North Dakota ASSISTIVE Assistive Technology

DEPARTMENT OF ADMINISTRATION
ASSISTIVE TECHNOLOGY STAR

Digital Accessibility 101

What is digital accessibility and whom does it benefit?

Presented by:

Courtney Ness Fuchs, ATP & Jamis Wehrenberg

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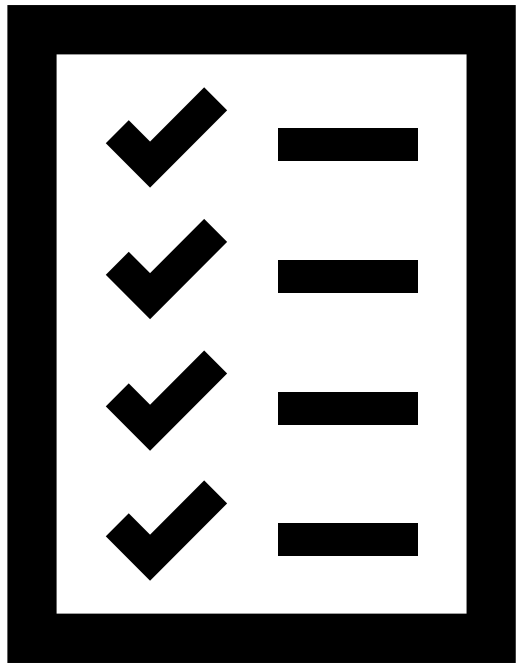
What we'll cover today:

- A general definition of digital accessibility
- Ways people with disabilities access digital materials
- Common barriers to accessibility and how to fix them
- Resources to help you get started creating accessible materials



Accessible digital materials provide ***equal experiences*** of content to all consumers.

Accessible digital content is:

- Able to be consumed by everyone, regardless of how they access it
- Required by law for federal agencies and recipients of federal assistance under Sections 508 and 504 of the Rehabilitation Act of 1973
  - Do Section 508 Accessibility Standards Apply to My Website? | Section508.gov
- Good for search engine optimization (SEO) and business
-

What are some ways people with disabilities access digital content?

- A blind individual may use a screen reading software such as JAWS or Windows Narrator
- A person with gross or fine motor impairments may use a keyboard to navigate instead of a mouse
- A person with severe cerebral palsy may use accessibility switches vs. a mouse and keyboard
- A person with ALS might use an eye-tracking software
- A senior with severe arthritis might use a touchscreen

Barriers to accessing content

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Common barriers to accessibility

- Content that isn’t properly structured, i.e. has no heading levels, uses tabs to create the illusion of columns
- Difficult-to-read fonts and spacing
- Color as the only way of conveying meaning, i.e. red is a required field
- Inadequate color contrast
- Images, charts, graphs, etc. without alt text
- Audio and video files without captions
- Too complex of language

START **with accessibility in mind**

It is far easier to build accessible materials from scratch than to remodel brick-by-brick.

ISSUE 1: Lack of Structure

- Content doesn't follow a logical structure
- Content isn't navigable. The user can't easily identify where they are or find content.

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ISSUE 1: How to fix

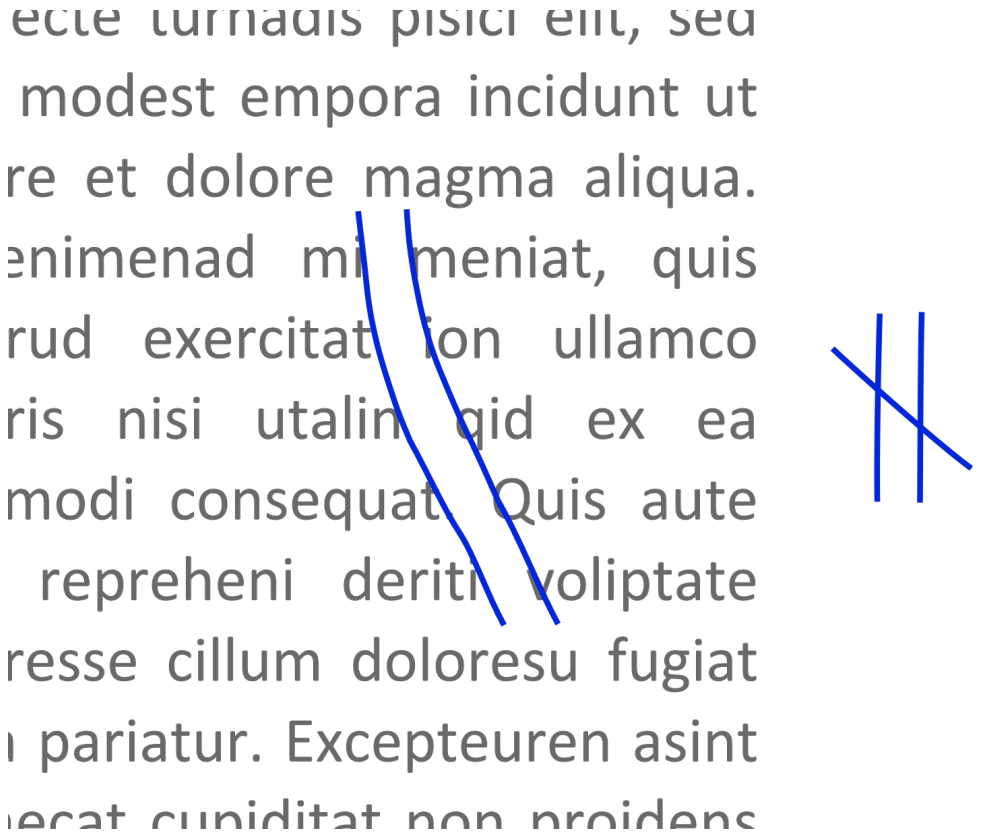
- Use accessible templates
- Use appropriate level headers, i.e. Heading 1, Heading 2, Heading 3
- Do not use tabs and spaces to create columns or lists. Instead:
  - Insert bulleted or numbered lists
  - Modify the number of columns
- Verify tab order to ensure your content is read in the order you intended

ISSUE 2: Difficult-to-read fonts & spacing

- Some fonts are difficult-to-read for many users
- Avoid script fonts: *Don't try to be fancy with script fonts*
- What year is it even? Leave these fonts in the past:
    - 2000 (Curlz)
    - **1880 (Playbill)**
    - **1554 (Old English)**
    - 1700 BC (Papyrus)

ISSUE 2: Difficult-to-read fonts & spacing continued

- Justifying text can create uneven text spacing which can be difficult for individuals with dyslexia or visual stress



Example of “rivers of white” in a text

By Petr Kadlec - Own work, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=7130453

ISSUE 2: How to fix

- Use simple, familiar fonts such as **Arial**, **Calibri**, Helvetica Neue, or **Verdana**
- Use size 12 font or higher
- Keep the number of fonts and font sizes used to a minimum
- Avoid long segments of **bolded** or UPPERCASE text
- Do not use justified text instead:
  - Use left alignment for large blocks of text
  - Center alignment is okay for small blocks of text

ISSUE 3: Color as the only method of conveying information

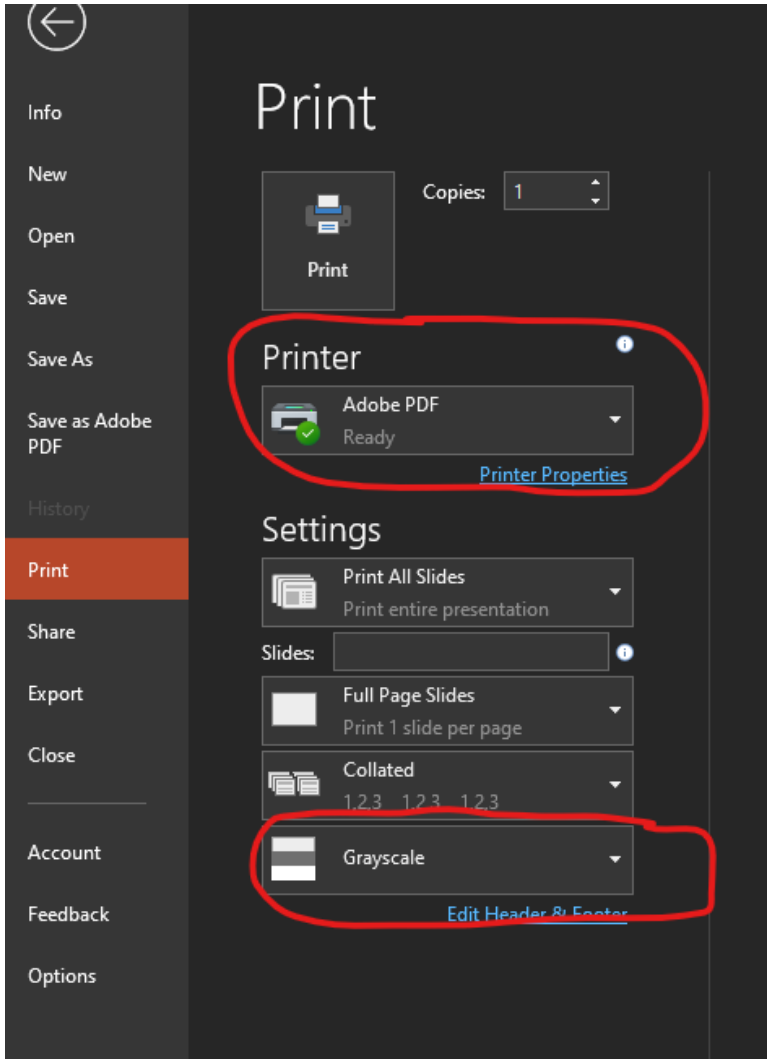
- Not everyone perceives color the same way!
    - 1 in 12 men and 1 in 20 women have some form of colorblindness
    - The ability to perceive color and contrast can decline with age.
    - Cataracts, glaucoma, macular degeneration, Alzheimer's, multiple sclerosis, eye injuries, brain injuries, and certain medications can impact color perception
- Even those w/o color perception differences may not be able to discern meaning from color if the document is printed in grayscale

ISSUE 3: How to fix

- Use more than just color to convey meaning
- Other methods of conveying meaning that can be used on their own or in combination with color
  - **Bolding**
  - *Italicizing*
  - Underlining
  - Adding asterixis**
  - Increasing text size

Use grayscale to do a quick check of color as a means of conveying info

- View your PowerPoint in grayscale
  1. Go to the View tab.
  2. In the Color/Grayscale section, select Grayscale.
- Print to PDF in grayscale
  - In Microsoft products: File > Print > From the Printer drop-down menu, Select Print to PDF > Under Settings, select Grayscale from the Color options drop-down menu



Print to PDF in grayscale

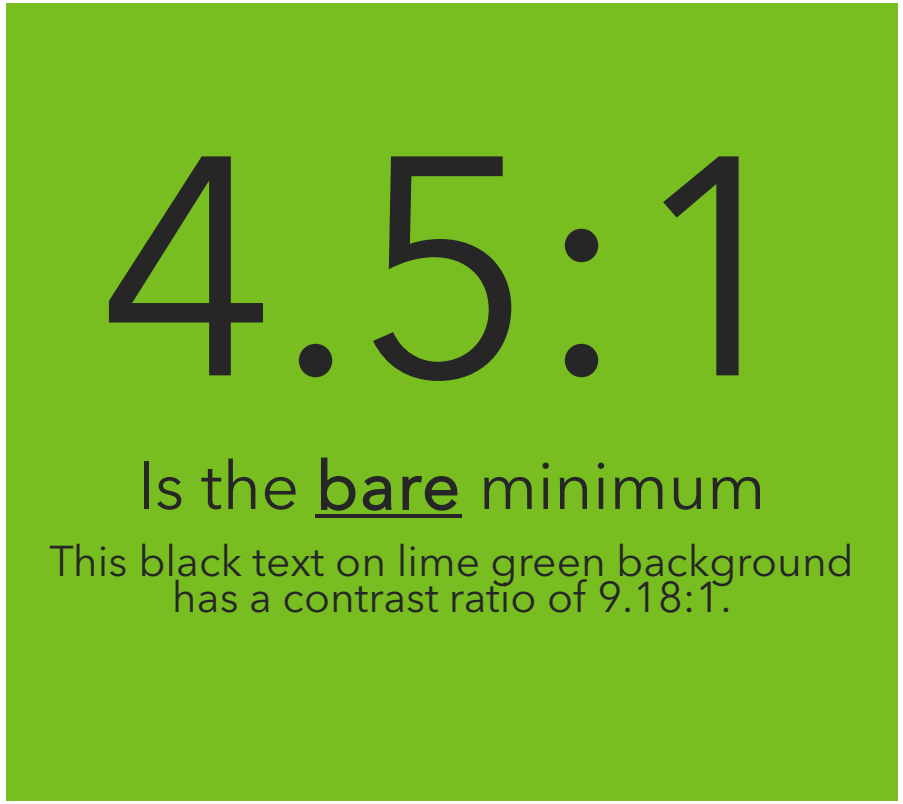
ISSUE 4: Inadequate color contrast

- Is this medium blue text on a dark blue background easy to read?
- No? How about this lime-green text instead? A little better?
- How about this light blue text on the dark blue background? It is definitely the easiest to read, right?

- How about lime-green text on a light blue background? Is that easy to read?
- Is medium blue text any easier to read?
- The dark blue text is by far the easiest to read on this light-blue background.

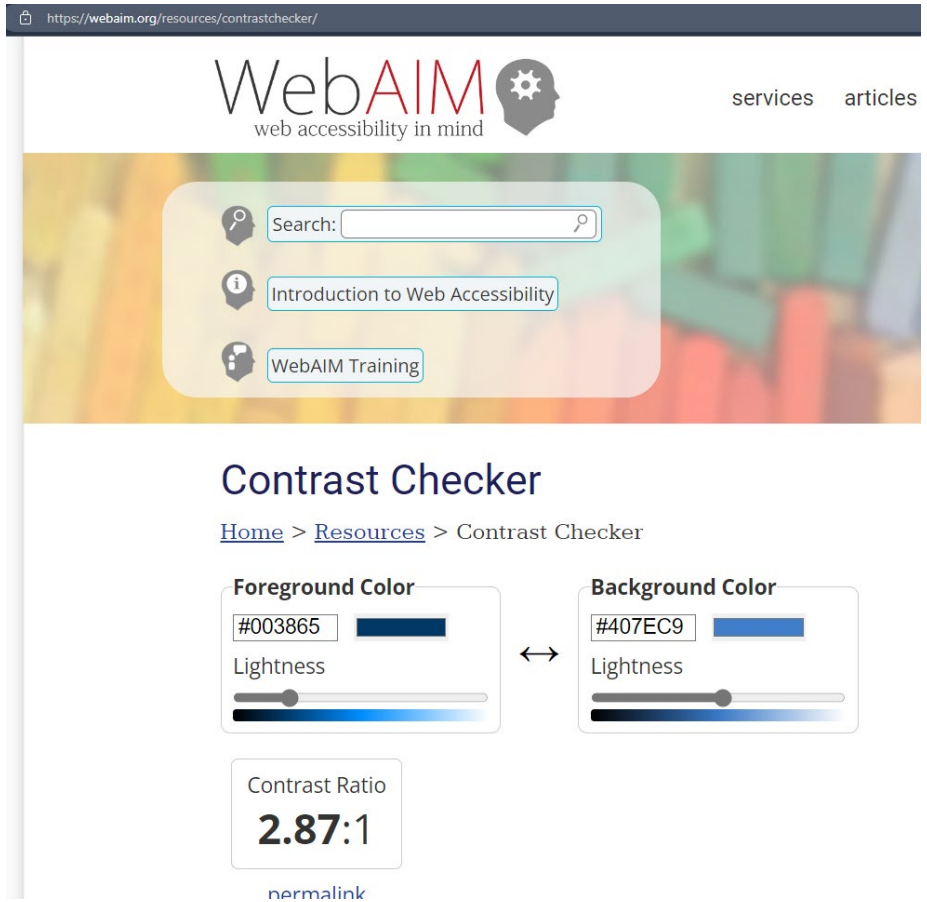
ISSUE 4: How to fix

- Follow the Web Content Accessibility Guidelines (WCAG) 2 “color contrast” standards
- WCAG2 is a set of international standards for web content accessibility.
  - WebAIM’s article explaining WCAG2’s color and contrast in layperson’s terms
  - There are 3 levels of WCAG: Level A (lowest), Level AA, & Level AAA (highest)
- WCAG 2.0 Level AA Standards for “color contrast”:
  - 4.5:1 for standard text
  - 3.1 for large text
  - Don’t round up! 4.48 ≠ 4.5

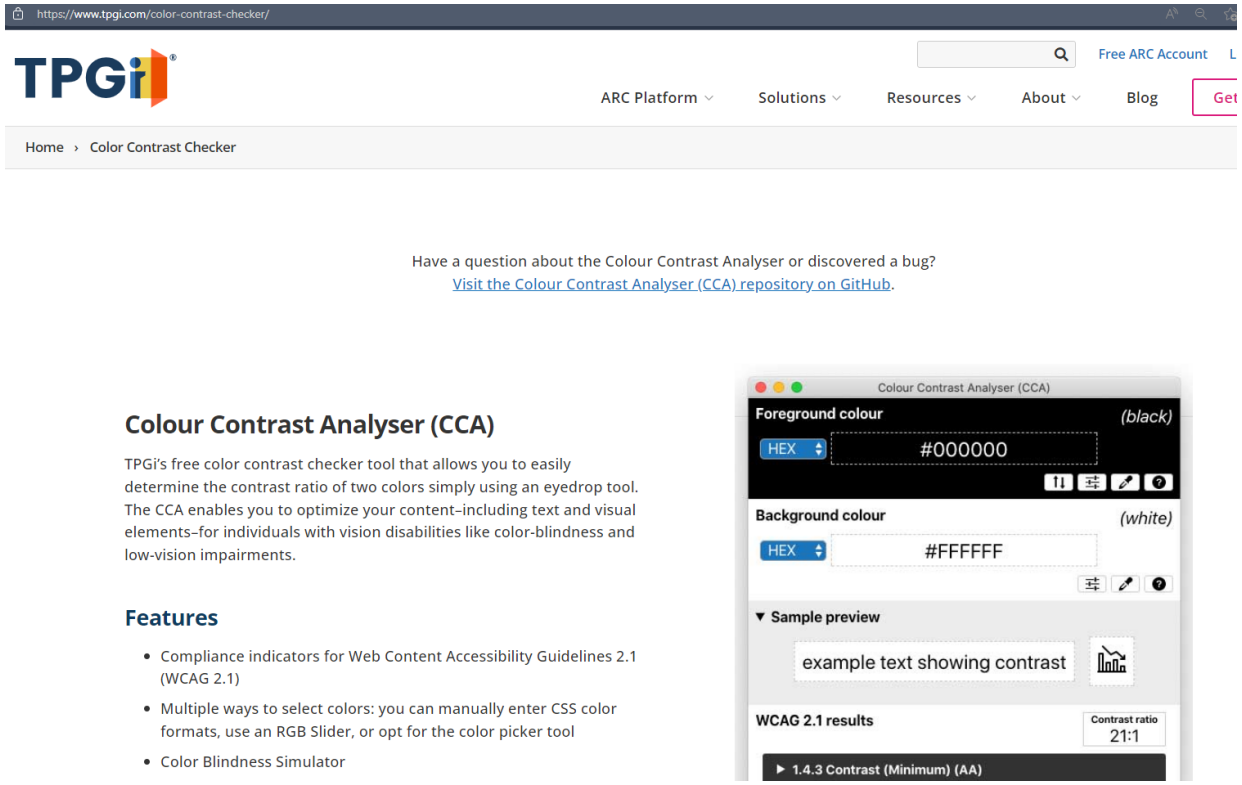


2 free color contrast checking tools

WebAIM's Contrast Checker



TBGi's Colour Contrast Analyser



ISSUE 5: Non-text elements without text alternatives

- Images, pictures, icons, graphics, and illustrations without alt text
- Charts and graphs without a text description of their content
- Audio recordings without transcripts
- Videos without captions
- Videos without properly described visual content (audio description)

ISSUE 5: How to fix

- PLEASE NOTE: Alt text is an art, deserving of its own webinar. There are many incredible resources online.
- Add a text alternative for any non-text element
- Images should have alt text
  - Alt text is a written description of that element's content. It should be based on the context the content is being presented in.
- Audio recordings should have transcripts
- Add captions and if necessary, audio descriptions to your videos

ISSUE 6 & How to fix: Language that is too complex

- Keep your audience in mind.
- Avoid technical jargon.
- Use plain, simple language
- Be concise. Keep sentences short.
- When writing for the general public, aim for Flesh-Kincaid Grade Level 8
  - Get your document's readability and level statistics - Microsoft Support

RESOURCES

- Office of Accessibility / Minnesota IT Services (mn.gov)
- Web and Document Accessibility Training - North Dakota Assistive (ndassistive.org)
- Digital Accessibility Courses - AT3 Center
- WebAIM: Web Accessibility In Mind
- Accessibility Principles | Web Accessibility Initiative (WAI) | W3C

CONTACT US

North Dakota Assistive

Courtney Ness Fuchs, ATP
Assistive Technology Training Specialist
cness@ndassistive.org

North Dakota Assistive - Homepage (ndassistive.org)

Toll-Free: 800-895-4728

ND Assistive | Fargo ND | Facebook

Minnesota STAR

Jamis Wehrenberg
Assistive Technology Specialist
Jamis.wehrenberg@state.mn.us

Minnesota STAR Program - A System of Technology to Achieve Results / STAR (mn.gov)

Toll-Free: 888-234-1267
Relay: 800-624-3529

MN STAR Program | Saint Paul MN | Facebook