

Getting Started with Creating Accessible Digital Content

Disability impacts a large part of the U.S. population. The most recent prevalence estimates suggest that one in four U.S. adults—an estimated 61.4 million persons—report living with at least one disability. Mobility is the most prevalent disability type (13.7% or 8,411,800 people), followed by impairments in cognition (10.8% or 6,631,200 people), hearing (5.9% or 3,622,600 people), and vision (4.6% or 2,824,400 people) (Okono et al., 2018).

Title III of the Americans with Disabilities Act (ADA) has guaranteed people with disabilities full and equal enjoyment of any place of public accommodation since 1990 (ADA, 1990). In part because of an increase in utilization and reliance on them as other options became unavailable or high risk, disability-related lawsuits premised upon violations of the civil rights assured by the ADA in digital and virtual environments have increased since the COVID-19 pandemic (Foley, 2021). Proactive implementation of accessibility measures not only reduces your liability risk, it also prevents transferring the responsibility for organizational compliance with the ADA mandate onto people with disabilities by asking them to advocate for their rights, manage the logistics of accommodation, and cope with the negative emotions associated with discrimination (Burke, 2017; 2022).

Implementing accessibility upgrades will increase the overall impact of your work by facilitating the full participation of stakeholders with mobility, cognitive, hearing, and visual disabilities. This page provides resources, tips, and answers to commonly asked questions about creating accessible digital content, including websites, virtual convenings, videos, presentations, and documents. Although this is a starting point, not a comprehensive guide, we aim to provide digital accessibility basics for the following topics:

- [Websites](#)
- [Zoom Events](#)
- [Videos](#)
- [Powerpoints](#)
- [PDFs and Word Documents](#)

Websites

[Web Content Accessibility Guidelines \(WCAG\) 2.1](#) are the most recent set of recommendations for making web content accessible published by the [Web Accessibility Initiative](#) of the [World Wide Web Consortium](#) (WC3). WCAG 2.1 is a set of 13 guidelines with success criteria that respond to 4 principles of accessibility: perceivable, operable, understandable, and robust. Guidelines include goals such as providing text alternatives for non-text content, making text content readable and understandable, making all functionality available from a keyboard, maximizing compatibility with assistive technologies, etc. Conformance with the success criteria associated with each guideline can be achieved at three levels: Level A, Level AA, and Level AAA; however, conformance with Level AAA is only possible for some content (W3C, 2017-2018).

Is my website accessible?

If you haven't specifically implemented website accessibility measures, there is a good chance that your website does not already conform to the WCAG guidelines. Not all web developers are trained to build fully accessible websites and there are aspects of achieving conformance with the guidelines, such as the provision of alternative text for non-text content, that are not a built-in part of your website architecture.

You can find out how accessible your website is and identify specific issues by scanning it with a web accessibility checker. For example, [Siteimprove](#) can scan your website for on-page and technical accessibility issues and errors. (More information about pricing and specific services provided are available on the [Siteimprove website](#).) If your organization is affiliated with a university, you may be able to access a web accessibility checker through your institution.

After the scan, Siteimprove will derive scores for your website. For example, Search Engine Optimization (SEO) scores reflect how easy it is for a search engine to find a website and direct the appropriate users to it and are affected by both technical aspects, like how quickly the server loads the pages and how easy it is for users to navigate the site. The Siteimprove Accessibility score measures how closely your website follows WCAG guidelines. Both types of Siteimprove scores range from 0 - 100. Siteimprove also provides the average scores for your industry for benchmarking.

You can expect accessibility upgrades to positively influence both the SEO and Accessibility Siteimprove scores. This is because the areas of the site that will be altered during the upgrade are both relevant to the operation of assistive technologies *and* bots performing search engine crawling and indexing tasks.

Screen readers interact with the browser, not the website, and there is nothing passed directly or indirectly to the server to indicate that assistive technologies are being used. Consequently, there is no way to know how many people using assistive technologies are using your website. Thus, to measure the impact of accessibility upgrades to your website, you might consider comparing baseline and post intervention Siteimprove scores.

What is a screen reader?

Screen readers are for users who are blind, partially-sighted, or who have reading disabilities that affect their ability to access and interact with digital content. The screen reader reads out loud what is on the screen and allows users to navigate through the content via speech output. Some come built-in to the user's device—for example, Windows devices come with Narrator; MacOS and iOS devices with VoiceOver; and Android devices with TalkBack—and some are paid for (e.g., JAWS, Dolphin).

What is alternative text (alt text)?

Images that convey important content require a text description (also called "alternate text") to communicate the purpose and/or content of the image to individuals that use a screen reader to navigate a website. It is also useful to search engine crawlers, like Google bots, which can lead to more site traffic by improving the search ranking or place in relation to the top of the search engine results list.

How do I write alt text for images?

Image descriptions should be short and communicate the main purpose of the image.

Image description guidelines

- A text description should convey the purpose or content of the image in approximately 120 characters or less. Avoid repeating the same information as contained in the surrounding text.
- Images that are decorative (not relevant to the content) should be given null ALT text of alt="". For Microsoft Word or Powerpoint presentations, check the checkbox labeled "Mark as decorative".
- If the image is complex, consider providing descriptive information in the surrounding text in addition to a short alt text description.
- Do not include the file format in the alt text (Example: .JPEG, .PNG).
- Do not include "picture of" or "image of" in the alt text. Screen readers automatically apply a label to images so this is not needed.
- For older versions of PowerPoint, leave the Title field blank, and only use the Description field for alt text.

Learn more about writing alt text for images at the [Stanford Office of Digital Accessibility's Image Guidelines](#).

PDFs and Word Documents

How do I locate the Accessibility information about my Word document in Microsoft Word?

Microsoft Word includes an Accessibility Checker tool that identifies accessibility issues in the document. It also provides suggestions on how to remediate the accessibility issues.

To launch the accessibility checker, select **Review > Check Accessibility**.

How do I make an accessible PDF?

Creating an accessible PDF (or remediating accessibility problems within an existing PDF) can be a complicated process with many steps. As a general rule, if you can provide a Word document, Powerpoint, or webpage instead of a PDF, it will be *much* easier to make the information accessible.

[Adobe's PDF Accessibility Overview Guide](#) provides detailed information about the characteristics of accessible PDF files.

I have many PDFs to distribute. Is there any software available to help me make them all accessible?

PDF remediation software, such as [Equidox](#), can convert inaccessible pdfs into accessible PDFs or html.

How do I export my PowerPoint to an accessible PDF?

Do not use the "Print" to PDF option. Instead, you can use the "save as" command to export your PowerPoint to an accessible PDF format in one step, unless you are a Mac user. Mac users will need to remediate their PDF document with Acrobat Pro.

Using Acrobat Pro to Remediate a PDF on a Mac

To produce an accessible, tagged PDF document on a Mac, you will need to remediate the PDF using Acrobat Pro.

1. Go to the All Tools menu on the left side, select **View More > Prepare for accessibility**. Then, select **Accessibility check > Start checking**.
2. Once the check is complete, you will see a panel on the right that lists the accessibility issues. For each issue, there will be suggestions on how to remediate each accessibility issue.

Using “Save As” on a Windows PC

1. Select File > Save As.
2. Select PDF > More options.
3. In the Save As dialog, select Options.
4. Verify in the options dialog that document structure tags for accessibility are selected. Select OK.

Creating a PDF with Acrobat

1. Use the Acrobat plug-in in the ribbon. Select the Acrobat tab.
2. Select Create PDF.

Zoom Events

While Zoom has many built in features to host accessible virtual events, it is important to prepare well in advance to make the event as accessible as possible. This could include hiring sign language interpreters, hiring captioners, and coordinating with speakers to provide their presentation materials in advance.

What accessibility measures do I need for my Zoom event?

Some main considerations for an accessible Zoom event include:

1. Captioning
2. Sign Language interpretation
3. Sending accessible materials, such as powerpoint slides, to participants in advance

What are my options for providing closed captions for a Zoom event?

Zoom has an option to display auto-generated captioning; however, these captions do not meet ADA standards. Preferably, your organization can work with a captioner and manually assign the captioner to write the captions in real-time during the event. For example, Stanford University works with [3Play Media](#) and [Cielo24](#) to provide captions for events. Check with your organization to see if they have a list of preferred vendors for professional live captioning.

Do I need closed captioning *and* a sign language interpreter? Why?

Captioning and sign language interpretation are both essential to cover the communication needs of all participants.

Sign language interpretation can provide important context and nuance that are not captured in captions. Moreover, Deaf or hard of hearing participants may be more fluent in the sign language (e.g., ASL) than the spoken language (English).

On the other hand, there are Deaf and hard of hearing people that do not use sign languages at all and therefore rely on the captioning.

Is sign language universal?

No, it is estimated that there are over 300 sign languages in the world. While American English speakers and British English speakers can easily understand each other, American Sign Language (ASL) and British Sign Language (BSL) are *not* mutually intelligible.

Video

If you plan on posting a video recording of the event, it is important to provide closed captions, audio descriptions, and transcripts of the recording.

How do I get the closed captioning to display on the video recording of my event?

After the event has concluded, Zoom will allow you to download a file that contains the captions. Most video platforms, including YouTube and Vimeo, will allow you to upload the captions file to the video.

Why do I need both closed captioning and transcripts for my videos?

Assistive technologies, such as screen readers, cannot read captions, but can read the transcripts.

Powerpoints

We recommend sharing PowerPoint slides with their intended audience in advance of your event to allow participants using screen readers to follow along with the presentation. See [here](#) for an abridged PowerPoint accessibility guide that you can provide to speakers.

How should I arrange my slides?

Slides should be arranged so that a screen reader can read the content in the correct order. You can achieve this by using preset slide layouts, which will automatically control the reading order and structure of content placed on the slide.

However, if text boxes are separately created from the preset slide layouts, a screen reader may not read the content in the correct order. If content is manually placed onto a blank slide, you will need to assess and manage the reading order using the Arrange button. (I.e., you may have to manually assign what is read first, second, third, etc.)

How do I add alt text in Powerpoint?

1. Right click the image
2. Select **View Alt Text**
3. An Alt Text pane will appear on the right. Write your description of the image.
Alternatively, if the image is decorative, check the “Mark as decorative” checkbox.

How do I make hyperlinks accessible?

Documents containing hyperlinks to websites can be improved by including hyperlink text that is understood by the user:

If the PowerPoint presentation is intended to also serve as a handout with hyperlinks, you can create a reference slide at the end that includes the full URL for each hyperlink.

How do I make tables accessible?

You should avoid using a table to manage your slide layout. Use a simple structure when presenting tabular data, if possible. It will be difficult for assistive technologies to recognize the appropriate column and row header information in a data table with split cells, merged cells, or nested tables. All tables should include at least one header (the row and/or column) and an alt text description of the table contents.

Do the PowerPoint slide themes automatically have sufficient color contrast?

No. PowerPoint offers a variety of slide themes, but not all of them provide sufficient contrast. Select Slide Theme Colors with accessible contrast or select Customize Colors to manually select the colors.

How do I know if there is sufficient color contrast?

There are several online tools, such as the [WebAIM Contrast Checker](#) and the [TPGi Color Contrast Analyser](#), that will tell you if there is sufficient color contrast. In general,

- Avoid using pastel or “light” versions of colors
- Use color in combination with text-based information. Color should never be used as the sole means of providing information.

Conclusion

Please also visit our curated set of [accessibility resources](#) on ELSIhub, which includes guides on making accessible Powerpoint presentations, guides for making accessible academic content, and more.

Sources Consulted to Produce this Guide

- [Accessible PowerPoint Presentations](#), Stanford University Office of Digital Accessibility
- [Accessibility Best Practices for Zoom Meetings](#), Yale University Usability & Web Accessibility
- [Captioning & Transcripts](#), University of South Carolina Digital Accessibility
- [Accessibility Frequently Asked Questions](#), Zoom
- [W3C Accessibility Standards Overview](#), W3C Web Accessibility Initiative (WAI)
- Americans With Disabilities Act of 1990, 42 U.S.C. § 12101 et seq. (1990).
- Burke, T. B. (2022). Risk and Dignity in Requesting Signed Language Interpreter Accommodations. *Perspectives in Biology and Medicine* 65(2), 179-188.
- Burke, T. B. (2017). Choosing accommodations: Signed language interpreting and the absence of choice. *Kennedy Institute of Ethics Journal* 27(2), 267-299.
- Foley, M. (April 5, 2021). The Business Case for Accessibility. *Vigil*.
<https://www.viget.com/articles/the-business-case-for-accessibility/>
- Henry, Shawn Lawton (Ed.). (2022). Introduction to Web Accessibility.
<https://www.w3.org/WAI/fundamentals/accessibility-intro/>
- Okoro, C.A., Hollis, N.D., Cyrus, A.C., Griffin-Blake, S. (2018) Prevalence of Disabilities and Health Care Access by Disability Status and Type Among Adults — United States, 2016. *MMWR Morb Mortal Wkly Rep* 67, 882–887.
- W3C. (2017-2018). Web Content Accessibility Guidelines (WCAG) 2.1.
<https://www.w3.org/TR/WCAG21/>