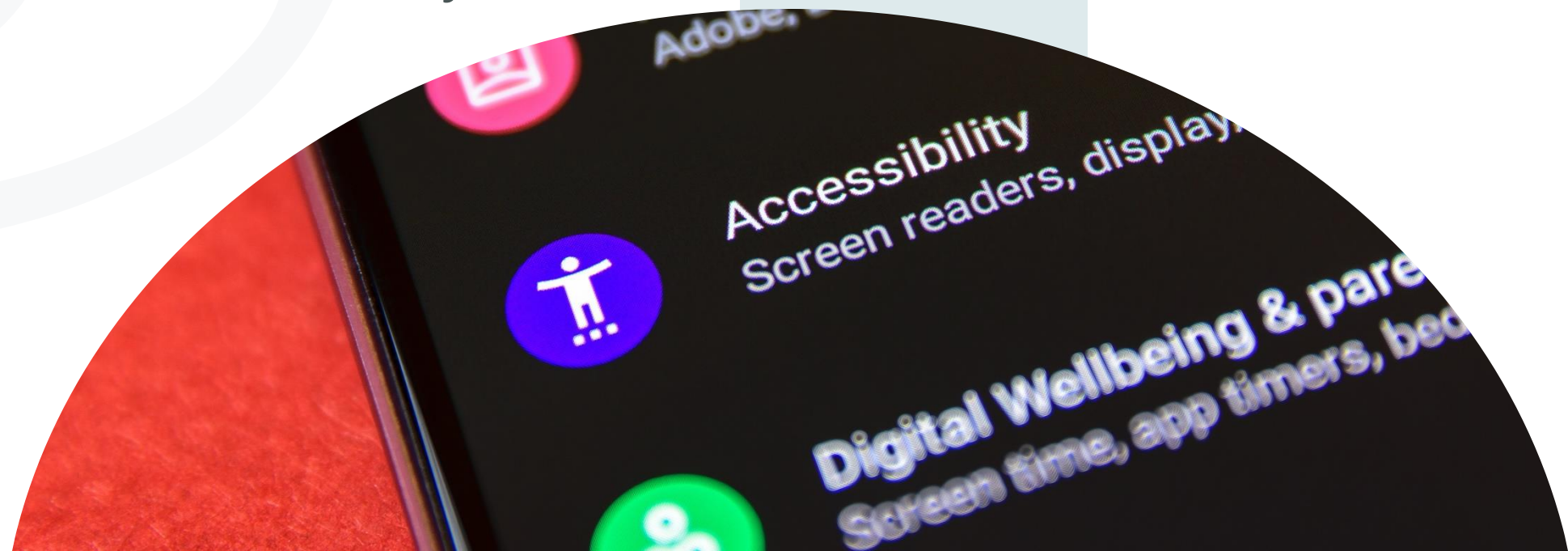


# DESIGNING FOR ALL Document Accessibility

Naira Tumanyan



# Agenda

- Document Accessibility basics
- Microsoft Accessibility Checker
- Grackle Docs













# Physical and cognitive diversity

## Disability

- Everyone has abilities and limits.
- Disabilities exist in various forms: mobility, visual, auditory, and cognitive impairments.
- Disability can be permanent, temporary, and situational.
- Recognize disability as an integral part of the human experience and intentionally implement practices to eliminate barriers.

## Neurodivergence

- ADHD
- Autism
- Dyslexia, Dyscalculia, Dysgraphia
- Epilepsy
- Obsessive-compulsive disorder (OCD)
- Traumatic brain injury

	Permanent	Temporary	Situational
Touch	 One arm	 Arm injury	 New parent
See	 Blind	 Cataract	 Distracted driver
Hear	 Deaf	 Ear infection	 Bartender
Speak	 Non-verbal	 Laryngitis	 Heavy accent

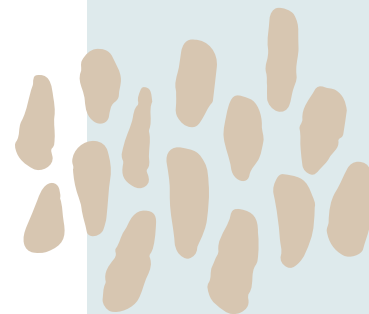
**Inclusive**  
A Microsoft Design Toolkit

# Structure, Hierarchy & Styling

- Section headings enhance the readability of a document:
  - Use H1 through H6 for headings and avoid using bold or italics in place of proper heading styles.
  - Heading levels should be applied sequentially without skipping levels.
- Style text without non-text characters using built in tools (e.g. line spacing, page and section breaks, etc.) to create negative space.

## Resources

- [Headings](#)



# Structure, Hierarchy & Styling *continued 1*

- **Lists:** Use built-in bullet and numbering functions; avoid creating lists manually.
  - Use numbered lists when the order of items reflects a defined hierarchy or process.
  - Use bulleted lists for items that do not require a particular sequence.
- **Table of contents:** Use built-in Table of Contents feature instead of creating one manually.
- **Tables & charts:** Charts and tables should be inserted using the Insert tool, not as images, as image-based charts and tables provide minimal accessibility for screen readers.

## Resources

- [Semantic Structure: Regions, Headings, and Lists](#)
- [Creating Accessible Tables](#)

# Structure, Hierarchy & Styling *continued 2*

- **Text wrapping:** Avoid using text wrapping when inserting images and other visuals. Insert all visuals ‘In Line with Text.’
- **Textboxes:** Screen readers cannot access textboxes unless they are ‘In Line with Text.’
  - Avoid textboxes for important content like body text, labels, headings, or instructions.
  - Textboxes may be read out of order as they can be treated as floating graphics, not part of the main text flow.
- **Tracked Changes and Comments** are partially accessible to screen readers, but not always intuitive or easy to navigate. Provide clean and finalized text for smooth navigation.
- **Headers and Footers:** Critical information should not be placed in headers or footers, as they will not be automatically announced.
- **Animated text or animations:** Unnecessary animations or transitions can be distracting and may hinder accessibility.

## Resources

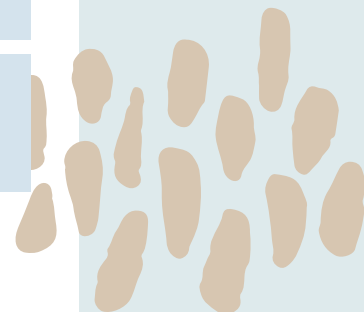
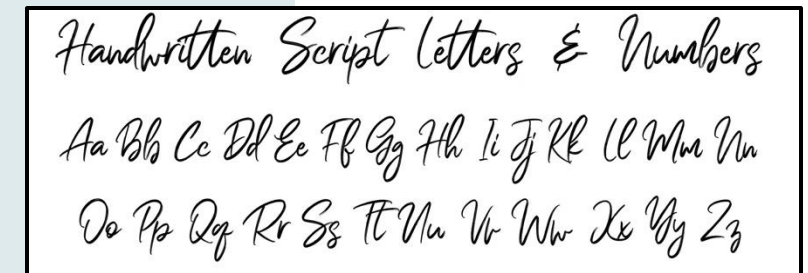
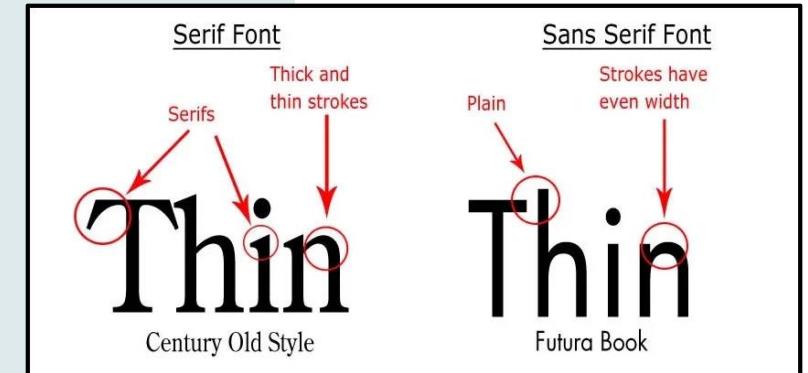
- [Designing for Neurodiverse Learners](#)
- [Animation, Motion, and Timed Content](#)

# Accessible Text: Typography

- Use common typefaces:
  - Sans serifs (Arial, Calibri, Futura, Helvetica, Montserrat, Open Sans, Roboto, Tahoma)
  - Serifs (Times New Roman and Georgia).
- When choosing your typeface, be sure that the uppercase I (Italy), lowercase l (lemon), and number 1 are easily distinguishable.
- Avoid ornate or handwritten typefaces.

## Resources

- [Typefaces and Fonts](#)
- [Accessible Fonts](#)



# Accessible Text: Font Size & Text Styles

- Avoid text justification. Uneven spacing between words in justified text can create distracting “rivers” of white space running down the page, which makes the content harder to read.
- Choose a font size that best suits the purpose of the document.
  - Use a minimum of 11 or 12pt (or 15 to 16px) font size for documents.
  - For documents that will be displayed, ensure the text is at least 18pt.
- All caps or italics make word shapes harder to recognize, slowing reading and causing difficulties for people with dyslexia, cognitive disabilities, or low vision.

## **Aligned Left**

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## **Justified**

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## Resources

- [Understanding Accessible Fonts and Typography for Section 508 Compliance](#)

# Hyperlinks

- Embed links within the text.
- Use descriptive text for hyperlinks
  - Avoid *Learn More* or *Read More* descriptions
  - Add a Screen Tip.
- Keep the links short and meaningful.
- Make sure the links are visually distinguishable (color and underlining).

## Resources

- [Overview of Links and Hypertext](#)
- [Descriptive Links and Hypertext](#)
- [Master the Art of Accessible Link Text](#)

# Color

- Choose color combinations that are accessible.
  - Regular text (smaller than 18 pt/24 px or 14 pt/18.66 px bold) requires a 4.5:1 color contrast ratio.
  - Large text (larger than 14 pt/18.66 px bold or 18 pt/24 px) requires a 3:1 color contrast ratio.
- Use high contrast visuals.
- Avoid using color alone to convey important information
- Use contrast checkers and color vision deficiency simulators.



## Resources

- [WebAIM Contrast Checker](#) (web-based)
- [Deque Color Palette Contrast Checker](#) (web-based, color palette)
- [TPGi Colour Contrast Analyser](#) (downloadable/desktop app)
- [Who Can Use](#) (web-based)
- [Adobe Color](#) (web-based)
- [ColorContrast.App](#) (web-based)

# Color-vision deficiency Simulators

Understand whether color choices and contrasts are accessible to everyone, including those with:

## Color-vision deficiency

- Achromatopsia
- Deuteranomaly
- Deuteranopia
- Protanomaly
- Protanopia
- Tritanomaly
- Tritanopia

## Visual impairment

- Cataract
- Diabetic retinopathy
- Glaucoma
- Macular degeneration

## Resources

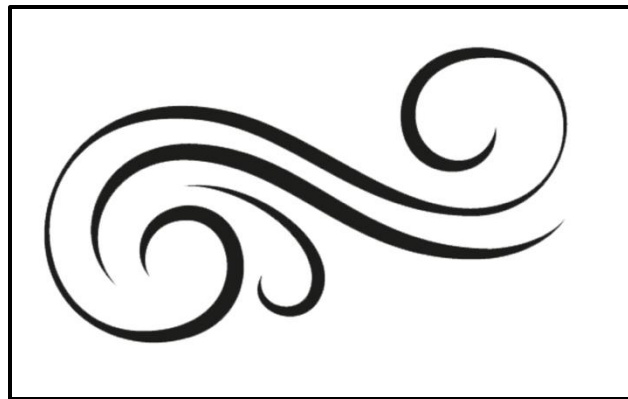
- [Sim Daltonism](#) (Mac desktop app)
- [ColourSimulations](#) (Windows desktop app)
- [Coblis](#) (web-based)

# Images

- **Informative images** (pictures, photos, and illustrations that graphically represent concepts and information).



- **Decorative images** (the the purpose of an image is to add visual decoration to the page, rather than to convey information).



- **Functional images** (images are used to initiate actions rather than to convey information, such as buttons, linked logos, and other interactive elements).



## Resources

- [The Alt Decision Tree](#)

# Alternative Text

- Keep it short (125-250 characters).
- Consider context and purpose. Describe what you see not what you know.
- Use clear language and action words.
- Specify if the image is a graph, chart, table, or painting but avoid generic terms like "photo" or "image."
- Avoid images of text.
- Mention identity only if it is relevant.



## Resources

- [Wolverine Describer](#)
- [ASU Image Accessibility Creator](#)
- [WebAIM: Alternative Text Guide](#)

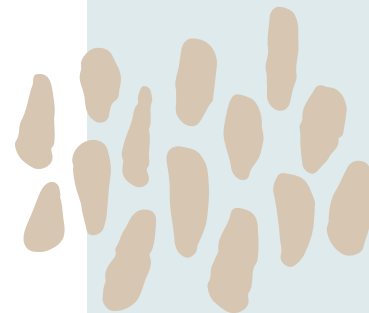
# Accessibility Checkers

## Final Considerations

- The document has a meaningful title.
- Track changes have been accepted/rejected and turned off.
- The document has been reviewed using the Microsoft Accessibility Checker and/or Grackle Docs.

## Resources

- [Microsoft Accessibility Checker](#)
- [Grackle Add-ons](#)
- [Making Word documents accessible](#)





## Resources at U-M

- [Digital Accessibility at the University of Michigan](#)
- [Digital Accessibility Help Request Form from ITS](#)
- [Assistive Technology Request Form](#)
- Email [4help@umich.edu](mailto:4help@umich.edu) or contact SMTD IT at [smttd.it@umich.edu](mailto:smttd.it@umich.edu).

THANK  
YOU

