audioeye

A Comprehensive Guide on Accessible Web Design

Contents

Accessible Web Design
& Development:
Why it matters

There are a myriad of web design how-to guides that offer tips on everything from choosing a web host to finding the right e-commerce platform. But the majority of these resources don't discuss website accessibility — a critical piece in building a successful business online.

One of the reasons for that is because accessibility is often associated with brick-and-mortar businesses and physical accommodations, like wheelchair ramps for people with disabilities. But as online shopping becomes the norm, business owners have to meet the same customer expectations and legal requirements as they would with physical stores.

In order to meet the Americans with Disabilities Act (ADA) requirements, a business website must be accessible to people who rely on assistive technologies, such as screen readers, to browse the internet. Failure to provide an accessible website experience could result in expensive and time-consuming lawsuits, straining the business and damaging brand reputation.

But website accessibility isn't just a box that businesses have to check in order to abide by the law. Providing equal access to digital content and creating inclusive user experiences for all people, regardless of ability, is the right thing to do and makes a lot of business sense.

Over one billion people, or 15% of the global population, live with some type of disability. Yet, despite the fast pace of digital transformation, 97% of the internet is still not accessible to people with disabilities.

In a recent AudioEye survey of people who use assistive technology to shop online, 54% said they feel that e-commerce companies don't care about earning their business. These consumers abandon brands that don't provide accessible experiences and look for other options. And, when you consider that people with disabilities — together with their family and friends — control over $13 trillion in disposable income, making your site accessible becomes more of a business strategy than a web design decision. (Source: *The Global Economics of Disability, 2020 Annual Report*).


54% of people using assistive technology to shop felt companies don't care about earning their business

For most business owners, however, website accessibility and the fundamentals of accessible web design are new areas with a lot of unknowns and little guidance. To help you get up to speed on accessible web design, we put together a guide covering seven key components of accessible web design:
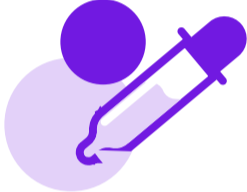
[Chapter 1](#)
Colors
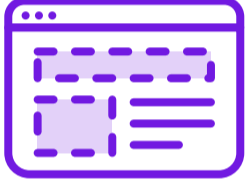
[Chapter 2](#)
Architecture

[Chapter 3](#)
Content

[Chapter 4](#)
Universal Design
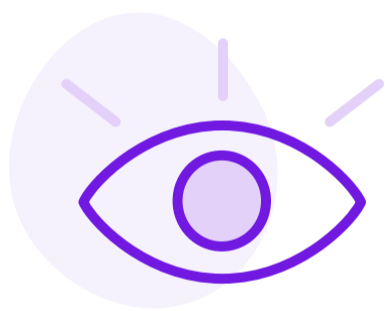
[Chapter 5](#)
Links

[Chapter 6](#)
Media

[Chapter 7](#)
Documents

We hope you'll find the content useful and feel inspired as you start creating accessible online experiences for your customers.

Accessibility Principles based on Web Content Accessibility Guidelines (WCAG) 2.1:

Perceivable

Information and user interface (UI) components must be presentable and perceivable to all users.

Operable

UI components and navigation must be operable by all users.

Understandable

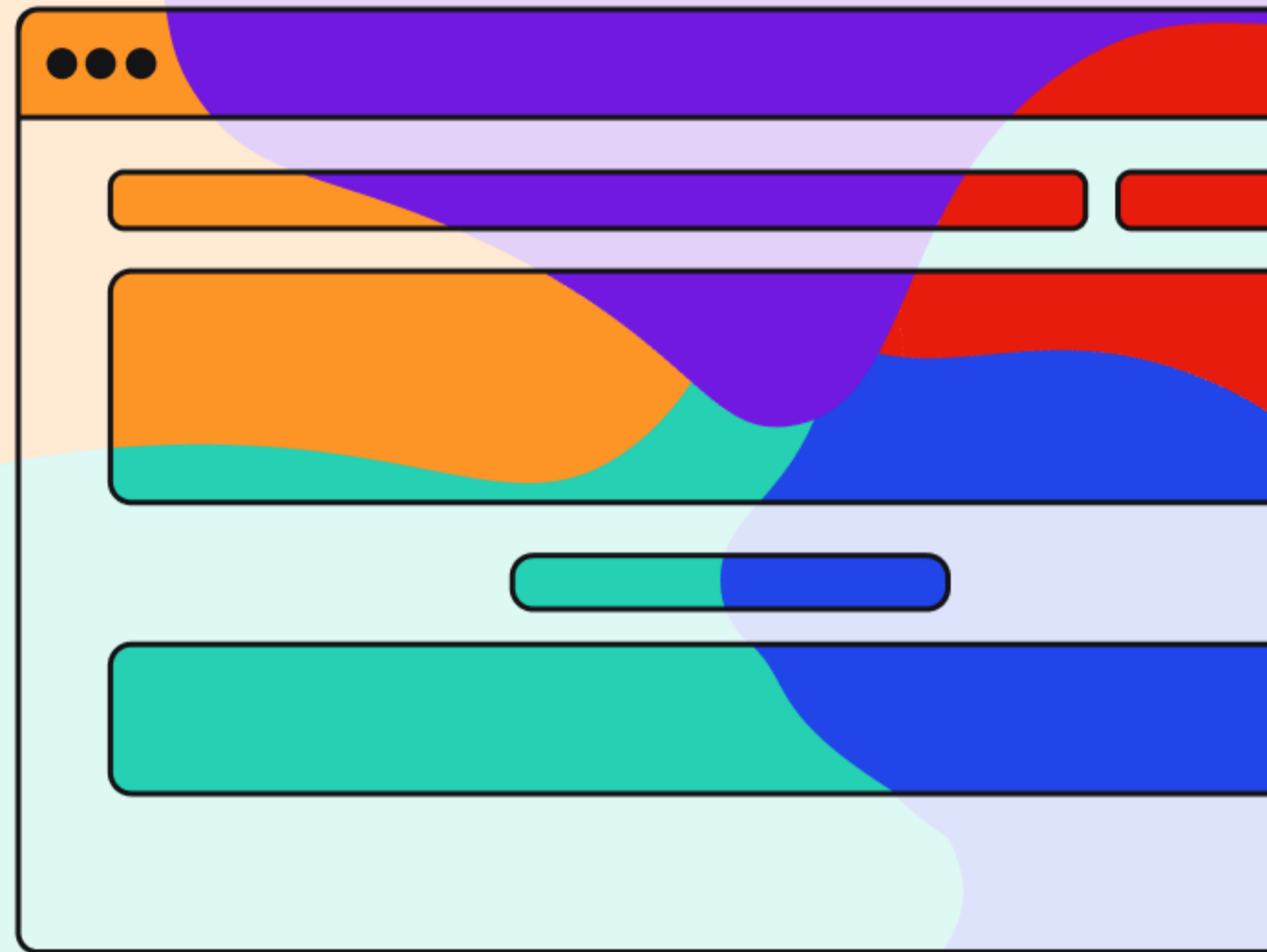Website content and operation of the UI must be understandable to all users.

Robust

Content must be robust enough so that all users and assistive technologies can interpret it reliably.

CHAPTER 1

Color Schemes

Did you know that **93% of online consumers base their buying decisions** on the color and appearance of your website? From increasing brand recognition and growing loyalty to persuading a customer to buy a product or service, there's a lot of power in color choice.

93%

● **Consumers purchasing based on color & appearance**
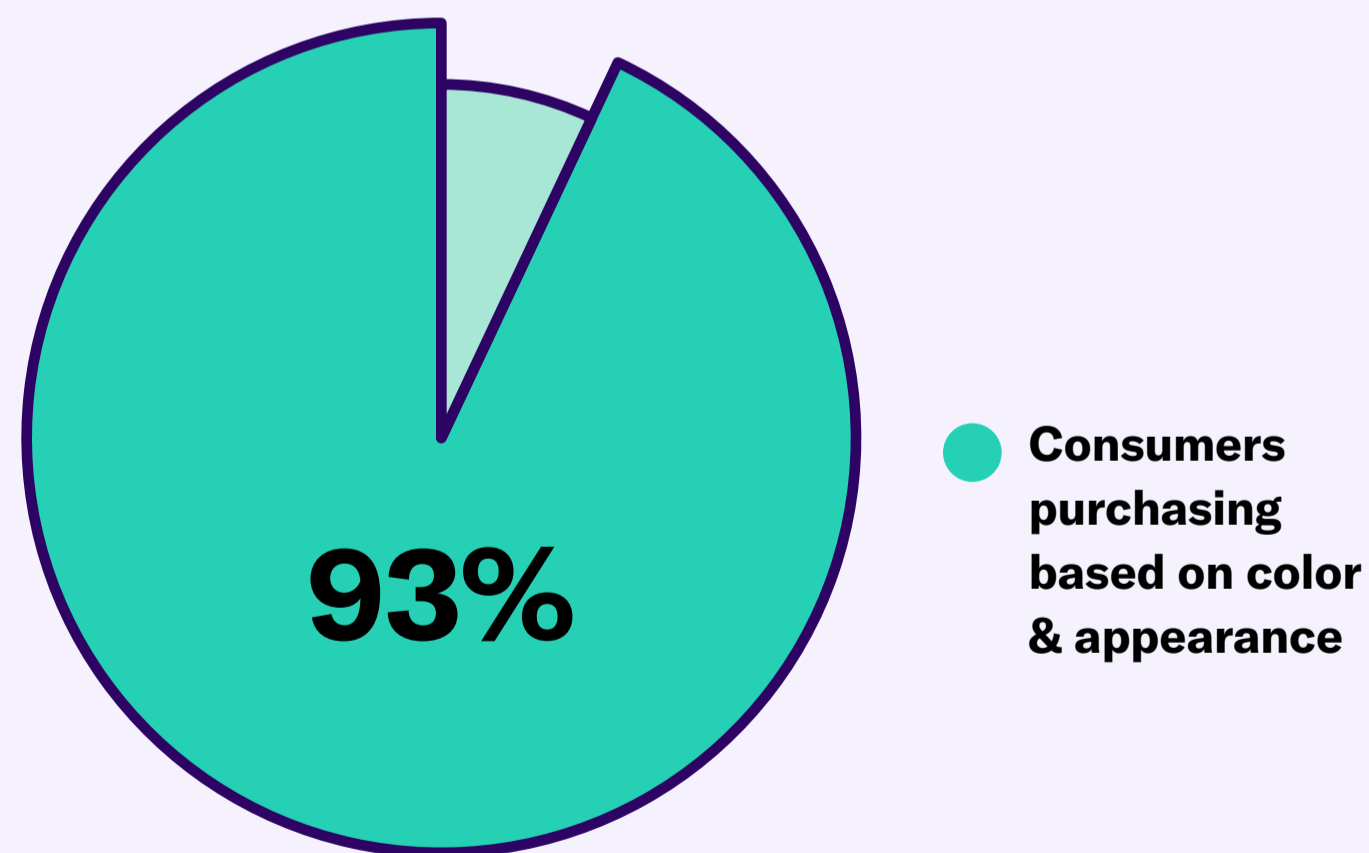
What Are Color Schemes? Why Are They Important?

A color scheme is a combination of hues that are implemented in specific design contexts, such as a site's layout. Website colors are important for several reasons, the first being color psychology. Specific combinations of colors, like a brightly pigmented or dark and bold palette, can evoke feelings and influence how people interact with your brand and website.

Color also plays an important role in making your content accessible to people with visual impairments. Web color accessibility in design considers your audience and any condition or disability they may have in perceiving pigmentation.

What Are Accessible Website Colors?

When it comes to creating an accessible website, color choice matters. Including accessible hues in your design palette will make your site more usable to people who may have vision impairment or low vision.

The Web Content Accessibility Guidelines (WCAG) outline various recommendations for color accessibility, including guidance for color contrast ratios, luminance, backgrounds, and color spacing in order to make a site more accessible to those with any type of vision deficiency. The following aspects of website color schemes can help you design with accessibility in mind.

Low Contrast Example

Full Color

Low Color

1:1   2:1   3:1   4:1   5:1   6:1   21:1

Low Contrast   High Contrast
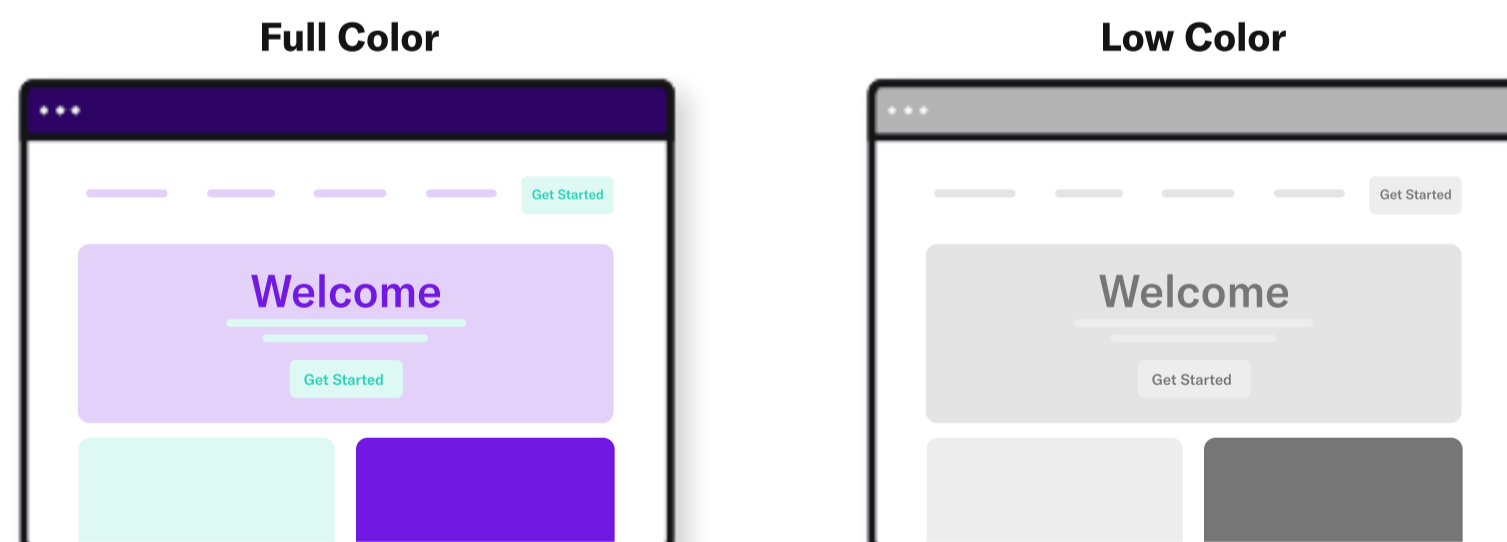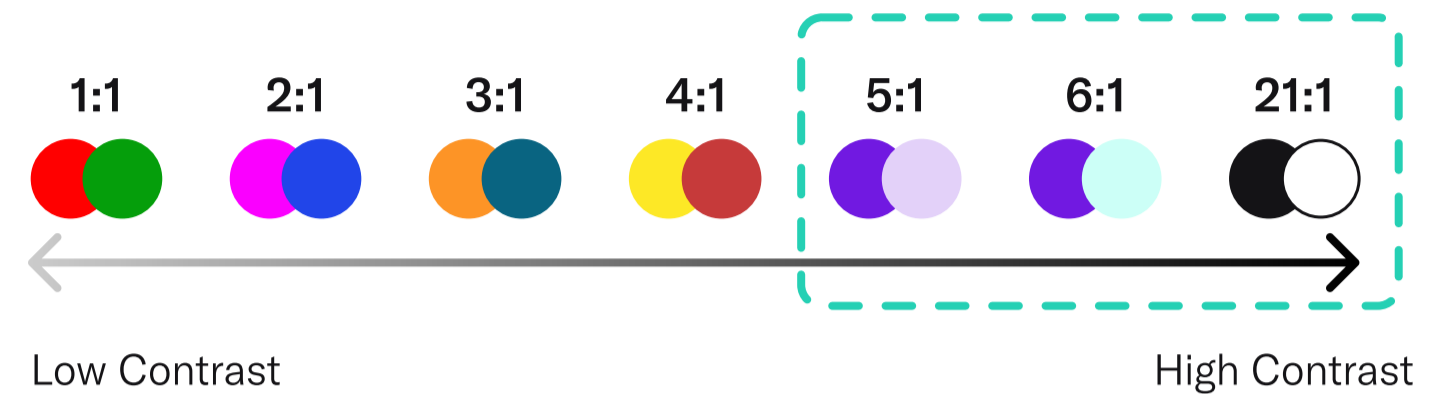
Color Contrast for Websites

A color contrast ratio determines how bright or dark colors appear on a screen. They can range from 1 to 21 (written as 1:1 and 21:1, respectively). The first number in the ratio indicates what the relative luminance (or brightness) of the light colors is, and the second represents the relative luminance of dark colors. WCAG recommends using 4.5:1 as the minimum ratio for text and interactive elements.

The WCAG also advises avoiding using pigmentation as the only indicator of interactive elements. Make sure to use additional non-color elements, such as an asterisk or a symbol.

Try AudioEye's Color Contrast Checker

Try Contrast Checker

Visually Friendly Color Combinations

Start figuring out how to choose color combinations for a website by focusing on background colors, text and typeface colors, calls to action (CTAs) and buttons. The following dos and don'ts will help you choose the best color scheme for your website.

✓ **DO** start the process by identifying your primary brand color.

✓ **DO** aim for more white space to help boost readability.

✓ **DO** use varying saturations of your brand's main hues to increase brand loyalty.

✓ **DO** keep in mind that certain colors tend to hold certain meanings:

● Red: passion, excitement, energy

● Orange: enthusiasm, friendliness, creativity

● Yellow: cheer, optimism

● Green: calm, nature, health

● Blue: stability, peace, trust

● Purple: success, wisdom, royalty

● Pink: romance, feminine

● Black: luxury, power, elegance

✕ **DON'T** let a color combination for a website get in the way of readability.

✕ **DON'T** use low-contrast text. It can strain the eyes and make your page less accessible overall.

✕ **DON'T** use digital black typeface or pure black on a pure white background — the stark contrast may cause eye strain. Instead, consider using a more muted version of the primary color you use in your branding for your background color.

There is more to web accessibility than color schemes — screen resolution, brightness levels, and device types also affect site readability. Test colors on the various platforms to ensure they're adjusted for optimal readability on different devices.

Color Accessibility Exceptions

There are some exceptions to the color accessibility guidelines outlined by WCAG:

Color contrast ratio requirements are not mandated for logos or incidental graphic elements because they are not necessarily essential for the user to understand the content or functionality.

Text that is part of a logo does not have a minimum contrast requirement.

Text that is part of disabled buttons does not need to meet the minimum contrast ratio. While there are a few exemptions, try your best to follow best practices to avoid any accidental violations of color accessibility in web design.

RGB vs. HEX Value vs. HSL

There are a few approaches that can be taken when it comes to finding the perfect color. RGB (red, green, blue) is a pigmentation gamut of these colors frequently used when designing websites and other digital platforms. HEX (hexadecimal), on the other hand, is a shorter code for RGB, and it is usually a number automatically generated by the program you're using. Many designers focus on creating a color palette with HEX values, but a less complicated alternative to achieve consistency is to use HSL (hue saturation lightness). HSL is a user-friendly way to understand color codes without having to decipher HEX codes or RGB. Consider using HSL to find the perfect color if RGB and HEX are challenging.

How to Choose a Color Palette for a Website

Now that we've unpacked how colors can evoke certain meanings and touched on some of the dos and don'ts when it comes to visually friendly combinations, it's time to choose a color palette for your website. Start with primary colors that represent your brand and then choose additional tints from the main color wheel. When selecting these hues, consider schemes that will work on both light and dark modes across devices. The following steps will help you choose a color palette for your website.

Consider Types of Color Schemes

When choosing your website color combinations, it may be helpful to follow one of these schemes:

Analogous

An analogous scheme uses color combinations that create a sense of harmony, regardless of whether the hues are warmer or cooler. Consider a palette with red, orange, and yellow for warmth, or a cool one with green, blue, and violet.
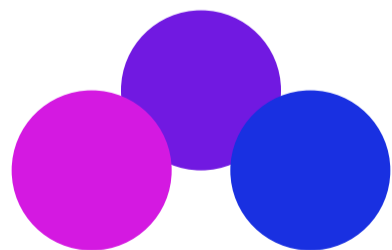
Monochromatic

A monochromatic color scheme is based on a single color, shade, or tint. This combination of similar colors can bring a sense of relaxation and cohesion to the user because of the lack of definition in this scheme. On the other hand, this configuration can also be stimulating, depending on the primary hue that is chosen. You may also try taking your base primary color, then finding lighter and darker shades by making incremental changes to it or adjusting its HSL (hue, saturation, and lightness).

Complementary

A complementary color palette starts with two main hues and then branches out to their various shades, tints, and tones. Complementary color schemes can add depth and character to a page.
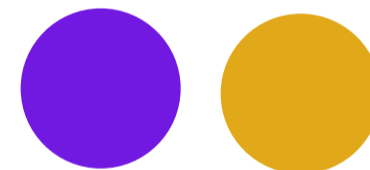
Split Complementary

A split complementary color scheme juxtaposes exact opposite colors from the color wheel. Combinations of red and green, violet and yellow, and blue and orange are examples of opposites. Keep in mind, however, if you choose this type of color scheme, it may not be compliant with color accessibility guidelines.
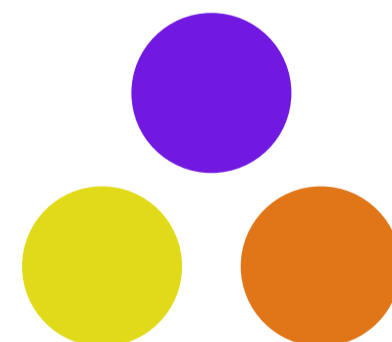
Build Your Color Palette

You can build a solid color palette for your website by focusing on primary, secondary and neutral colors:

Primary

Primary colors are the main hues on the color wheel: red, yellow and blue. These will be the prominent colors used throug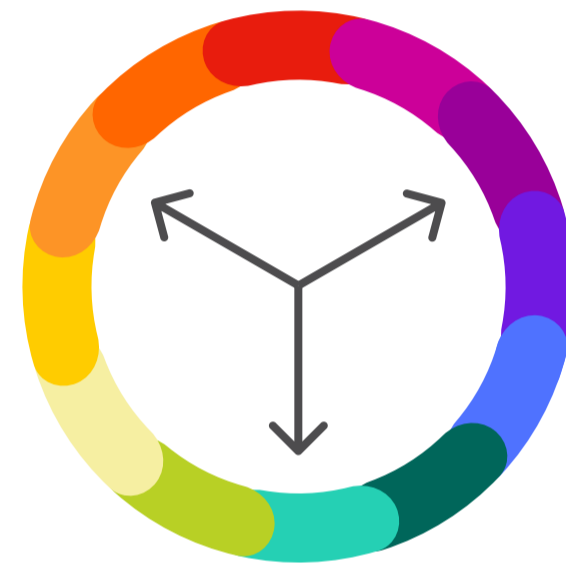hout the site. Be sure to pick a pigmentation that will evoke a feeling you want your site visitors to experience as they browse your site.

Secondary

Secondary colors are made from the mixing of two primary ones. For example, red and yellow create orange, and red and blue create magenta. If your branding has two primary colors, adding some flares of secondary ones may make sense for your website.
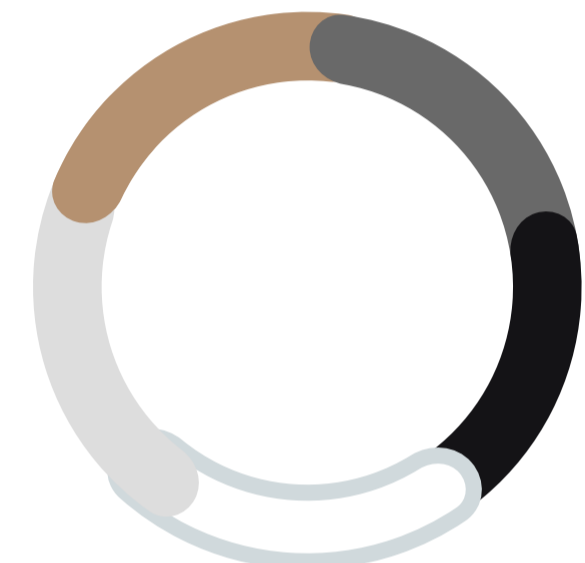
Neutral

Neutral colors don't typically fall on the color wheel and are considered hues without an "actual color." These are the browns, tans, grays, blacks and whites of the spectrum and tend to complement secondary and primary colors. You can use them as backgrounds or font hues to create a more neutral feeling.

CHAPTER 2

Website Architecture

What is Website Architecture?

Website architecture, in its basic form, is how a site's pages are structured and linked together to ensure that end-users and search engine crawlers can effectively navigate to the information they are looking for.
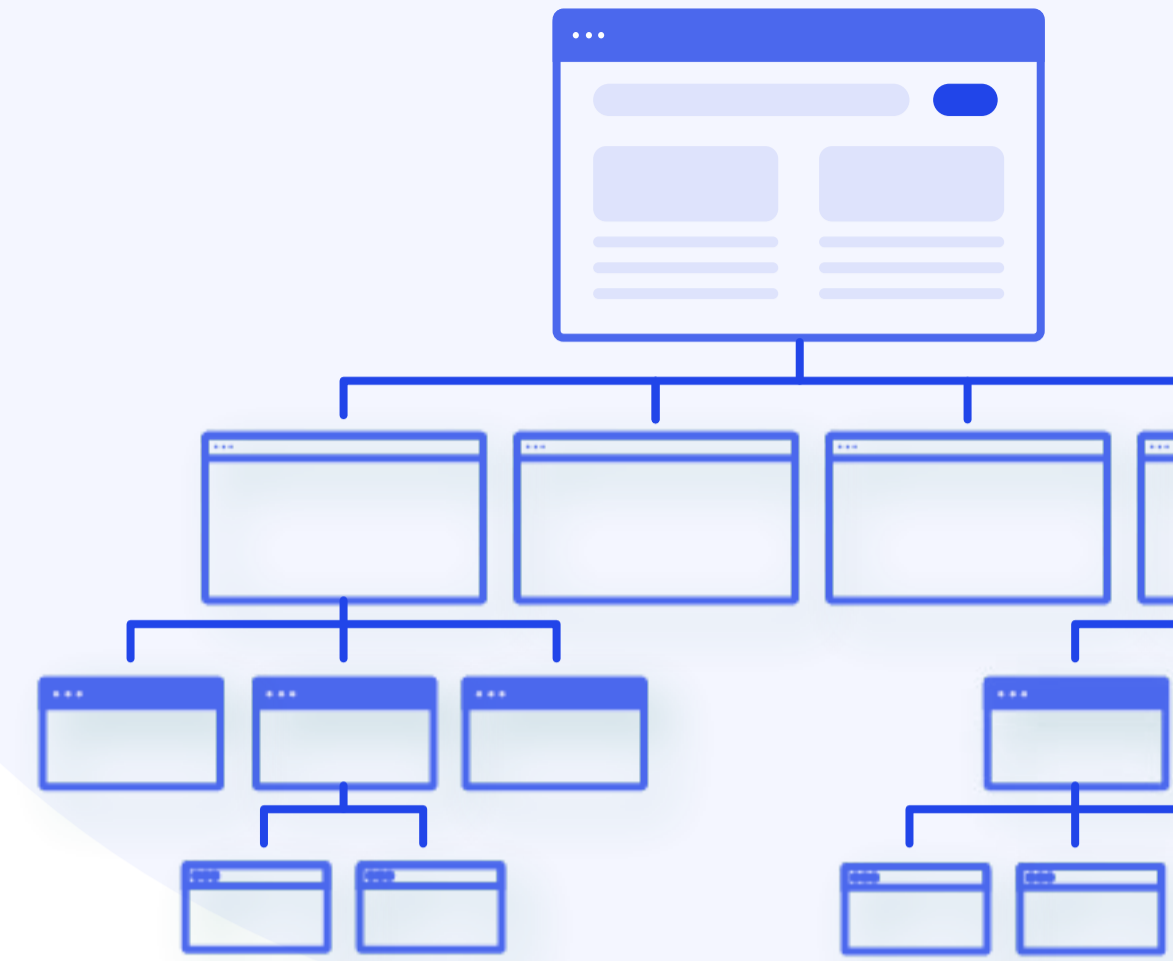
While you may be thinking that the navigation design of your website is clear, if you have pages that are several clicks away from your home page, it's possible that without proper linking, users may get lost along the way. Any ambiguity throughout the user journey will ultimately lead to frustration and higher bounce rates.

In general, the fewer clicks it takes for users to reach any page on your site, the better. Googlebot and other spiders also rely on site architecture SEO elements to find and index all your pages and rank your site in search results.

How Does Site Architecture Relate to Web Accessibility?

It's important to note that usability is a key tenet of accessibility. Sound website architecture strengthens and enhances user experience for all site visitors, regardless of their ability.

Accessibility improvements, such as consistent navigation and clear sitemaps, are features that can improve the browsing experience, especially for those relying on assistive technologies.

Website navigation allows visitors to easily flow through your site from one page to another, without frustration. When it comes to site navigation, a good rule of thumb is allowing visitors to find the information they need in three clicks or fewer.

How to Create an Accessible Website Architecture Plan

When designing your website information architecture, simplicity is the key. Below are a few steps to keep in mind as you create your architecture plan:
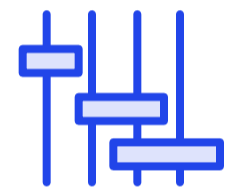
Define the scope of your project.
Are you designing a new website or refurbishing an existing site?

Interpret the business goals.
How will this impact the bottom line?

Create your end-user persona.
Is every element perceivable and operable by visitors of varied abilities?
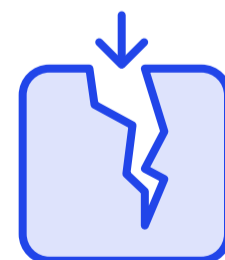
Identify any gaps.
Use free testing tools, such as Treejack, to get a comprehensive understanding of a user's journey through your website and identify gaps in your architecture.

Website Hierarchy

Day one of planning your accessible website architecture should include establishing your site hierarchy. As you add more pages, stick to that hierarchy.

An easy way to organize your site's architecture is with category pages. If you'd like to add a new page to your website, make sure it easily fits under an existing category — if it doesn't, create a new category. Without proper buckets for new pages, there is a tendency for them to get missed by both users and SEO crawlers.

Header
Subhead

1
2
3
4
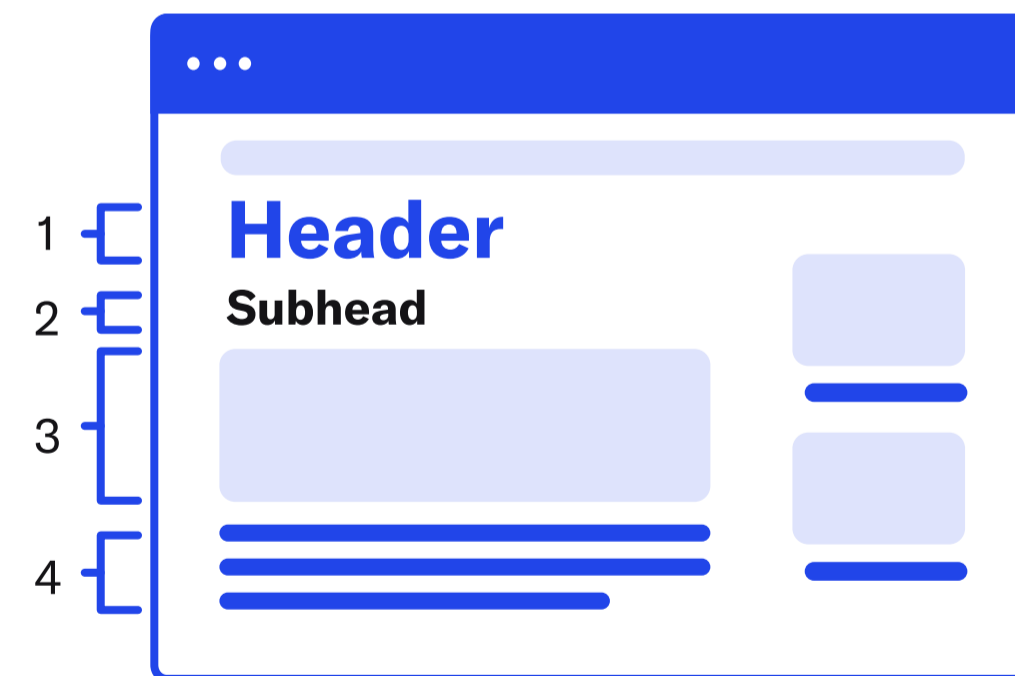
Example: Element hierarchy within a website

Example: Website drop down menu

Website Menu Design

The website menu, which reflects a website's structure, plays a key role in site navigation and accessibility. Use semantic markup to make your menu accessible to users, search engines, and assistive technologies.

Semantic markup, as its name suggests, describes the meaning and type of each element, making it easy for users and machines to understand and adapt content. When coded semantically, menus can easily adapt to increased or decreased fonts, mobile views, and assistive technologies.

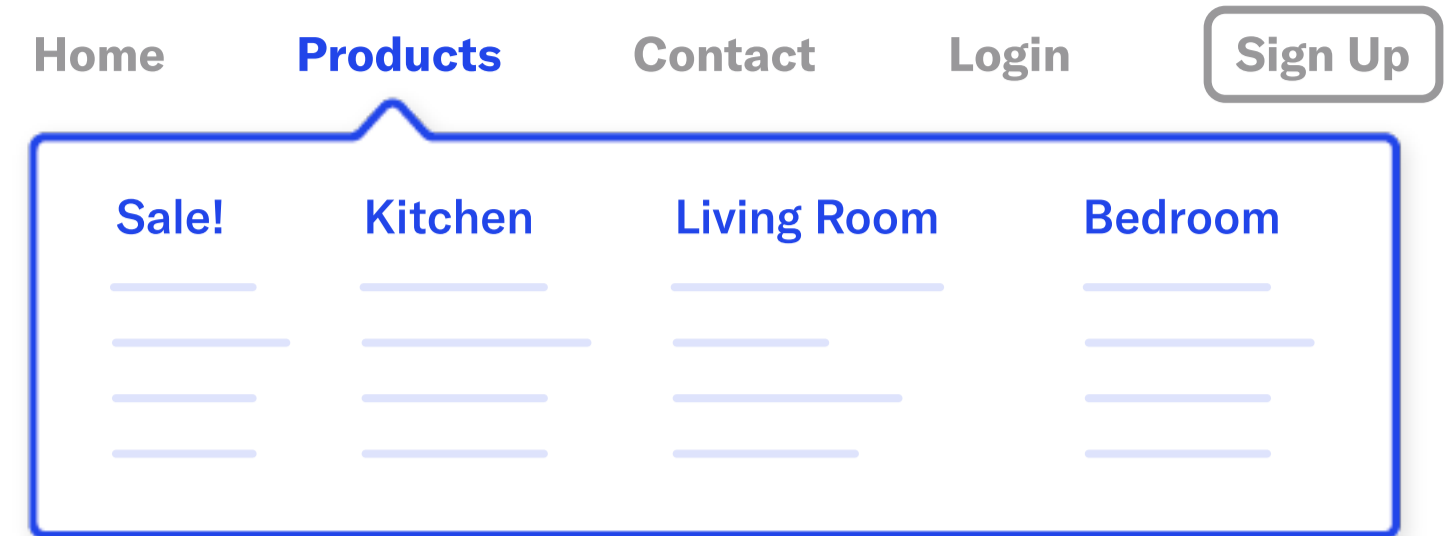There is some wiggle room when it comes to designing website menus. Depending on the end goal, you can choose between ordered and unordered lists.

- This is an unordered list item
- This is also an unordered list item

1. This is an ordered list item
2. This is also an ordered list item

This structural information allows screen readers to announce the number of menu items and provide corresponding navigation functionality.

If you have a complex navigation with many subcategories, consider using a mega menu design. Typically displayed in a two-dimensional dropdown layout, this is the easiest and most comprehensive way to display the many choices and reveal lower-level site pages at first glance (as mega menus tend to contain both first-level and second-level categories).

When you code your website menu with correct semantic markup, any responsive elements and features will apply to the mobile menu. Designing your website menu with mobile responsiveness will allow for the site page navigation to be dynamically expanded or retracted as part of the automatic responsive design layout.

Example: Sidebar navigation and breadcrumbs

XML and HTML Sitemaps: What Are They, and How Do They Help?

A sitemap is a holistic overview of your website with all major sections and links in consecutive format. A sitemap helps you to stay compliant with the Web Content Accessibility Guidelines (WCAG) and allows search engines to find, crawl, and index your website's content.

As it pertains to formatting, an XML sitemap is coded specifically for web crawlers, and an HTML sitemap is coded for humans.

While the XML file is easily decoded by search engine crawlers, the HTML-coded sitemap will assist anyone who needs some direction on your site to find what they are looking for.

Navigational Elements

Your website architecture heavily relies on how you link your pages together. Use internal linking to connect your website's content to other pages on your site.

It's also important to ensure that your navigation links are coded in HTML — not JavaScript or Flash. Google can only partially crawl and index JavaScript. Using HTML is a wise navigation design technique for increased usability and SEO.

User-Friendly
Web Page Content

What is User-Friendly Web Page Content?

User-friendly web page content is textual, aural, and visual content that's easy to find, navigate, and consume. It's the foundation of good user experience on the web.

Here are a few best practices for building user-friendly web page content.

Semantic HTML

Semantic HyperText Markup Language (HTML) accessibility is one of the key drivers of user-friendly web page content. Semantic HTML introduces the actual meaning of content on a web page with semantic tags (those that have meaning related to human language and logic) rather than simply defining its appearance with non-semantic tags (those that are read by computers and have no human meaning).

For example, **<p>** is a common semantic tag that indicates a section of text is its own paragraph. This tag helps the user understand they are reading an individual paragraph, while letting the browser know how to visually display it.

A non-semantic tag like **<b>** (which indicates that text should appear bold) simply defines how text should appear in the browser, but it doesn't provide additional meaning to the user.

Structured, semantically correct HTML helps search engines and assistive devices, such as screen readers, to understand the type of content you're presenting, as well as the context of this content.

With HTML 5, you can add semantic meaning to an entire web page using elements, such as:

<article>	**<main>**
<aside>	**<mark>**
<details>	**<nav>**
<figcaption>	**<section>**
<figure>	**<summary>**
<footer>	**<time>**
<heading>	

These HTML accessibility elements make it easier for browsers and assistive technologies to understand what your website content is saying and how different elements of that content relate to one another. For example, semantic HTML can provide screen readers with structured information, such as listing the hierarchy of headings on a page (**<h1> - <h6>**), defining a footer of a web page or section (**<footer>**), or providing additional navigation controls (**<nav>**) for data tables.

Without semantic HTML, people with disabilities using assistive devices will have a difficult time understanding how your web page content is structured and what it represents.

Page Formatting

Proper page formatting is another essential element to creating user-friendly, accessible website content. Without clearly defined formatting for page headings, typography, layouts, and hyperlinks, your users will struggle with reading and engaging with many important elements of your content.

Page Headings

Page headings allow readers to understand the overall outline of your web pages as well as to quickly scan the page or navigate to sections they are interested in. These headings are categorized into hierarchical, numerical levels ranging from one to six (**<h1> - <h6>**), with the highest level being an **<h1>**.

It's important to note that an **<h1>** headings tag is most often used to identify the official title of a web page.

No Headings   **With Headings**

Subject introduction

New Subject

Last Subject
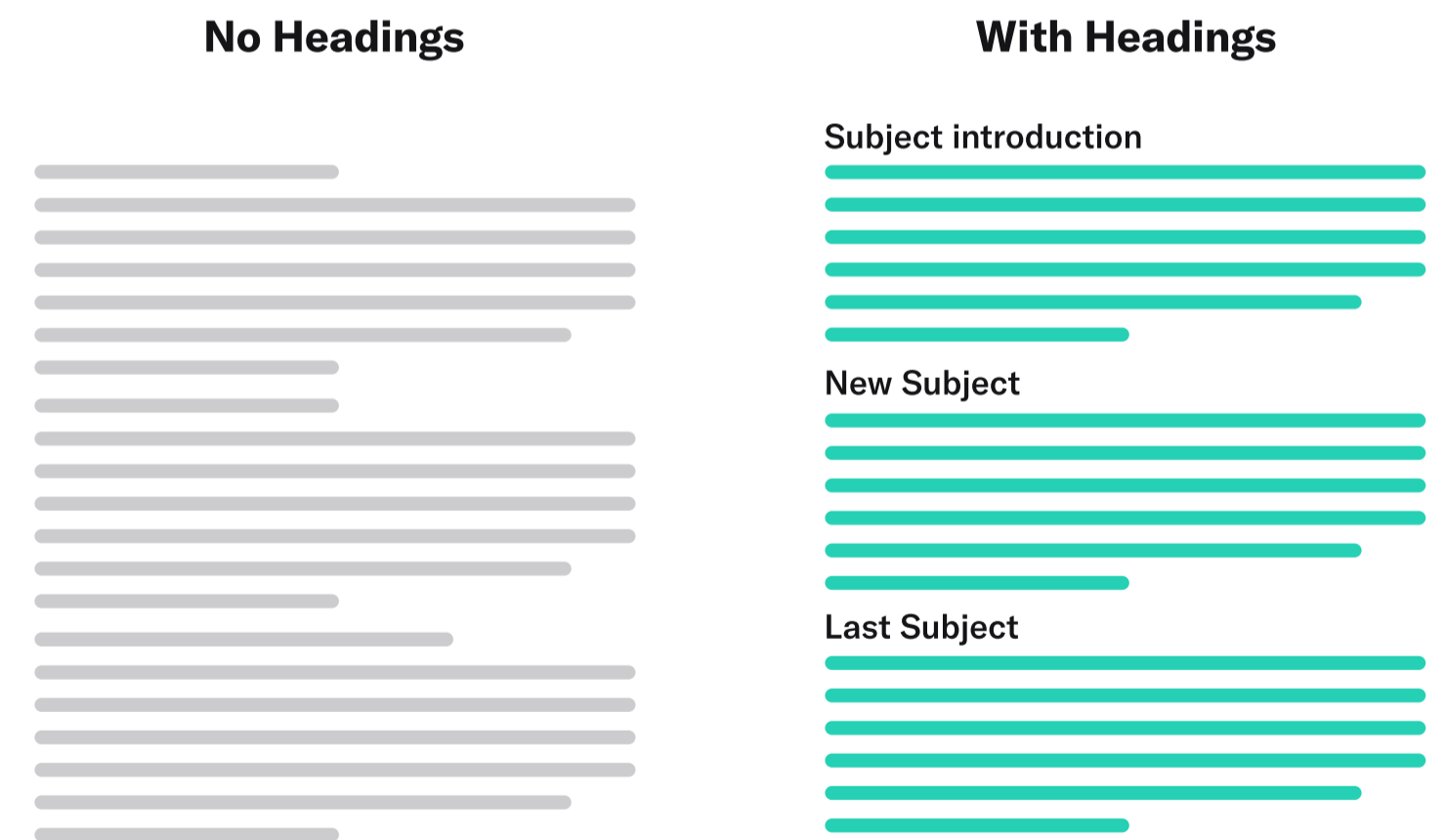
Example: Benefits of hierarchy for readability

While this visual cue allows site visitors without impairments to understand the heading's hierarchical importance and the beginning of a new section, those using screen readers are unable to discern the style change. To ensure site visitors with visual disabilities who are using screen readers can comprehend the intention of this heading, we have semantically tagged it as an **<h3>** in the page's HTML.

Other HTML Heading Best Practices

If you're creating website content that is longer than three paragraphs, use headings to present page structure and make your content scannable for all users, including for people with disabilities. These headings should be clear, concise, and descriptive of the content that follows them.

Make sure all your headings are semantically correct and feature the appropriate font size, based on their place in the page content hierarchy.

You can specify the size for any heading with the **"style"** attribute using the CSS **"font size"** property.

Think of an **<h1>** as the title of a book, an **<h2>** as a chapter, and **<h3> - <h6>** as subtopics of a chapter.

<h1> Title </h1>

H1

<h2> Chapter </h2>

H2

<h3> Subtopics </h3>

H3

H3

H3
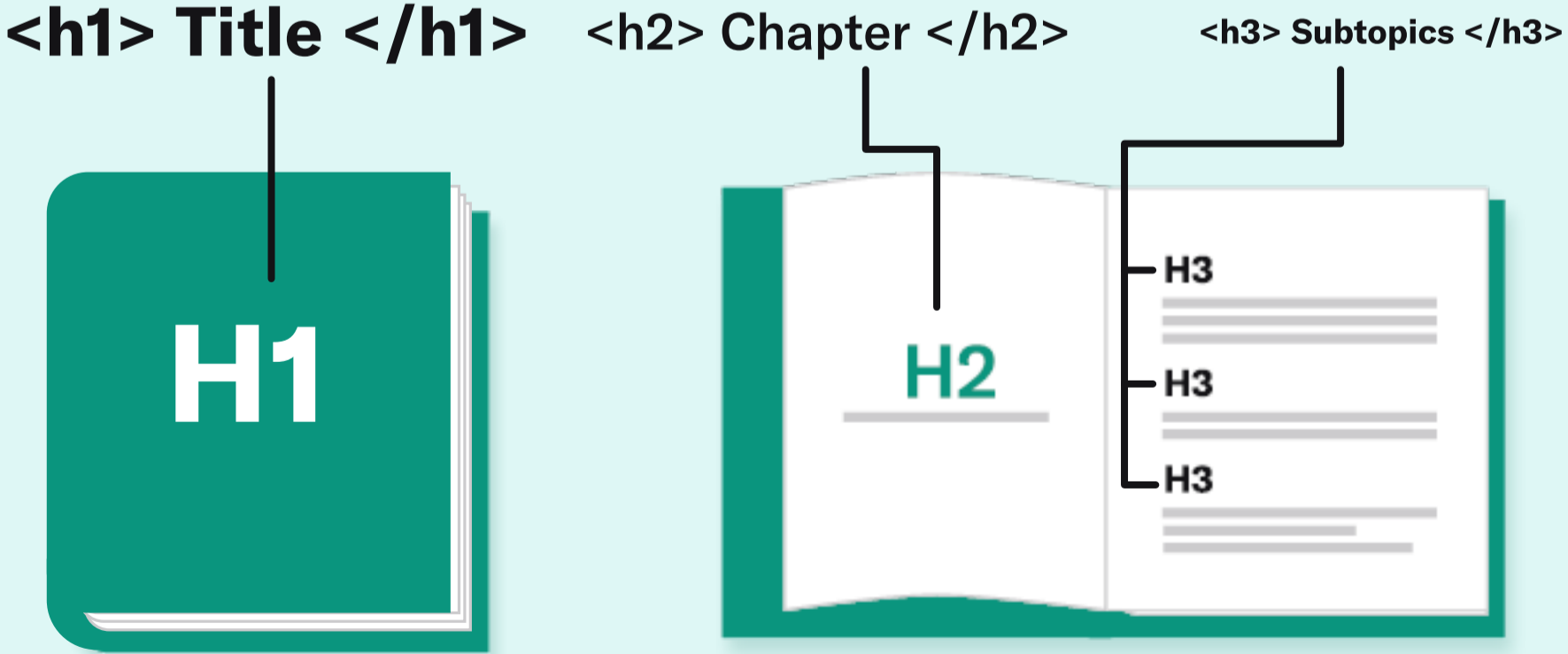
Typography

Typography is one of the key factors that affect your site's usability and accessibility.

Here are a few common typography best practices:

14 Pt Bold

18 Pt Regular

Typefaces and styles

Legible and clear typefaces ensure site visitors can comprehend your content. Make sure to select typefaces that are easily readable and can adapt to a variety of sizes and use cases. According to the U.S. Web Design System (USWDS), serif typefaces can be a good choice for long text blocks, while neutral, sans-serif typefaces can be good for user interfaces (UI). Also, avoid long sections of bold, italic, or uppercase text, as these can hurt readability.

Font size and weight

As a rule of thumb, larger fonts with wider strokes are more legible, even on low-contrast web pages. The World Wide Web Consortium (W3C) recommends starting at 18-point regular-weight text or 14-point bold text. This allows you to utilize a wide range of colors in your web page content, including in titles.

Line length and height

Proper line length and height can help readers stay comfortable and engaged with your website content. In general, standard texts should feature line lengths around 45-90 characters long, while long-form texts should feature around 66 characters. For line height, headings, and content elements that are no longer than a line or two, use height between 1 and 1.35. Longer texts should have a line height of at least 1.5.
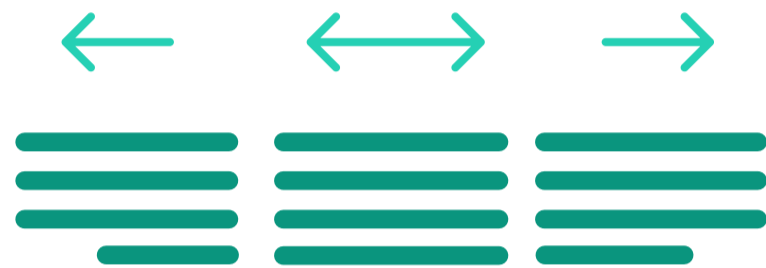
Text alignment

Text that is right-aligned, centered, or justified (where both the left and right sides of a text block have a clean edge) can be difficult for site visitors to read if incorporated incorrectly. Whenever possible, use left-aligned text for longer sections of copy, as this gives the eye a consistent starting point for each line of text. Centered, right-aligned, and justified text can be used for headings or other short sections of copy that don't require repeated eye movements.

Letter spacing

The space between each letter or character (or kerning) in a body of text can sometimes be adjusted for better readability. While this is commonly defined by the typeface designer, certain circumstances require modified text spacing. For instance, smaller text — or uppercase or small-caps text — could benefit from more space between each character, while larger text could benefit from less space.

Text white space

The white space that surrounds your text plays a role in how users interact with and understand the relationships between the elements of your web page content. If you want to group content together, consider using less negative space. When distinguishing different elements of content, consider adding a bit more breathing room. Additionally, web pages typically use white space rather than indentations to introduce copy.
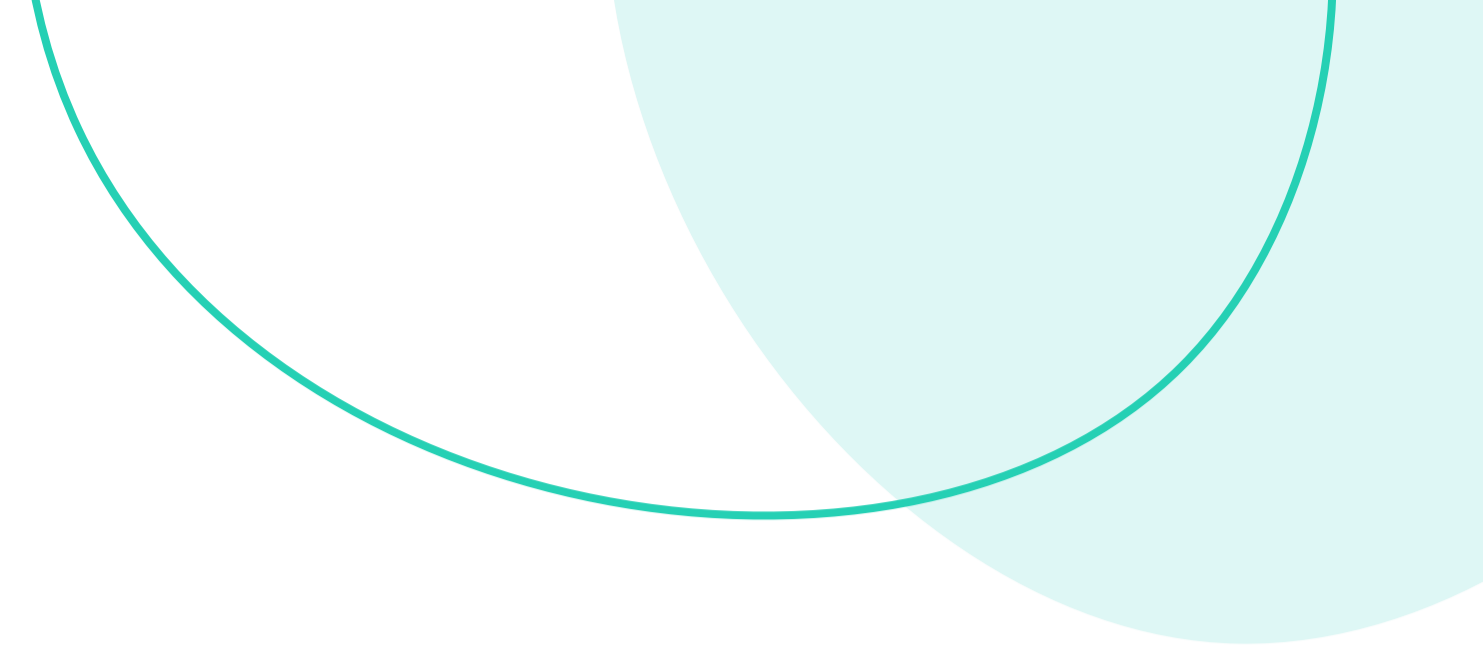
Other Typography Best Practices

There are many other considerations to keep in mind when writing content that is user-friendly. A common example is using descriptions when adding abbreviations or acronyms to your copy. Both abbreviations and acronyms can sometimes be difficult for readers to decode, especially those who are using screen readers.

Write out any confusing abbreviations for immediate clarity. And before using an acronym, spell out the phrase upon first use, placing the acronym in parentheses right after. For example: Job Access With Speech (JAWS). Also, don't forget to include the HTML abbreviation tag **<abbr>** for any abbreviation or acronym you use.

Another best practice is to add accessible hyperlinks throughout your website content. If you plan to include hyperlinks in your text, the link text you use needs to adequately describe the page it is connected to. Avoid adding hyperlinks to "click here" language, as this information is ambiguous and doesn't provide the user with the right information or context.

**Correct:** Learn more about <u>user-friendly web page content</u>.

Incorrect: To learn more about user-friendly web page content, <u>click here</u>.

Page Layouts and Wireframes

A clear page layout is one that ensures different aspects of your content — including navigation menus, hyperlinks, forms, and text — are in predictable locations and easy for users to identify. Clear layouts allow people with visual impairments or cognitive disabilities to easily view and orient themselves with your website's content.

To implement clear page layouts from the get-go, it's best to start by closely analyzing your wireframes (page schematics) at the beginning of the design process. Wireframes allow you to visualize the blueprint of your web page content, including your page structure, headings, typography, and intended user navigation. Wireframes also allow you to conduct testing with different users before launching the site. You can use the feedback on the experience and flow of your page layouts to improve and finalize the structure and design before going live.

Nav bar

Image

Headline
SUBHEAD

Small Headline

Small Headline

Main content

Suggested Blogs
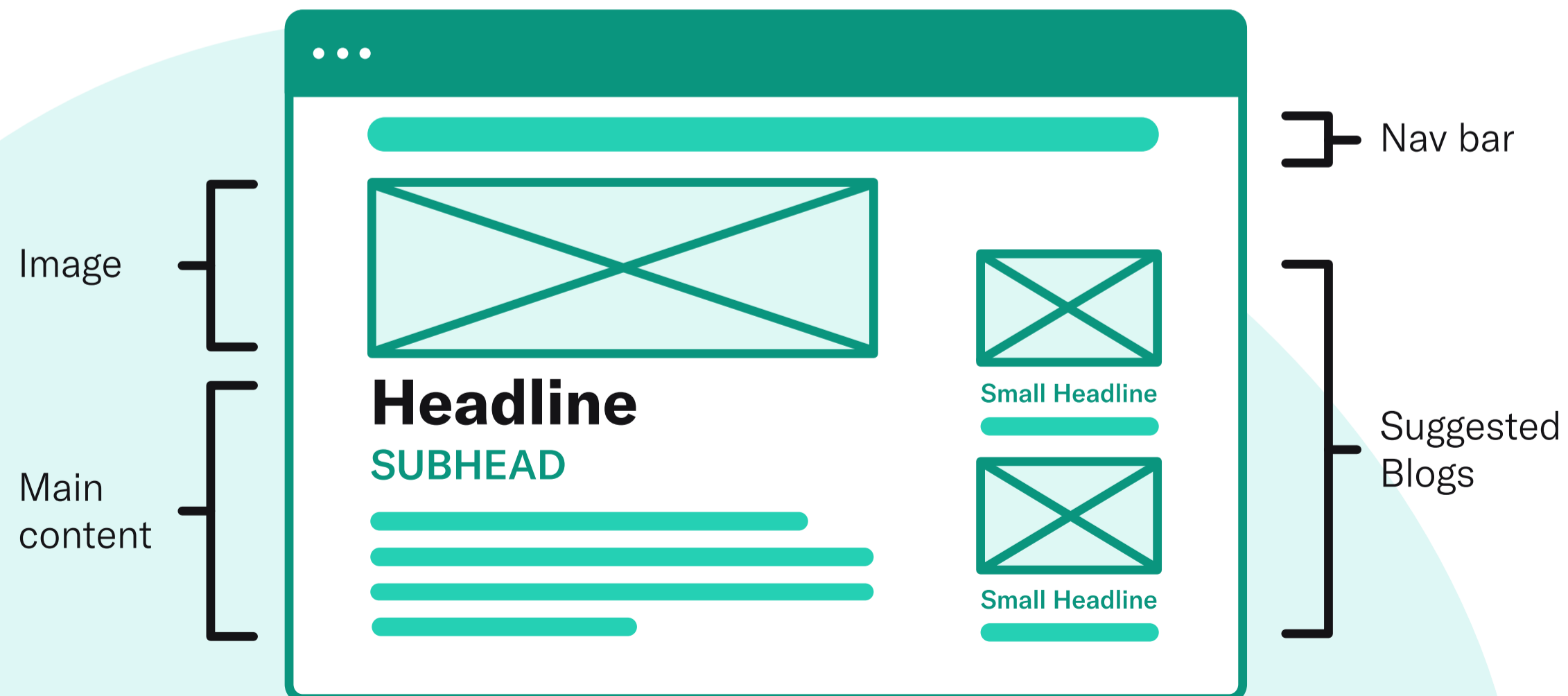
CHAPTER 4
Seven Principles of Universal Design

What is Universal Design?

Universal design is the process of building products that are accessible to people of all abilities.

Universal design is different from accessible design. Accessible design is concerned with the needs of individuals with disabilities, while universal design — as its name suggests — aims to serve everyone. The key takeaway here is that, if you use universal design principles, you'll make your website more accessible to all people, including individuals with disabilities.

Remember to consider universal design throughout your entire design process, and, most importantly, at the beginning of a project.

Here are seven universal design principles that govern both physical and digital realms.

1. Equitable Use

Provide the same means for all users. For example, make sure your website is accessible to people who use screen readers to consume and interact with content online.
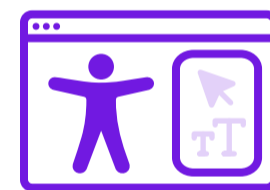
2. Flexibility in Use

Offer options that accommodate individual user preferences, such as right- and left-handed UI.

3. Simple and Intuitive Use

Make your product and/or website easy to understand and navigate for any user. Don't make any assumptions about users' knowledge or prior experience.

4. Perceptible Information

Communicate necessary information to the end user in a clear and accessible way. If you are posting a video, make sure it has closed captioning and audio descriptions, along with images, so it's accessible to people who are deaf or have hearing impairments.
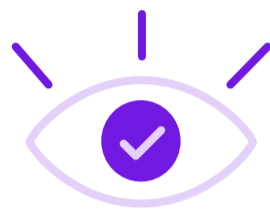
5. Tolerance for Error

Error

Provide guidance to prevent users from making an error or taking an unintended action. Remember to add fail-safe features in key elements. Session timeout reminders are an example of providing tolerance for error.
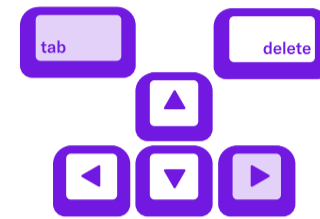
6. Low Physical Effort

tab   delete

Design physical or digital spaces for comfortable use. Enable keyboard shortcuts to allow users to complete online tasks with minimal keystrokes.

7. Size and Space for Approach and Use

Provide appropriate size and space for approach, reach, manipulation, and use, regardless of users' body size, posture, or mobility. Examples include adjustable desks in the physical world and responsive web design for viewing content on mobile devices.

Universal Design in Websites

Now let's look at a few ways you can apply universal design principles when designing or updating your website.

Aa Aa

Use strong color contrast to make text readable for people with color blindness. Read 8 Ways to Design a Color Blind Friendly Website to get more tips.

<H1> **<H2>** **<p>**

Use semantic HyperText Markup Language (HTML) and Accessible Rich Internet Application (ARIA) attributes when appropriate.

CC

Provide closed captioning and video descriptions to make your content accessible to people who are deaf or have hearing impairments.

alt= "purple mountains in winter"

Add text descriptions, or ALT text, to your images. Find more information in our post on Image Alt Text.

Headline
SUBHEAD
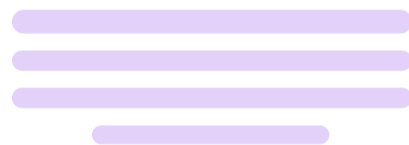
Create user-friendly website content with proper page formatting, headings, and typography. To learn more, read How to Build User-Friendly Web Page Content.

esc   delete
tab
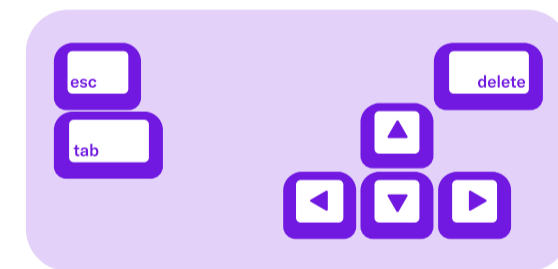
Make sure your site is navigable by people who use the keyboard alone. See what that looks like in our post on Keyboard Focus and Dialog Behavior.

CHAPTER 5

Link Accessibility

Types of Links That Need to Be Accessible

Generally speaking, there are three types of links that need to be accessible:

The last word is a [link](#)

Hypertext: Links within text, like the example below: the Wikipedia page for hyperlinks with at least 20 links in the text alone.

Image links: Images, including call-to-action buttons, that link to another page or file.
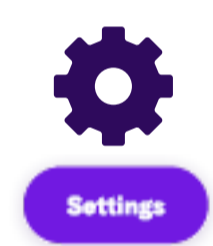

Adjacent links: Two links next to each other that go to the same location. For example, an image and the text beneath it linking to the same page (see below).

What is Link Accessibility?

As one of the most basic elements of web accessibility, hyperlinks help users navigate from one web page to another and access different types of digital content. While creating hyperlinks is easy, making them accessible to all users — including those who rely on screen readers to interact with online content — takes careful consideration.

Let's go over a few best practices on creating accessible links in text, call-to-action buttons, and images.

Anchor Text Best Practices

Anchor text is a linked or clickable text. Here are a few best practices for writing helpful and meaningful anchor text.

Visit our

Help Center

~~click here~~
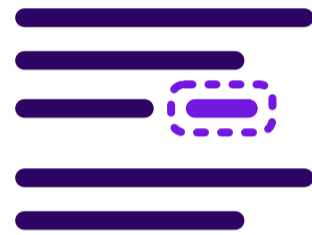
Write clear, concise, and descriptive anchor text. Screen reader users may skip the surrounding content and just navigate the links, so make sure your anchor text makes sense out of context.

Don't use the URL as an anchor text. For example, to send site visitors to a "Help Center," write "For additional support, visit our Help Center," instead of "For additional support, visit our Help Center at https://help.audioeye.com/hc/en-us."

Avoid using general phrases and words, such as "click here" or "more" as anchor text — they don't provide any helpful information and can confuse screen readers and people who can't use a mouse or trackpad to click on content.

Finally, make sure your links are easy to spot on the page. For example, all anchor text on this page is purple and underlined. The unique color draws attention to links and underlining text makes it more accessible to people with color blindness.

Call to Action Best Practices

Calls-to-action (CTAs) tell readers what to do next. They generally appear in the text, like in the Help Center example, or as buttons. Follow the same rules as with anchor text to keep your CTAs accessible.

✓ Use straightforward and descriptive language, making it clear where the link is taking the user.

✗ Don't make the common mistake of writing "click here."

Now let's go over the design considerations for CTAs.

Designing Accessible Buttons and Linked Images

According to Web Content Accessibility Guidelines (WCAG), images (think logos, icons) and buttons that contain links are considered "functional images."

There are several web accessibility buttons and image best practices, but the most important rule is to always add alt text that tells the user where the link will take them, instead of describing the image. For instance, the alt text for "Start Free Trial" button at the top right of this screen says "Start free trial," instead of "Purple button reading start free trial."

If you want an image itself to be accessible to all users and search engines (think of pictures and photographs vs. buttons), then don't use it as a link and instead add a detailed description of the image in alt text.

You can use Javascript, CSS, or HTML to make buttons or images (linked or not) accessible.

In addition to alt text mentioned earlier, you need to consider color, contrast, and, if relevant, font size and shape when creating linked buttons and images.

When it comes to designing accessible buttons, there are three basic types to consider:

Primary

Primary Buttons: The most important buttons on the page. For example, calls to action that are highly relevant to the page content.

Secondary

Secondary Buttons: Actions you would like users to take, such as a free demo request.

Tertiary

Tertiary Buttons: Buttons of lower priority, such as making changes to account settings.

Ultimately, it's up to you to prioritize buttons on any given page. The key is to make the most relevant and important action steps easily accessible to all users.

Make sure your primary, secondary, and tertiary buttons are similar, but not identical. For instance, all three types can have the same shape, but different colors. One exception is when you are linking to an outside source using their logo. In that case, you don't need to change the logo to conform to your design convention.

Finally, use the same call to action for buttons that lead to the same page. For example, if you have two buttons linking to a single contact page, use "Contact Us" for both, instead of writing "Contact Us" on one and "Email Us" on the other.

CTA Best Practices

Click Here

Start Free Trial

- Poor Contrast
- Unclear Destination
- Small Text

- Good Contrast
- Large Text
- Clear Destination

Understanding Touch Target Size Accessibility

Touch target size for accessibility aims to ensure targets — any place with a link, whether on a computer or mobile — is large enough to be clicked on or otherwise accessed by those with mobility, visual, or other disabilities.

The minimum touch target size for buttons and at least one of two adjacent links (or equivalent targets) must be at least 44x44 CSS pixels, per WCAG.

You should also have enough padding between your links to help ensure users don't click or tap the wrong one by accident. Use empty space as padding, or regular text between linked words in a list.

Links within text, footnotes, and help icons don't need to meet the minimum pixel size, but it's still a best practice to have space between links. For instance, you shouldn't have an anchor link on one word and a different anchor link on the next word.

Although your in-text links don't need to be a minimum of 44x44 pixels, you do need to follow WCAG for font size. In general, 14-point text is the minimum acceptable font size, but you can use any font size within the 14 to 18-point range, or 18.5-24 pixels, respectively.

>44px

>44px

14-Point Text

Ample padding between links

✓ Minimum 44x44 pixels

✓ 14-point text (18.5-24 pixels)

✓ Ample Padding Between Links
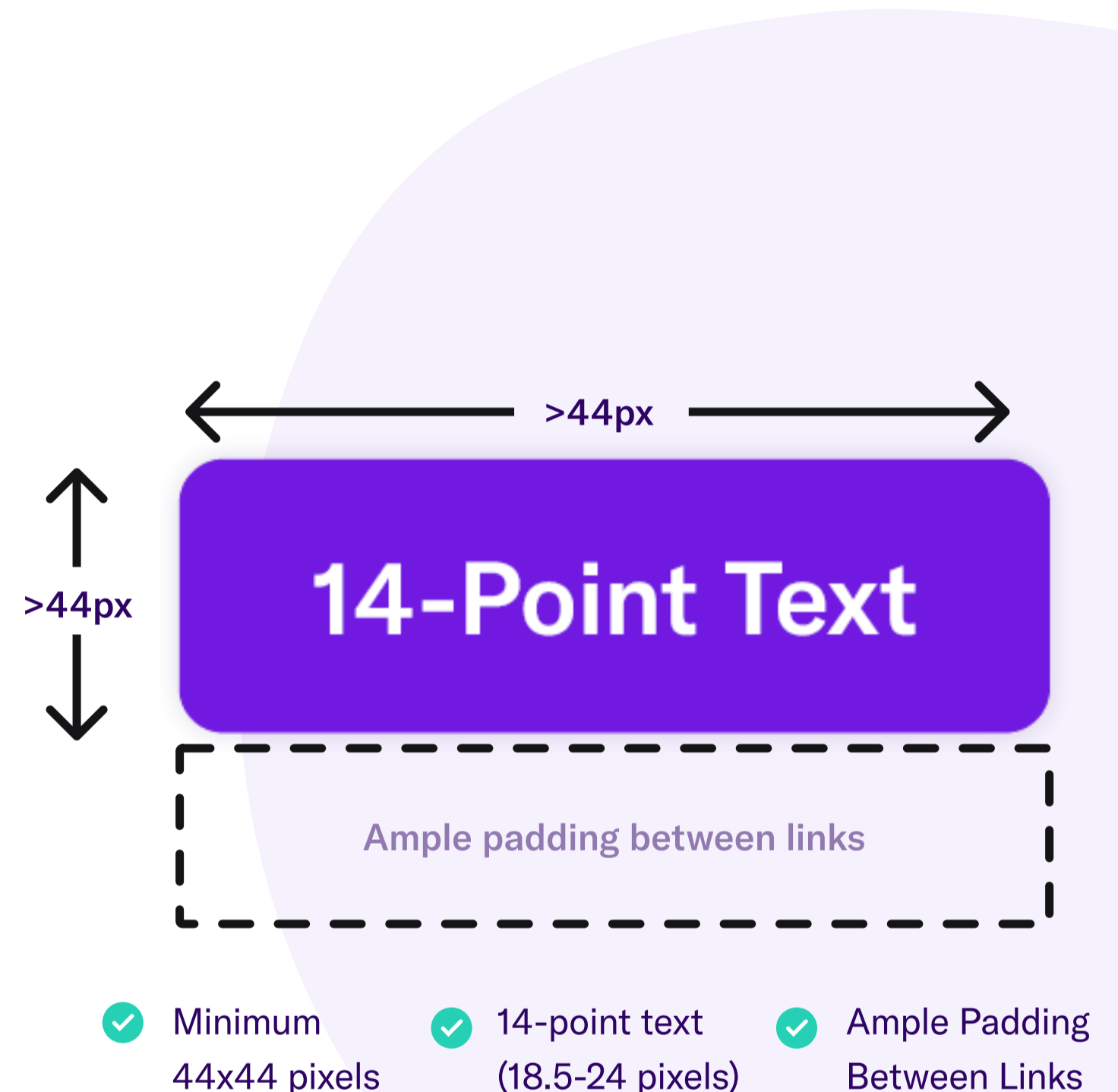
Using Best Practices to Establish Link Accessibility on Your Site

Link accessibility is essential to ensure WCAG and the Americans with Disabilities Act (ADA) compliance. In summary, make sure every link you use is:

Start Free Trial

<14 Point Text   <44px

<44px

Start Free Trial

Clearly identified as a link.

Descriptive, but concise.

Designed following minimum-size standards (14 points for font, 44x44 pixels for images).

Usable by screen readers, keyboards, and people with limited mobility.

CHAPTER 6
Video, Audio, and Image Accessibility

What is Multimedia Accessibility?

Multimedia accessibility is concerned with presenting video and audio content in a way that any user can watch, listen, and/or interact with, regardless of ability.

Closed captions, text transcription, and audio descriptions are some of the basic elements of multimedia accessibility.

For the purposes of this chapter, we've also included image accessibility best practices.

Extra tip: Avoid using autoplay, as it doesn't give viewers time to set up assistive technology and could trigger a seizure if there are flashing elements.

Audio Accessibility: Closed Captions, Transcription, and Descriptions

Audio accessibility includes adding closed captions and transcription to your video content for people who are deaf and audio descriptions for people with visual impairments.

For the deaf and hard-of-hearing community, as well as those with temporary or situational disabilities, closed captions and audio transcription can be very helpful. Closed captions display spoken content, song lyrics, sound effects, and noise as text on a screen. Closed captions are synchronized with the audio, i.e. they are time-coded to match the audio. Audio transcriptions are a text version of the entire spoken content in the video.

Audio descriptions, or video descriptions, provide users who are blind or have impaired vision with a spoken description of what's on-screen.

To see closed captioning (CC) and audio description in action, check out this YouTube video from AudioEye. You can access the transcription by clicking the dots next to **"SAVE"** under the video.

How to Transcribe Sounds and Write Closed Captions

Creating transcriptions and closed captions for accessibility involves writing out sounds and dialogue in a video or audio piece, such as a podcast.

Transcripts look like play scripts. Some websites automatically scroll transcripts while videos play; others post transcripts as blog posts, with embedded audio at the top.

Closed captions should be synchronized with speech, sounds, and music. How you add them to your video depends on the video platform you use.

Get more tips on adding audio descriptions from the World Wide Web Consortium (W3C).

Here are a few best practices for closed captioning:

Make sure your closed captions are accurate.

Use a consistent style.

Synchronize with audio and allow enough time for people to read the captions.

Remove any visual obstructions that could interfere with the captions.

Preserve the meaning and intention of the content.

How to Add Audio Descriptions to a Video

Before we get to the basic steps of adding audio descriptions, please note that incorporating accessibility provisions from the very beginning of your video project is the fastest and most cost-effective way to produce accessible content.

Here are a few basic steps to adding audio descriptions:

1 Write a detailed script (or hire someone to do that for you). Have a person listen to your video and take notes on what they miss without the visuals.

2 Use the notes to help them write the script while watching the video.

3 Make sure to include the following in your audio description:
- Audio of important text
- Introductions of speakers, when applicable
- Descriptions of visuals or actions, as well as implied emotion. Just make sure you don't spoil the plot!

4 Next, ideally, hire a voice actor trained in audio description or choose someone who is easy to understand when they speak. Make sure their voice can be distinguished from other voices in the video.

5 Integrate your audio description with the video file.

Alt Text Best Practices

Image alternative text, also called alt text or alt tags, is a written description of an image, GIF, animation, graph, etc. that screen-reading tools can read aloud to people with visual impairments, sensory processing disorders, or learning disabilities. Well-written alt text accurately describes an image as well as communicates its purpose and context, to provide an accessible and functional user experience to people using screen readers.

Here are a few best practices to help you write meaningful and useful alt text.

Leave out phrases like "image of" or "picture of."

Don't use filenames as alt text.

Use descriptive language.

Be descriptive in content and context.

If you need more characters but not a full transcript, you may add a caption underneath the image.

Don't cram in SEO keywords. Search engines can crawl alt text, but dislike keyword stuffing.

Limit alt text to 150 characters. Some screen readers will cut off once that limit is reached.

Avoid repeating information that's already covered in a caption or an adjacent header.
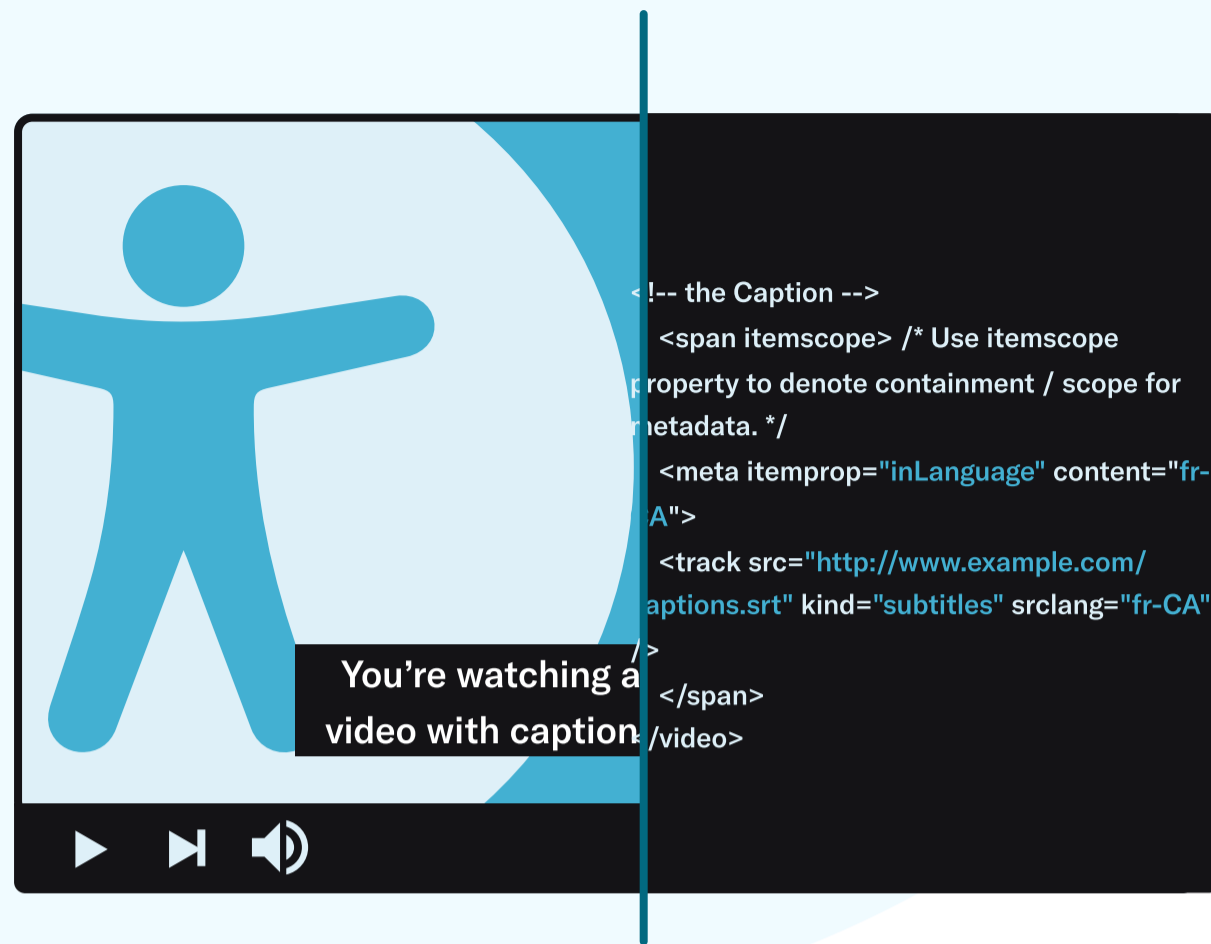
When an image includes a lot of important text, formulas, or graphs, provide a transcript.

Don't add alt text to decorative images — such as page dividers or branded graphics — as they don't contribute to a greater understanding of the content. Use the empty alt tag (alt="") to hide decorative images from a screen reader.

Learn more about alt text and see examples at WebAim.

```
<!-- the Caption -->
  <span itemscope> /* Use itemscope
roperty to denote containment / scope for
metadata. */
    <meta itemprop="inLanguage" content="fr-
A">
    <track src="http://www.example.com/
aptions.srt" kind="subtitles" srclang="fr-CA"
/>
  </span>
/video>
```

Embedded Metadata: Why It Matters

Embedded metadata, which describes the code using plain language, lets people who need accessibility features know if they can access your publication.

Embedded metadata doesn't create multimedia accessibility; it says it's there. For example, video metadata stating a video has captions looks like:

<meta itemprop="accessibilityFeature" content="captions" />

There are two primary ways you can implement metadata for accessibility:

1. Whole page/publication: Metadata shows the accessibility features of an entire piece.

2. Specific multimedia: Metadata describes what an image, audio component, or video offers.

Typical metadata includes basic information, such as the title and creator.

Descriptive metadata tells a user what accessibility features and potential hazards are on your page or media piece.

It's best to have an experienced developer create your embedded metadata.

CHAPTER 7

Document
Accessibility

What is Document Accessibility?

As you think of making your website content accessible, inclusive, and compliant with the Americans with Disabilities Act (ADA), make sure you also optimize your documents, including PDFs, to meet document accessibility standards.

To help you do that, here are the basics of document accessibility.

WCAG Document Accessibility Standards

The Web Content Accessibility Guidelines (WCAG) are considered the gold standard for digital accessibility and are often used as a benchmark for legal compliance. Use WCAG principles and technical guidance to create accessible web and PDF content. In more general terms, make sure your content follows WCAG's four core principles of web accessibility.
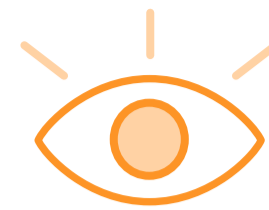
Perceivable

Both the information and user interface elements (clickable links, text boxes, buttons, etc.) on a website should be presented in such a way that all users can perceive them using at least one of their senses. If any part of a website's content or controls is invisible to any user, then your content fails the perceivability test. In creating PDFs, use minimum levels of color contrast between the text and the background, select accessible fonts, and use proper text size and spacing.

Operable

All users can interact effectively with the user interface to navigate the website. If the website or PDF contains interactive components, then all users should be able to operate those components. If the interface requires the user to interact in a way that is impossible for them, then the website fails the operability test. To make your PDFs operable, use appropriate headings and labels, so that screen reader users can navigate content using a keyboard.

Understandable

Both the information (content) and user interface components should be readily understood. A user must be able to understand how a website or a PDF (think dynamic PDFs like forms) works and what the information means. Provide relevant, clear, and simple instructions or labels when user input is required. Use predictable formatting and give suggestions for correcting any detected user input errors.

Robust

All users, including those who rely on assistive technologies, should be able to understand the content.

Word Document Accessibility

Considering that so many PDFs start out as Microsoft Word documents, let's review a few tips for creating accessible documents. Keep in mind that Microsoft Word Processor comes with built-in accessibility features, including options for:

AaBb

Accessible Text Colors
Ensuring colors used are easy to read.

ᴛT

Accessible Text Formats
Checking that text formats are recognizable and readable.

<Alt>

Alt Text
Text describing images.

Tables
Tagging to make tables more readable by assistive technology.
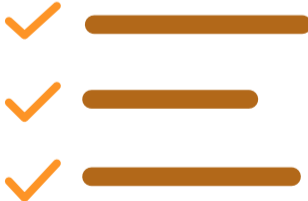
Bulleted & Ordered Lists
Making lists in your documents readable by assistive technology.

H1
H2
H3

Heading Styles
Allowing readers to navigate content and skip to relevant sections.

Hyperlink Text & ScreenTips
Making links obvious to readers.

Why Should I Worry About Accessibility in Word Documents?

Making Microsoft Word documents accessible can save you time when converting documents to PDFs or web content, as accessibility features stick with your document. Just make sure to verify that all accessibility provisions are transferred correctly.

FILE   HOME   INSERT   REVIEW   FORMAT

Format Picture

Title

Mountains

Desription

Two Mountain Peaks at sunset

How Can I Find My Accessibility Problems in Word?

Windows, macOS, and Word for the web (Office 365) programs offer an accessibility checker to help find common errors. For Android and iOS, you need to check for problems manually in order to fix them.

To check Word document accessibility, go to the top of your screen and click or tap "Review", then "Accessibility Checker". You can do this when a document is complete or run the checker as you're writing. It will alert you whenever it notices something may not be accessible, like an image missing alt text or a color combination that will be difficult to read. Even after using the accessibility checker, review your document manually. Think of it like Word's spelling and grammar check — it catches a lot of errors, but it may not detect everything. Running a spellcheck can speed up the proofreading process because it points out known issues. The same goes for the accessibility checker — it's robust but not as robust as the trained human mind.

Microsoft provides a great deal of information about looking for and fixing accessibility issues on all its Word platforms. You can find thorough instructions on creating accessible Word documents on the company's website.

PDF Accessibility and Remediation

Simply speaking, PDFs are images of documents. If a PDF is not properly tagged for accessibility, screen readers perceive it as a single image, rather than a document containing structured information. PDF accessibility options vary depending on the type of Adobe program you use: Standard, Reader, or Pro. Acrobat Pro provides the most comprehensive set of PDF accessibility features, including screen magnification and compatibility with braille reader display. You can find more information on Adobe's accessibility features page.

As mentioned earlier, make sure your PDFs meet WCAG standards. Pay particular attention to **"checklists"** and **"fill and sign"** functions, as you check for accessibility. When converting Word documents to PDFs, make sure your Word documents are already optimized for accessibility.

What is PDF Remediation?

PDF remediation is, in essence, a fancy way of saying you're checking for and fixing PDF accessibility problems. When doing remediation, someone must manually check accessibility in the PDF and tag certain elements for assistive technology. Note that PDFs that are later printed lose components like alt text. Also, color PDFs printed in black and white may become challenging to read. Here are Adobe's tips on printing color PDFs.
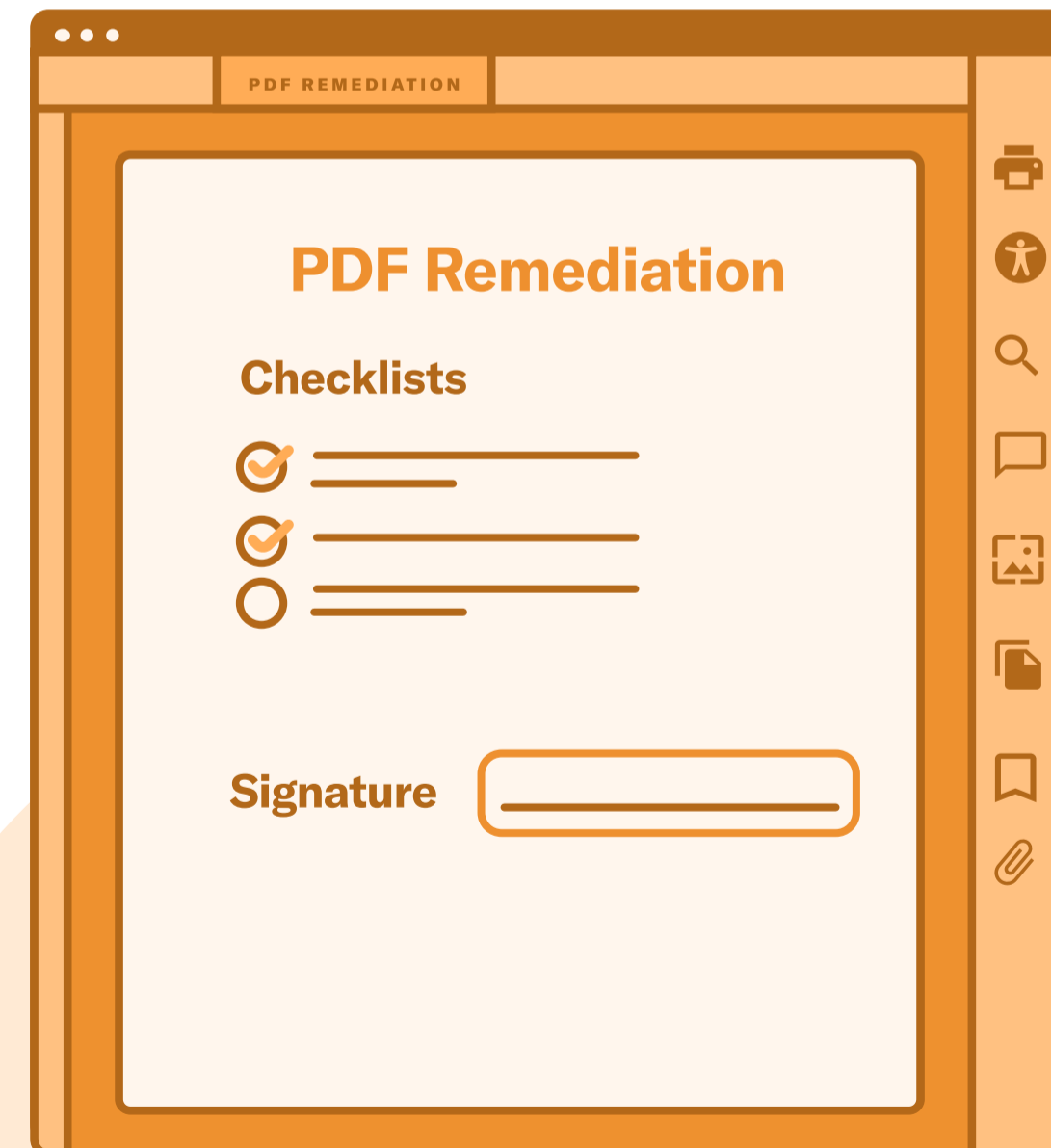
What Specific Parts of a PDF Need Tags?

Add tags to the following components to make your PDF accessible:

Headings: The headings or titles of sections should be tagged so a reader can skip to what they need, instead of having to go through an entire document.

Images: All images need alt text. Ideally, that text would describe the image and provide context. However, if an image is too detailed to describe in 125 characters or fewer, add the description as a caption or article link.
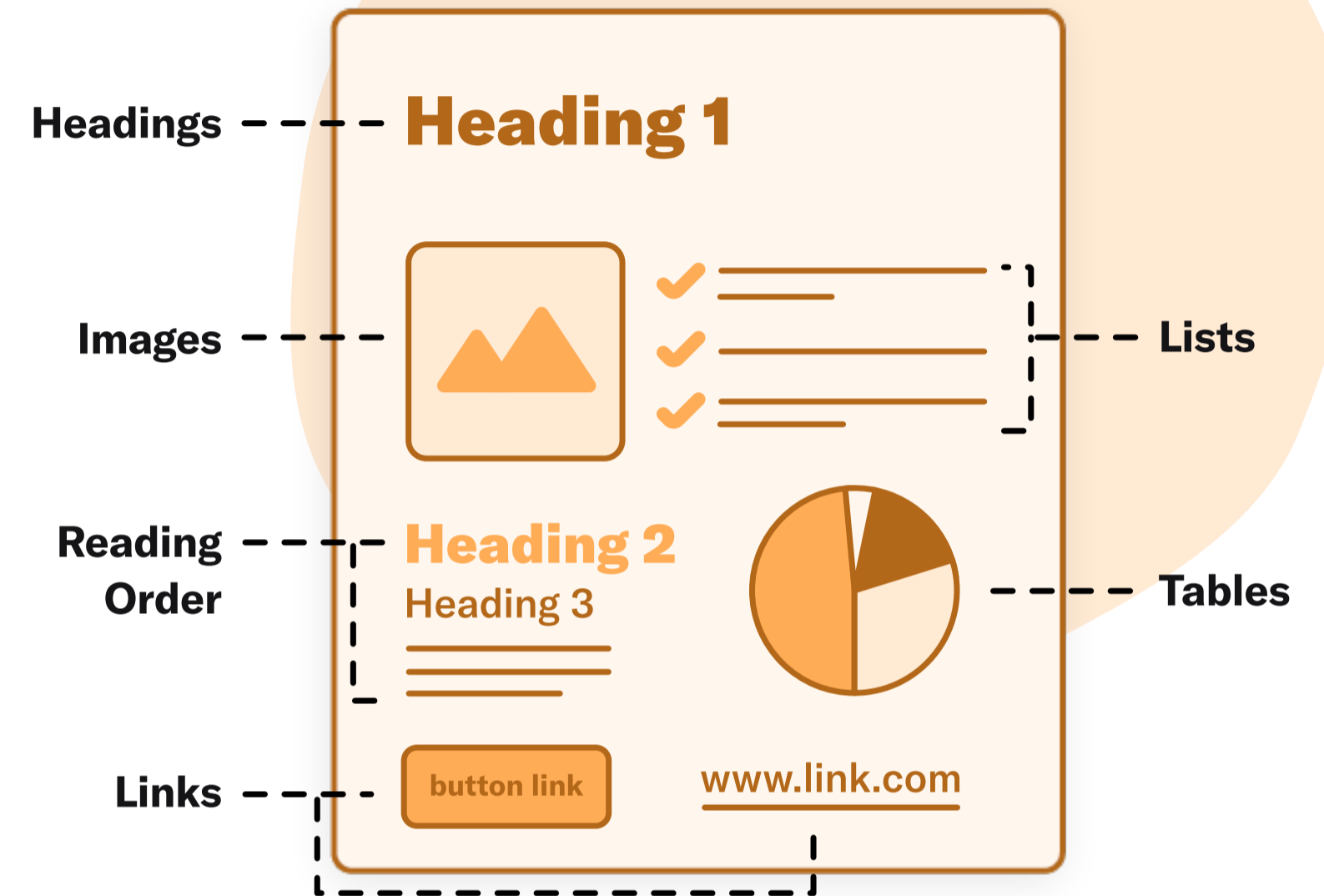
Links: Links can be challenging for assistive technologies to recognize. An accessible link describes the destination page and is easy to differentiate from surrounding text.

Lists: Lists show up as random words if the list is not tagged. Tags should say something like "chapter 1 of 23."

Reading Order: This instructs a screen reader in what order to read the document. For instance, many newsletters or printable posters are divided into columns or blocks rather than narratives. Without instructions, a screen reader may read content left to right, not understanding that the document is not intended to be experienced that way.

Tables: Tables may be the most complicated elements to make accessible in a PDF. Tagging involves labeling headers, showing reading order, and clarifying content. Avoid using tables if other options are available, particularly if there is a lot of information that would make it hard for a person to follow.

PDF Elements that need Tags

Headings ----- **Heading 1**

Images ----- [image] ✓ _____ ----- **Lists**
                        ✓ _____
                        ✓ _____

Reading ----- **Heading 2**
Order   Heading 3 ----- **Tables**

Links ----- button link   www.link.com

How Do I Remediate a PDF Document?

For best results, we recommend using Adobe Acrobat Pro DC, which offers several methods for remediating. For more details, check out Adobe's instructional article on PDF accessibility.

Learn more about document remediation at AudioEye.

A Quick Reference Checklist

<H1> **<H2>** **<H3>** Headers

☐ Write meaningful headings that give insight into the content.
Additional resource: Website Accessibility: Headings, Yale University

☐ Use headings in hierarchy order to outline document structure. Plan the heading structure before the webpage is built, to ensure correct order.
Additional resource: Website Accessibility Tutorials: Headings, W3C

☐ Avoid using headings for their sizing alone. Decorative headings are confusing to screen reader users, it's random emphasis.

alt= "" Image Alt Text

☐ Write a text alternative, or alt text, for all important images. Include language that evokes the image's purpose conveyed in context. Omit the words "graphic" or "link" because assistive technology will convey element context.
Additional resource: Alternative Text, WebAIM

☐ Include null alt text (alt="") for images that are not important, are used for layout, or do not serve a function. This ensures they are hidden from assistive technologies.
Additional resource: Web Accessibility Tutorials: Decorative Images, W3C

☐ If alt text is a product description, include style, design, materials, features, benefits and care in detail. Colors should also be described, if they have unique or non-standard names.
Additional resource: Accessibility in E-Commerce: Use 'ALT' Text to Communicate the Core Content of "Informational" Images, Baymard Institute

☐ Avoid using image file names as alt text. This does not describe the image or assist users in their understanding.

Call-to-Action Buttons and Form Fields

Get Started

☐ Write a text label for each field and button. Include expected formats in plain language.
Additional resources from W3C:

Web Accessibility Tutorials: Labeling Controls

Web Accessibility Tutorials: Forms Instructions

What ARE Accessible Names and Descriptions?

☐ Omit the words for element names like "button", "graphic", or "link" from their labels. Screen readers identify elements when reading the respective text labels.

Additional resource: 12 Screen Reader Facts for Accessible Web Design, Designmodo

☐ Be sure icons or images intended as button labels have the button actions as their alt text (think "attach file" and not "paperclip").

Additional resource: Accessible Icon Buttons, Sara Soueidan

CC Closed Captions and Audio Descriptions

☐ Write accurate closed captions that communicate the meaning and intention of the spoken content. Synchronize with audio and allow enough time for people to read the captions.

Additional resource: 5 Habits of Expert Closed Caption Creators

☐ Remove any visual obstructions that could interfere with the captions.

☐ Avoid using autoplay, as it doesn't give viewers time to set up assistive technology and could trigger a seizure if there are flashing elements.

☐ Write a detailed script or hire someone to do that for you. If you hire someone, have them listen to your video and take notes on what they miss without the visuals. Use the notes to help them write the script while watching the video.

Additional resource: The Process of Adding Audio Description to a Video, The Audio Description Project

☐ Make sure to include the following in your audio description: audio of important text, speaker introductions (when applicable), descriptions of visuals or actions, as well as implied emotion.

Additional resource: Tips for Writing Descriptions, W3C

About AudioEye

By combining easy-to-use technology and subject matter expertise, AudioEye helps companies and content creators solve every aspect of web accessibility — from finding and resolving issues to navigating legal compliance, to ongoing monitoring and upkeep. We recognize that automation alone cannot fix all accessibility issues, which is why we pair our technology platform with certified accessibility experts, who provide manual testing and remediations.

Trusted by tens of thousands of companies and organizations, including the FCC, WebMD, Uniqlo, NP Digital, and others, AudioEye delivers automated remediations and continuous monitoring for accessibility issues without making fundamental changes to website architecture, source code, or browser-based tools.

audioeye

Join us on our mission to eradicate every barrier to digital access.

Visit audioeye.com

Trusted Certification

Issue Reporting

Automated Fixe