Designing for Accessibility

Instructional Documents & Job Aids

Style Guide

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Accessible Content Design

An accessible PDF is one that is optimized for screen readers and other assistive technology used by persons with disabilities. Achieving this kind of accessibility requires:

- Organized content with clear hierarchical structures.
- Use of inclusive language and attention to readability.
- Adding alternative text (alt text) for non-text (e.g., graphics and images) content.

Creating Hierarchical Structures

Adding structure to a document automatically makes it more accessible. Using headings, lists, and tables ensures that people have access to important structural information and allows users using assistive technology (i.e., screen readers and keyboard navigation) to navigate the document.

Best practices for creating structural elements:

- Use styles throughout the document to identify hierarchical elements (heading levels, paragraph text, bullets, etc.) Examples of styles include:
  - Paragraph styles in Adobe InDesign
  - Styles in Microsoft Word
- Headings should progress logically down the levels as needed to structure sections and subsections of content. Never skip heading levels, such as a Heading Level 2 followed by a Heading Level 4.
- Use the built-in bulleted and numbered lists features in authoring tools.
  - These are typically identified with these:
  - Don't use asterisks, dashes, or numbers as list markers. Many authoring tools allow you to customize bulleted and numbered lists if you want to change the default settings.
- List levels should have a clear indentation to indicate hierarchy.
- Don't use tables for layout purposes. Look for other ways to achieve the desired layout using the authoring tool's options, like columns.

Examples of heading levels in a document:

The following chart has examples of the types of headings used in this document.

Heading Type	Example	Font Information
Heading 1	**Heading 1**	Font: Dejanire Text Weight: Bold Size: 32 pt. Case: Title Case Color: Midnight Navy, #1B2A41
Heading 2	**Heading 2**	Font: Dejanire Text Weight: Extra Bold Size: 24 pt. Case: Title Case Color: Deep Teal, #007C7C
Heading 3	***Heading 3***	Font: Dejanire Text Weight: Extra Bold Italic Size: 15 pt. Case: Sentence case Color: Black
Heading 4	***Heading 4***	Font: Dejanire Text Weight: Extra Bold Italic Size: 12 pt. Case: Sentence case Color: Black
Body Paragraph	Body text	Font: Roboto Weight: Regular Size: 12 pt. Case: Sentence Case Color: Black

Pay Attention to Language

Language can either empower or exclude, so it's important to create content that respects all users' abilities and is empathetic to everyone's unique experience and needs.

Inclusive language dos & don'ts:

Don't Use	Use
Don't make assumptions about abilities. Avoid using terms like *view*, *show*, or *see*.	Use more universal language, like *open*.
Don't assume interactions. Avoid using terms like *click to save draft* or *tap to close*.	Use more active language, like *save draft* or *close*.
Don't use ablest language.	
Don't use identity-first language, like: ▸ A disabled person ▸ A blind person	Use person-first language, like: ▸ A person with disabilities ▸ A person with low vision
	Include authentic portrayals of people of different ethnicities and abilities in pictures and videos.

For more information about inclusive language, refer to the [Inclusive Language Guide](#) form the American Psychological Association.

Readability:

Language that is difficult to read and understand is a potential barrier for all users but particularly for people who have cognitive disabilities, low literacy, and for people with differing language proficiencies. Plain language helps minimize barriers by making text easier to comprehend.

Some best practices include:

> - Ensure content is written at approximately a eighth-grade reading level for broader comprehension.
>   - Use an AI (like ChatGPT) or a reading level checker to check reading level and simplify writing as needed.
> - To make writing clearer, use the active voice instead of the passive voice.
>   - **Active Voice Example:** "The review team identified several misleading claims."
>   - **Passive Voice Example:** "Several misleading claims were identified during the review process."
> - Use familiar language, and provide definitions for technical terms and abbreviations/acronyms.
> - Avoid extended blocks of unbroken text. Use headings and lists to break-up content into chunks that are easy to scan.
> - Limit or avoid the use of hyphenation in documents. Different screen readers handle hyphenated words differently. Some may mispronounce them or pause awkwardly.

⤷ Use left-aligned text. A consistent left margin makes reading easier.

Using Alternative Text (Alt Text)

Images in an accessible instructional document require alt text so that the image can be described by a screen reader or assistive device.

Tips for writing alt text:

⤷ Keep it short, usually 1-2 sentences or less than 250 characters.

⤷ Consider key elements of why you chose the image instead of describing every detail. The surrounding text of the document, website, or course may affect which parts of the image are most important to describe.

⤷ Avoid saying "image of" or "picture of."

⤷ But, do say if it's a logo, illustration, painting, or cartoon.

⤷ Don't duplicate text that's adjacent in the document.

⤷ End the alt text sentence with a period.

Alt text examples:

Only meaningful images require alt text. Decorative images (i.e., images that provide no important information and are for visual purposes only) should not have alt text and should be removed from the reading order.

⤷ **Photographs.** For photographs, consider the specifics included in the image, such as names, proper nouns, locations, or action words. Consider why you have chosen that particular image and what you help it will convey to your audience.

Alt Text Example: A group of young college students laugh and walk along a tree-lined pathway.

⤷ **Icons and Logos.** For icons and logos, consider its purpose — whether it is to share a logo, to indicate an available action, or to serve as a link.

Alt Text Example: Coca-Cola's logo.

Alt Text Example: Print the Accessible Instructional Documents style guide.

Alt Text Example: Visit our TikTok page.

➤ **Illustrations.** For creative illustrations, the intent of the image matters more than the specific details. If there is text included (such as in a cartoon or screenshot of an application) describe both the relevant visuals and the relevant text.

Alt Text Example: Cartoon of a business man seated behind a desk interviewing a candidate in a suit who has scruffy hair and a long white beard. Text below reads "Mr. Crusoe, I'm concerned about this 20 year gap in your resume."

➤ **Diagrams.** For diagrams and other images that aim to share specific data points, consider if you can summarize in a sentence or two the graphics key meaning and data points. For complex images, you may want to supplement with adjacent page text and/or a link to the full data.

Alt Text Example: A word cloud with business terms, largest to smallest: Business, Success, Idea, Money, Creative, Presentation, and other smaller business terms.

Accessible Visual Design

Color & Contrast

Color and contrast are vital to accessibility. When text, icons, or other user interface components contrast poorly with their background, it can make reading more difficult, especially for people with low vision.

Never use color alone to convey meaning. People with color blindness may not be able to perceive the changes in color.

WCAG (Web Content Accessibility Guidelines) Level AA minimum contrast ratios are:

Text Weight	Text Size	Minimum Contrast Ratio
Regular Weight	12 pt.	**4.50**:1 contrast ratio
Regular Weight	18 pt.	**3**:1 contrast ratio
Bold Weight	14 pt.	**3**:1 contrast ratio

Checking color contrast:

There are many contrast checker sites on the web. Two recommended checkers are:

- [Web AIM Contrast Checker](#) - Allows you to check the contrast between two colors.
- [Color Palette Contrast Checker](#) - Allows you to check the contrast levels of up to 5 different colors and automatically checks contrast with black and white.

In addition, some programs include color contrast checkers, such as Figma and Canva.

Text outlines & halos:

Text effects, like outlines and halos, can impact perceived contrast. WCAG standards state that the color of the outline or border can be used as the text or foreground color when measuring contrast. For example:

We have the same contrast ratio.

We have the same contrast ratio.

Examples of accessible color combinations:

The following are examples of color combinations that meet minimum accessibility standards using 12 pt. font and regular weight.

✓ Golden Beige on Midnight Navy	✓ Charcoal Gray on Dusty Sage	✓ Ivory White on Deep Teal
Contrast Ratio: **11.09**:1	Contrast Ratio: **5.24**:1	Contrast Ratio: **4.74**:1
✓ Midnight Navy on Golden Beige	✓ Dusty Sage on Charcoal Gray	✓ Deep Teal on Ivory White
Contrast Ratio: **11.09**:1	Contrast Ratio: **5.24**:1	Contrast Ratio: **4.74**:1

Note: If you swap the text and background colors, the contrast ratio remains the same.

Creating accessible color combinations:

To make color combinations accessible, you can adjust the text.

If the contrast ratio is between 3:1 and 4.5:1, the color combination becomes accessible when the text's size and/or weight is increased.

✗ Deep Teal on Golden Beige	✓ **Deep Teal on Golden Beige**	✓ Deep Teal on Golden Beige
Font Size: 12 pt. Font Weight: Regular Contrast Ratio: **3.65**:1	Font Size: 14 pt. Font Weight: Bold Contrast Ratio: **3.65**:1	Font Size: 18 pt. Font Weight: Regular Contrast Ratio: **3.65**:1

If the contrast ratio is below 3:1, just increasing the font size and weight is not enough to make it accessible. To make the text accessible, add a stroke to the text that has enough contrast with both the text and background colors.

✗ Muted Coral on White	✓ Muted Coral on White
Contrast Ratio: **2.53**:1	Text vs. Stroke Contrast Ratio: **8.29**:1 Stroke vs. Background Contrast Ratio: **21**:1

Note: When adding a stroke to text, you may need to increase the letter spacing (tracking) and weight to maintain legibility. In the example above, the tracking was increased from 0 to 50 and the weight increased from Regular to Black.

Accessible Typography

Accessible and legible typography is at the core of accessible visual design. For example, some people may have difficulty following along a line of text if it's height (or leading) is too wide or too narrow. Others may need to enlarge text to read it and will not be able to access content set in a text size that is too small or doesn't scale correctly.

Font:

Use a clean typography, like a serif or sans serif font. Avoid using highly decorative fonts, like script fonts.

Below are examples of accessible and inaccessible fonts.

❌ *Snell Roundhand*

✅ Roboto

✅ Dejanire Text

Script Font

Sans Serif Font

Serif Font

Font size:

Body text should be at least 16 px (usually 12 pt. font). Smaller fonts are best avoided and should only be used when absolutely necessary. Using a smaller font size for the copyright information and page numbers is okay.

Below are examples of accessible and inaccessible font sizes.

❌ Roboto, 10 pt.

✅ Roboto, 12 pt.

✅ Roboto, 16 pt.

Font weight:

Font weight also affects legibility. Lighter font weights have very thin letter forms, which makes the text appear fainter with lower perceived contrast, especially at smaller font sizes.

✅ Roboto, Regular, 12 pt.

❌ Roboto, Light, 12 pt.

❌ Roboto, Thin, 12 pt.

Heavier fonts, such as bold text, often aids in legibility by increasing the overall surface area of letters, which can increase perceived contrast. However, bold text can hinder legibility at smaller font sizes.

✅ **Roboto, Bold, 12 pt.**

✅ **Roboto, Black, 12 pt.**

❌ **Roboto, Black, 10 pt.**

Case:

While using ALL CAPS in a documents headers is generally acceptable, the use of all caps can hinder readability. We recognize words not only by their individual letters and groups of letters, but also by their shapes (see below). When text is in all caps, we have to read it letter by letter rather than by the shapes of groups of letters.

giraffe GIRAFFE

Instead of using all caps for headers, you can:

- Use a larger font size, different font weight, and/or a contrasting font to emphasize headings.
  - In this document, headings are in a contrasting font (a bold serif) to the body text (a regular sans serif).
  - Heading levels are differentiated by color and size.
- Use title case for main headings. In this document, title case is used for heading levels 1 and 2.
- You can also change the color of header text so it stands out from the body copy. Remember, color should not be used alone to convey meaning.

Line height (leading):

Line height, or leading, is the vertical spacing of lines of text. If lines of text are too far apart or too close together, they can interfere with readability.

In most cases, you can use the default leading settings in your authoring tool. However, on websites, best practice is to use 1.5 or double line spacing.

❌
Excessive line spacing makes it

difficult to follow the text from one line

to the next.

Leading: 32 pt.

❌
This line spacing is very close together, making it harder to see individual lines of text.

Leading: 10 pt.

Letter spacing (tracking):

Letter spacing, or tracking, is how close (or not close) letters are to each other.

- The tighter the letter spacing, the closer together the characters will be. Letter spacing that's too tight or two narrow hinders legibility if the letter forms are hard to differentiate.
- Letter spacing that's too loose or wide hinders legibility if it's hared to visually identify the start and stops of words.

For most fonts, you can use the default tracking, unless you're adding strokes to letters to improve color contrast.

❌
This is what happens to text when the tracking is tighter. Letters become harder to differentiate. It makes this text hard to read.

Tracking: -100

❌
This is what happens to text when the tracking is loose. Words are hard to identify.

Tracking: 200

Line length & columns:

Line length is the number of characters in a line of text before the text must wrap to a new line.

- ➤ If lines of text throughout a document are too short (generally less than 45 characters), the eye has to move to the next line of text too frequently. This makes reading harder and more tiring.
- ➤ If lines of text throughout a document are too long (generally more than 75 characters), it is more difficult to follow the next line of text. This also makes reading more difficult.
  - PDF documents with a portrait orientation are an exception to the 75 character limit. Using half inch left and right margins (like this document) results in lines averaging around 90 character.
  - This recommendation is most important when working with documents with a landscape orientation and on websites.