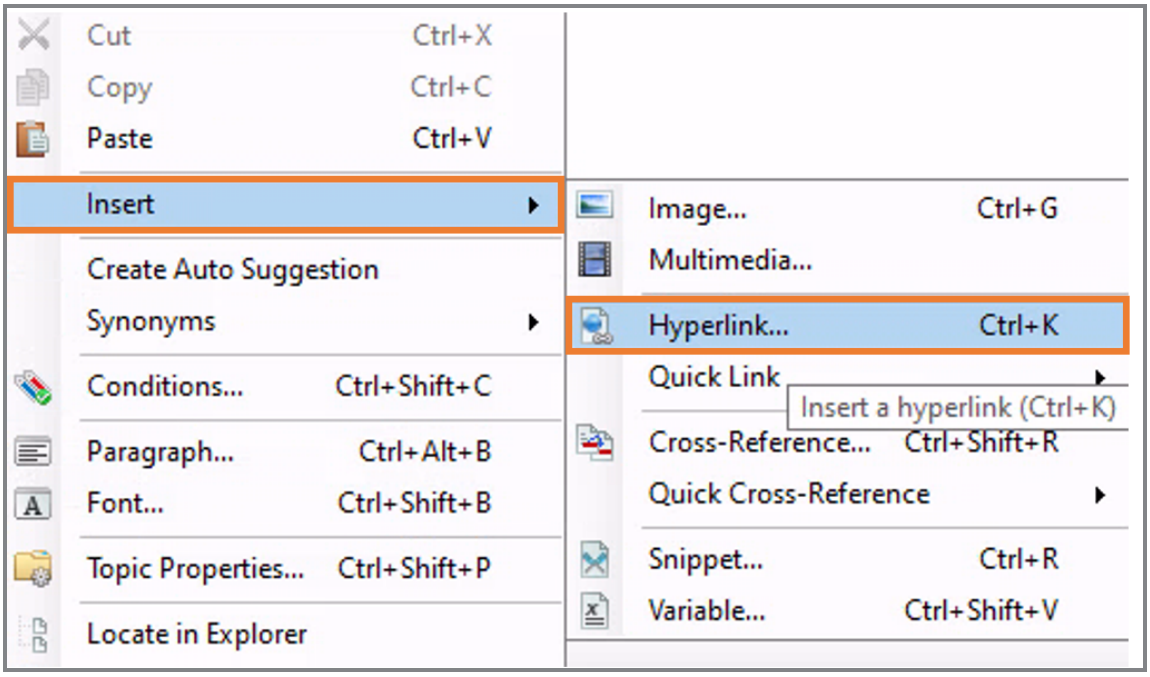
Hyperlink Color

Always give hyperlink text a different color from surrounding text.

- Hyperlink text is most commonly associated with blue and purple text.
- Watch out for underlines, those too are often used for hyperlink text.
- Read Color Accessibility to learn more about accessible color.

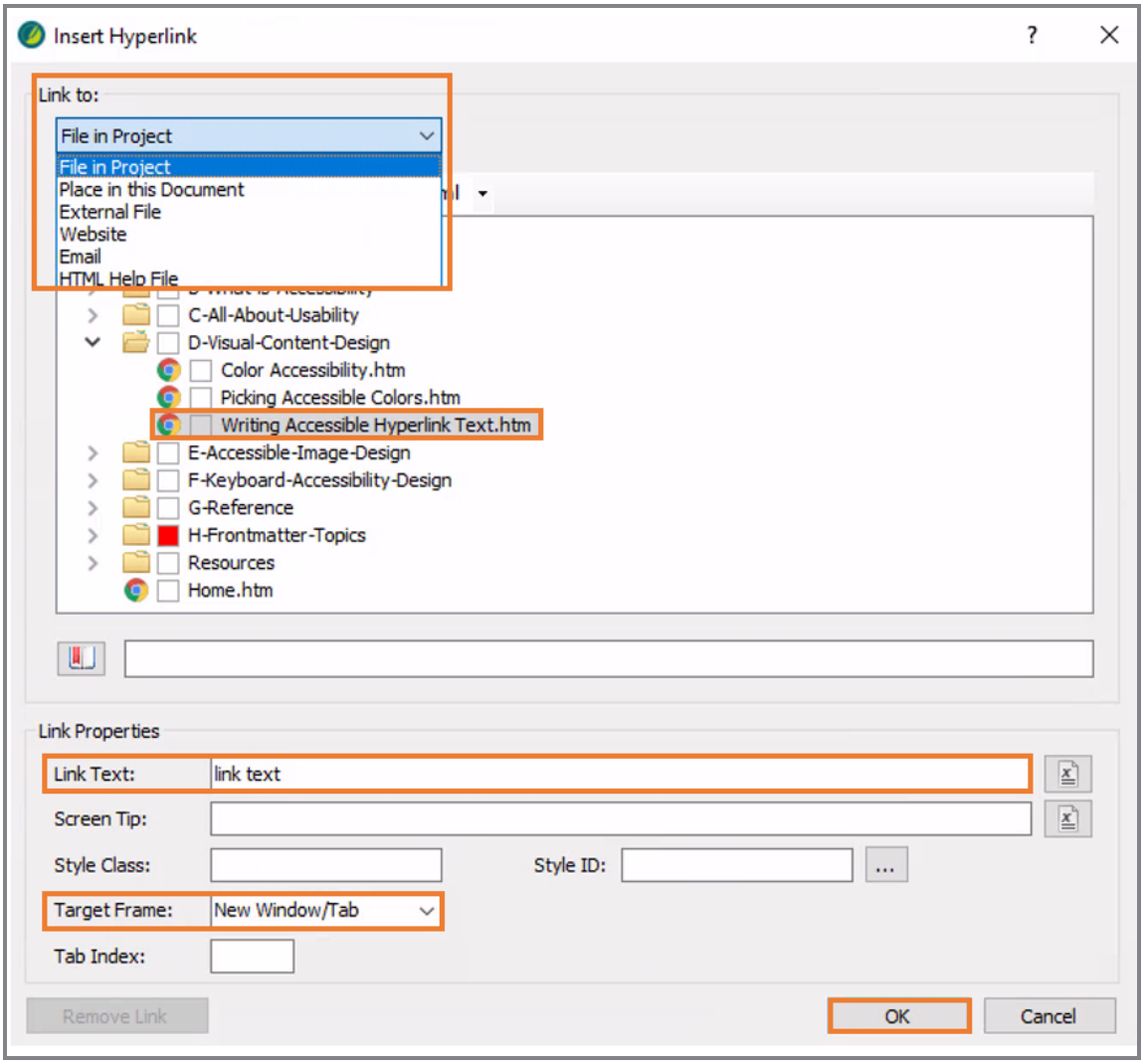
Inserting Hyperlink Text in Flare

1. Write accessible hyperlink text that adheres to the above accessibility principles.
2. Highlight the hyperlink text.
3. Right click on the hyperlink text.
4. Select the **Insert** option in the drop down menu.
5. Choose the **Hyperlink...** option to open the Insert Hyperlink window.



6. Select desired link type in **Link to:** drop down menu.
7. Select page in file explorer for **File in Project** *or* Paste link in Website: text field for **Website** .

   Optional: Select a custom Target Frame: option.



8. Select **OK** to save changes.

Read on to learn how to create accessible images and answer the question, What is Alternative Text?.

Constructing Accessible Images

When designing documentation or a website as a technical writer, you will incorporate images to advance the understanding of your content. Making these images accessible to a diverse user base is a vital piece of accessibility. The main way to address image accessibility is through adding alternative text. This practice supplements the purpose of images for those users with visual impairments who rely on screen readers to interpret messages.

In order to expand your understanding of image accessibility I urge you to read the following sections.

- What is Alternative Text?
- Writing Effective Alternative Text
- Adding Alternative Text in Flare

What is Alternative Text?

Alternative text (alt text) is a short description of an image, icon, graph, or video that generally appears for accessibility purposes. In the case that the multimedia fails to load or an assistive technology is being used alt text supplements the user with a description. Accessibility relies on alternative text to provide a textual alternative to content such as images that lacks text.

One of the most common types of assistive technologies are screen readers. Screen readers are software programs that allow blind or visually impaired users to read displayed text with either a speech synthesizer or braille displays. These programs are unable to discern what a image displays without alternative text. This is why it is important for every image to have Alternative text so that the user may always be able to identify the purposes of an image or other media file. Alt text is often written in HTML pages by using the alt attribute (alt=""). This type of text does not always have to be a complete sentence depending on the context.

Though images are not the only application of alt text others include multimedia and applets which may run a specific task through a small application.

Not every image requires Alt text. Images that are used for non-informative purposes such as a decoration or spacing on a page may retain an empty alt attribute value.

Alternative text is one of the easiest accessibility conventions to grasp and a perfect starting point for learning about accessibility.

Functions of Alternative text:

- Screen reader use for those impacted by visual or cognitive impairments
- Semantic meaning and description of images
- Replaces image files which may fail to load in the browser due to system issue or user choice

Read on to learn How to Write Effective Alternative Text.

Writing Effective Alternative Text

Effective Alternative text describes the **content** and of an image without straying away from the main idea of an image.

Content of Alternative Text

- Describe the subject of the image (person, place, thing)
- Provide context regarding what the image is intended for
- Maintain a concise and accurate description

Example of Alternative Text

Below is an example of effective, decent, and poor alternative text. Notice how the effective example provides more focused details from the image and uses them to convey a descriptive message to the audience. Always aim for the effective example.

Image:

Effective Alt Text: Male student viewing a JavaScript & jQuery textbook from a library bookshelf.

Decent Alt Text: Male student getting a book off a library bookshelf.

Poor Alt Text: Man getting a book off a bookshelf.

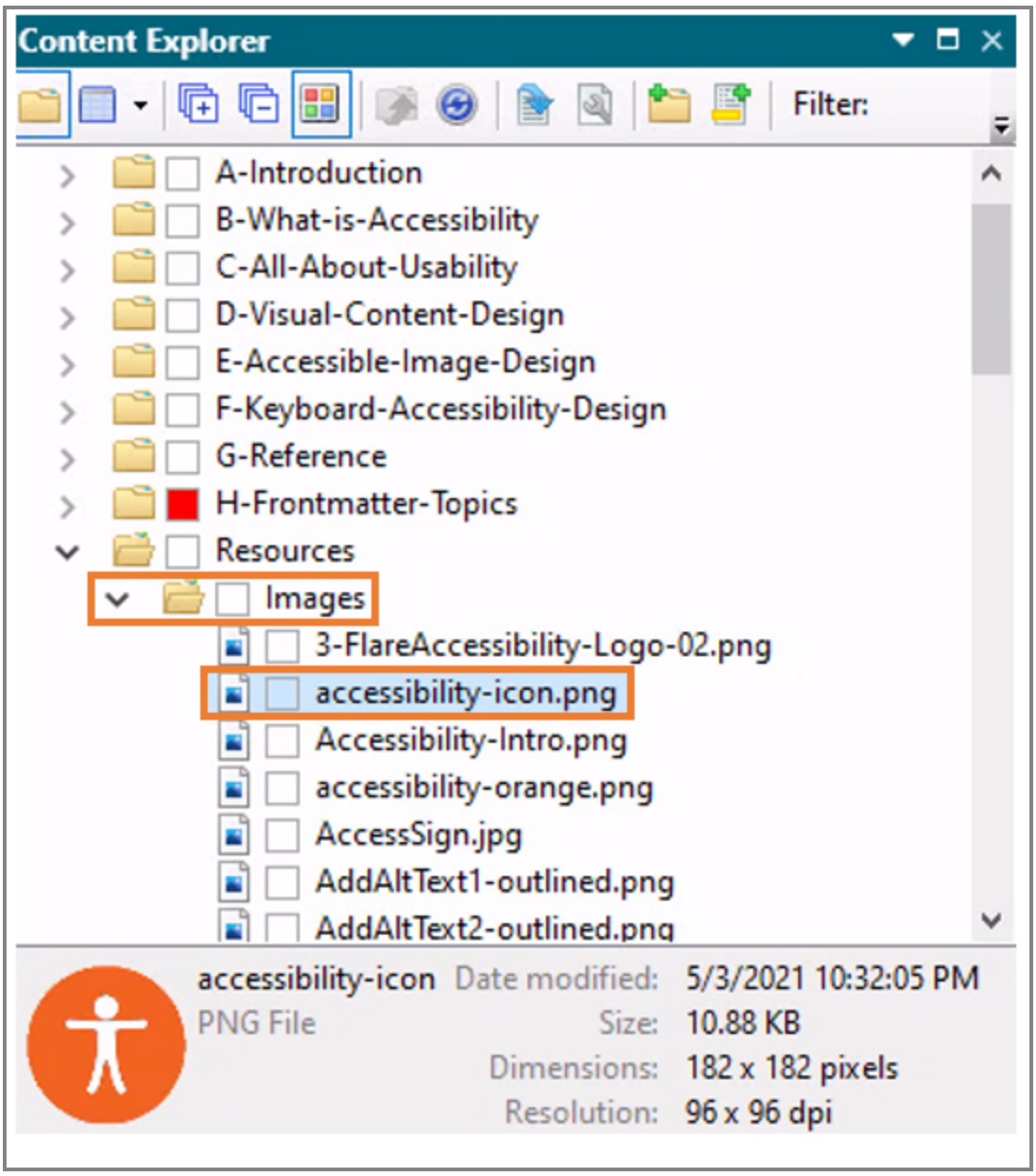
Read on to learn the process for Adding Alternative text in Flare.

Adding Alternative Text in Flare

Writing alternative text (alt text) is a vital component to any documentation or website. Alt text provides screen reader users and those with visual impairments the accessibility to understand the purpose of a visual. In MadCap Flare, alt text can be added when inserting an image.

Inserting an Image

1. **Content Explorer** > **Resources** > **Images**.
2. Click and drag desired image into the topic page.



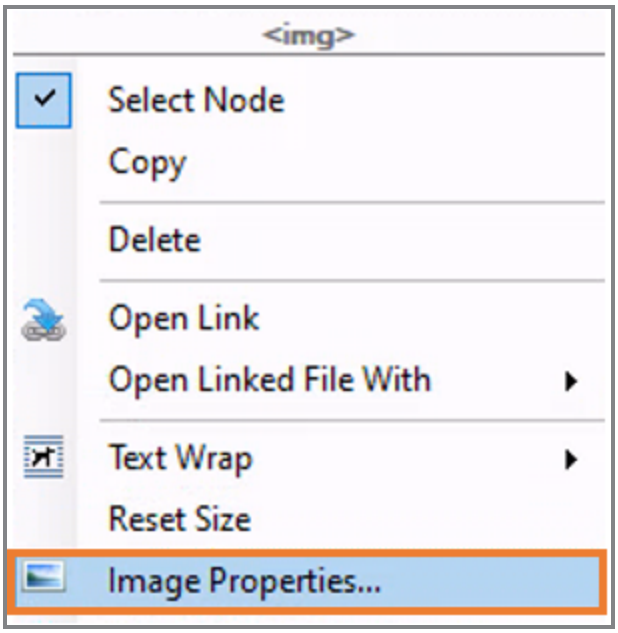
Tip: Press **CTRL** and **G** to insert an image that is not in your project.

Adding the Alternative Text

1. Right click onto the image.

   A drop down menu will appear.

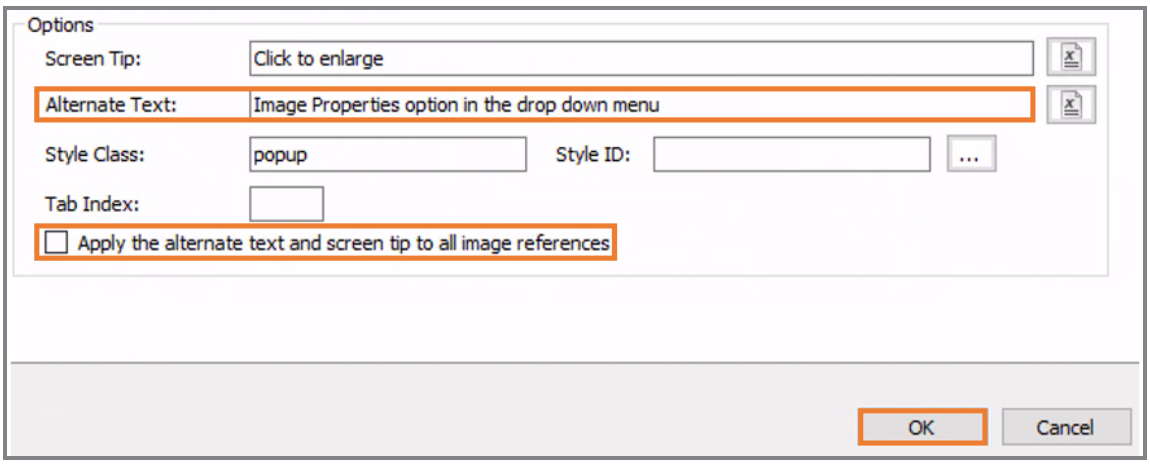
2. Select the **Image Properties** option in the drop down menu.



3. Type a effective description into the **Alternate Text** field.

   Tip: Read How to Write Effective Alternative Text.

   Optional: Check off the box below to apply the alt text to all future references to this image.



4. Select **OK** to save changes.

Read on to learn About the Author and my personal interests in technical writing.

About the Author

Hello! My name is Benjamin Lagasse. I am a student in my Junior year at the University of Massachusetts Amherst. I study English with a concentration in Professional and Technical Writing under the Professional Writing and Technical Communication program (PWTC).

Through my studies at UMass, I have completed technical writing projects including a mock grant proposal and a Microsoft Word software documentation manual.

Outside of work I am an avid Boston sports fan and I also enjoy reading & gaming in my free time.

Technical Background

Before I started studying technical writing, I worked seasonally as an HVAC/R technician. I assisted senior technicians in completing installations and calibrations of various residential and commercial equipment across Central Massachusetts and the Greater Boston area.

During my time in the field I gained relevant training in referencing wiring diagrams and other technical literature. I used this training to become a more capable problem solver in my collaborations with senior technicians to troubleshoot system issues.

As a technical writer I aim to translate my hands-on technical experience into crafting comprehensive and accessible documentation that will improve the user experience of my audience.

Contact

Please contact me with any questions or feedback at bjlagasse@umass.edu

You may also connect with me via LinkedIn

For my Resume and Work Samples check out my Portfolio Website

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