Assistive Technology for Libraries

Presented by Amy Nickless,
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Wolfner Talking Book and Braille Library

Website Accessibility

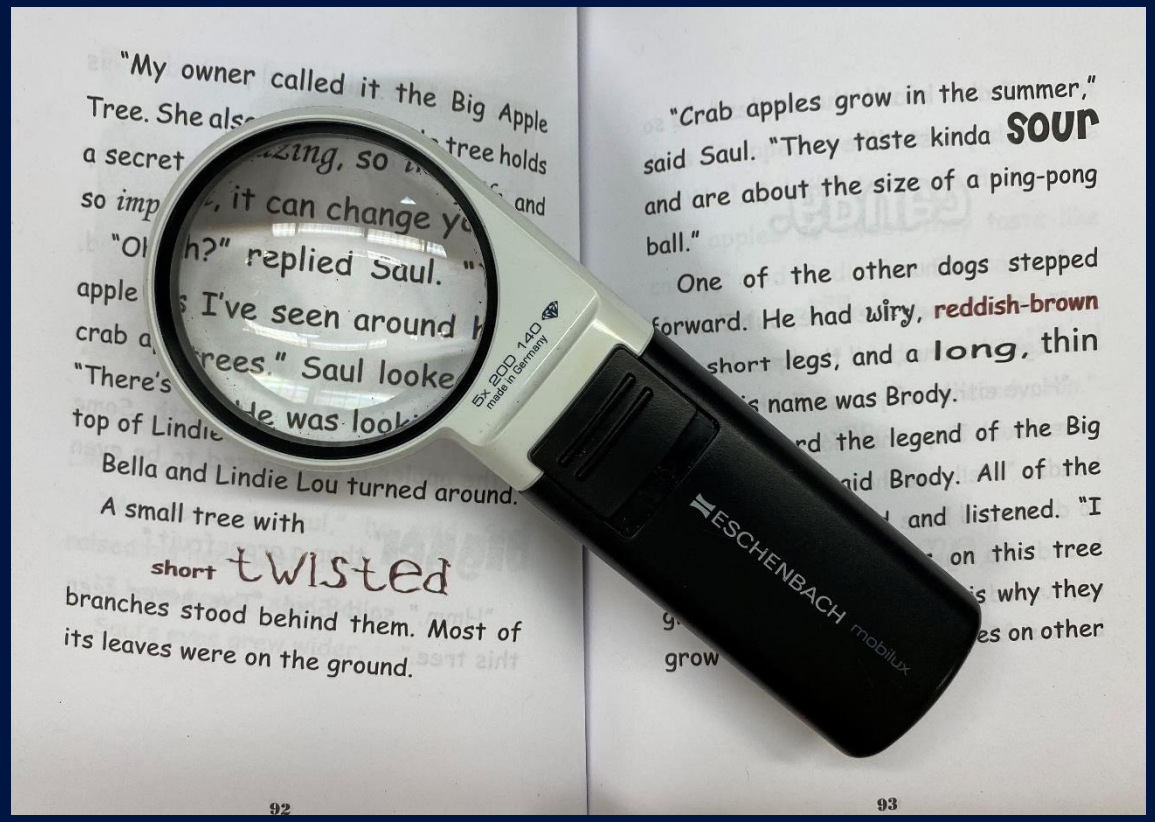
Assistive Technology for Libraries

POUR

- P: Perceivable-Must be perceived by all regardless of ability
- O: Operable-Must allow for multiple input options
- U: Understandable-Language and function must be easy to understand
- R: Robust-Functionality must work across current and future technologies

Easy to Read Fonts

- For all disabilities:
  - Arial
  - Calibri
  - Century Gothic
  - Helvetica
  - Tahoma
  - Verdana



Handheld lighted magnifier over a youth large print book in Comic Sans (see next slide too)

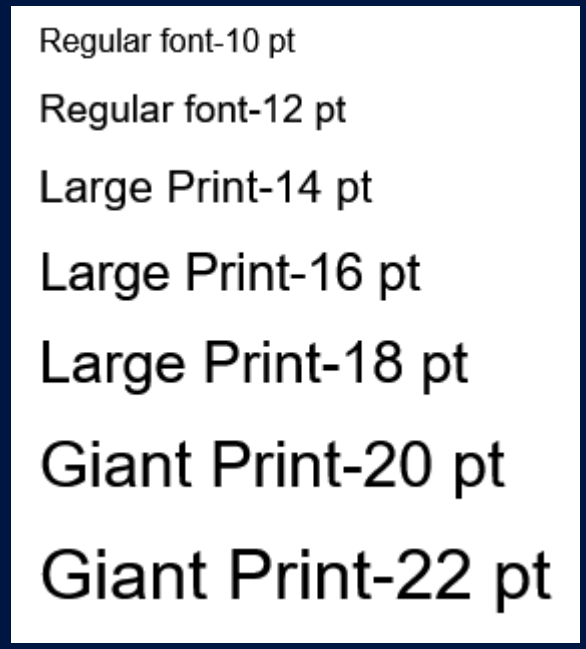
Easy to Read Fonts

- For specific disabilities
  - APHont: Low Vision
    - Created by The American Printing House for the Blind
  - Atkinson Hyperlegible : Low Vision
    - Created by the Braille Institute
  - Comic Sans: Dyslexia
  - DYSLEXIE : Dyslexia

Font Size

- **Regular Fonts: 10-12 pt**
- **Large Print: 14-18 pt**
  - **Aim for this range!**
- **Giant Print: larger than 18 pt**

- **Note: For PowerPoint, use nothing smaller than 24 pt**



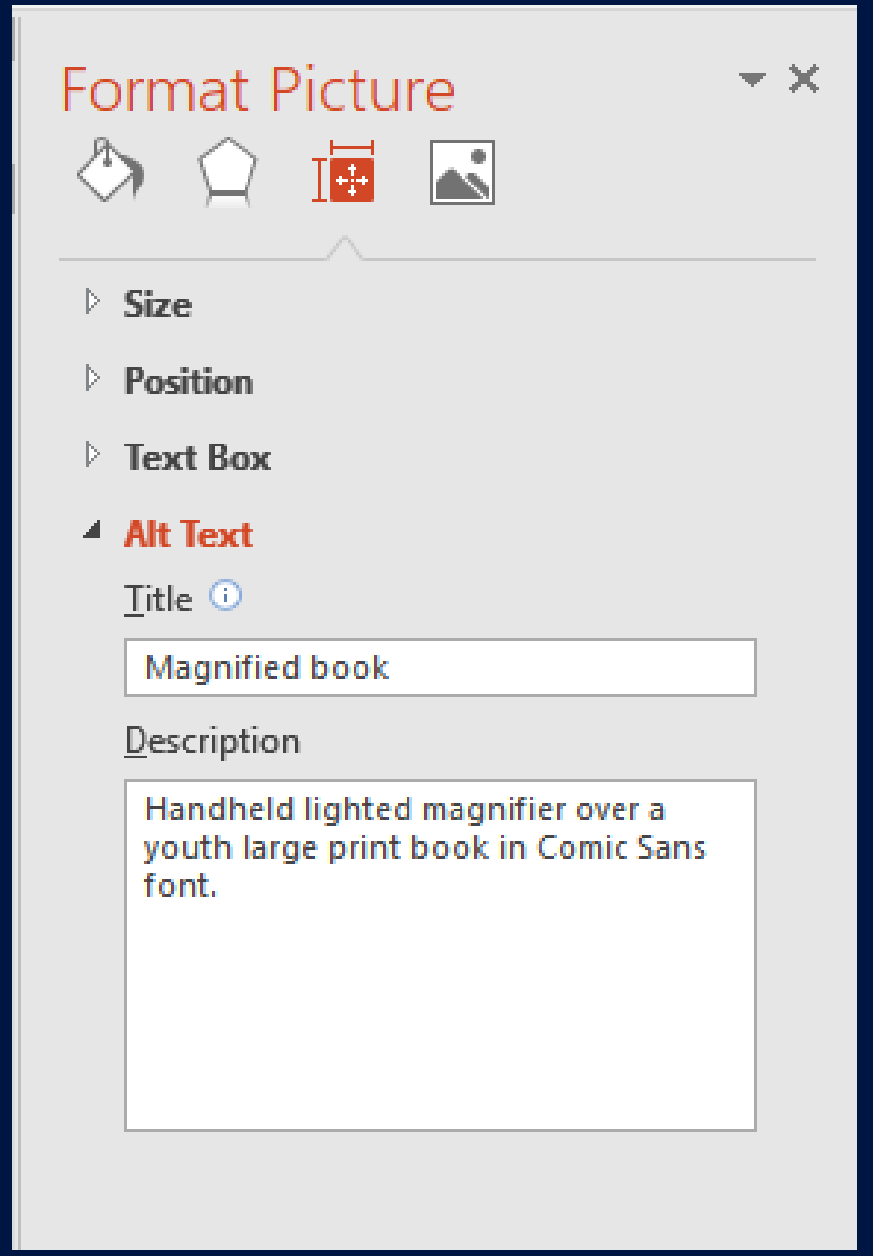
Organizing Webpages

- **Bake accessibility into your website!**
  - **Organize online content logically**
  - **Use Headers 1-6**
  - **Use alt-text and alt-links for images and hyperlinks**
  - **Use Skip Links**

Webpage with Headers

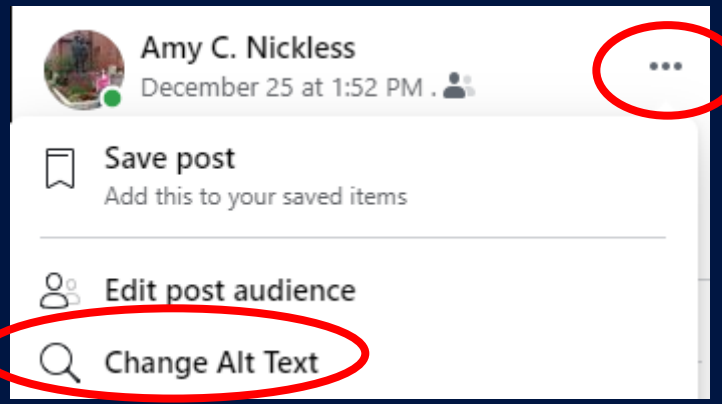
Alt-Text

- Enter title & description for each image
- Microsoft Office:
  - Go to Format Picture
    - Select “Size and Properties”
    - Also works for Format Shape
- Google Suite:
  - Right click on image
  - Select Alt-Text
- WordPress:
  - Go To Media Library
    - Select graphic and click “Edit” at top of page



Alt-Text

- Don’t forget about social media!
  - Facebook:
    - Has an auto-generated version, but add your own to the post’s text
      - Another option is to override the text:
        1. Go to the photo and click the … by the creator’s name →
        2. Select “Change Alt Text” and add description →
  - Instagram
    - Auto-generated, but can be overridden
      1. Go to the photo and click the …
      2. Select “Edit Alt Text” and add description

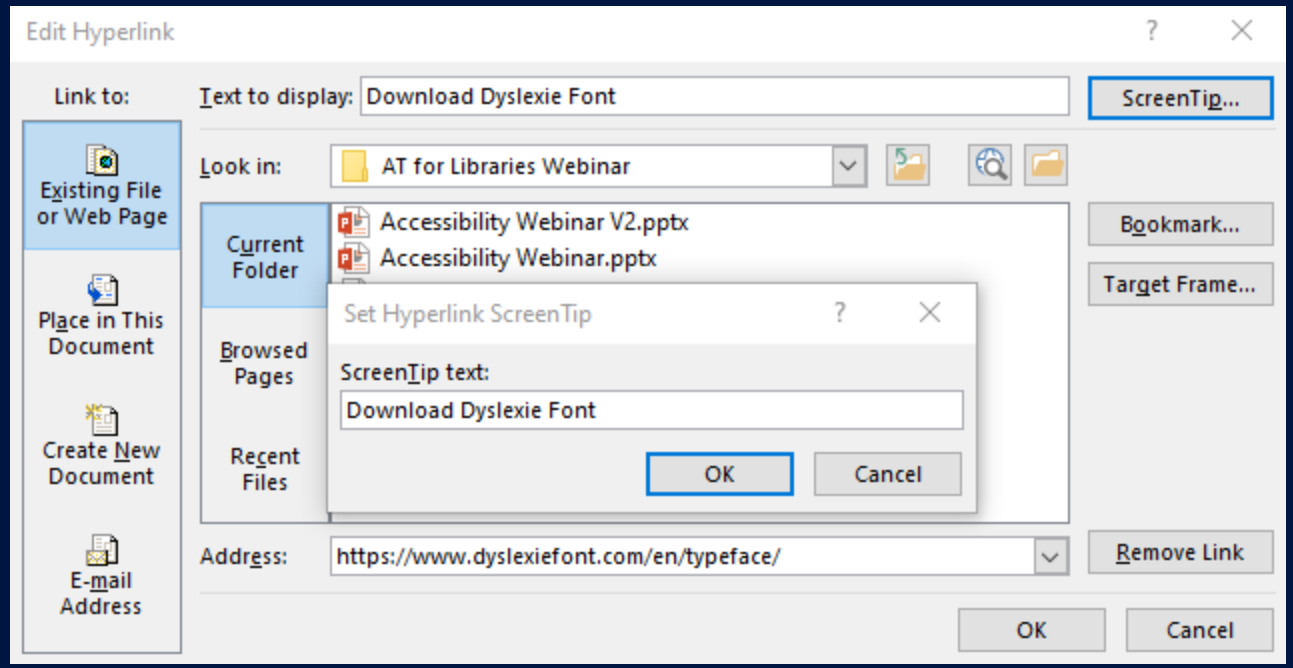


Alt-Text

- Don’t forget about social media!
  - Twitter:
    1. Add photo
    2. Select “Add Description”

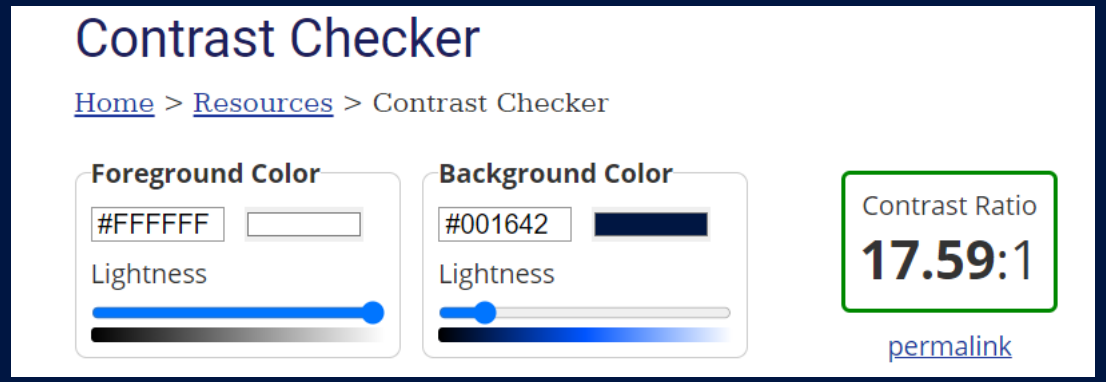
Alt-Links

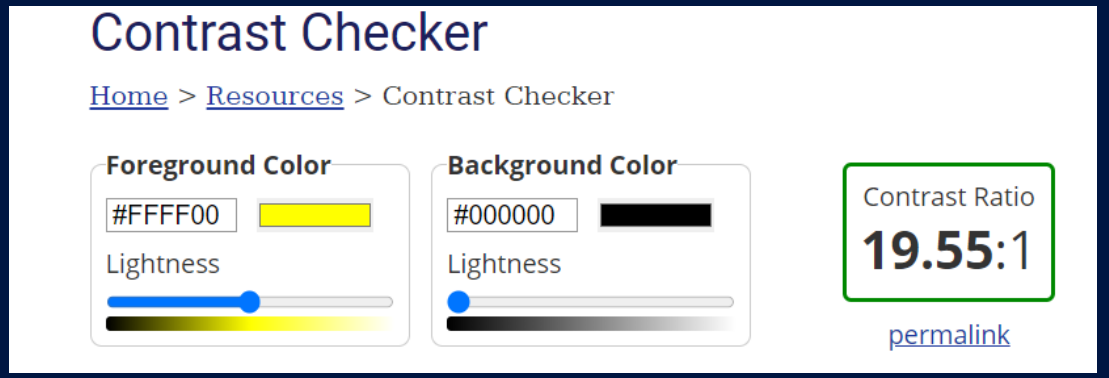
- Microsoft Office:
  - Right click→Edit Hyperlink
    - Add or modify “text to display”
    - Add ScreenTip
- Google Suite:
  - Right click link
    - Add or modify text
- WordPress:
  - Insert/Edit Link
  - Add Link Text



Ensure Good Contrast

- Minimum Level: 3:1 (A)
- Middle Level: 4.5:1 (AA)
- Highest Level: 7:1 (AAA)
- Example of this slide →



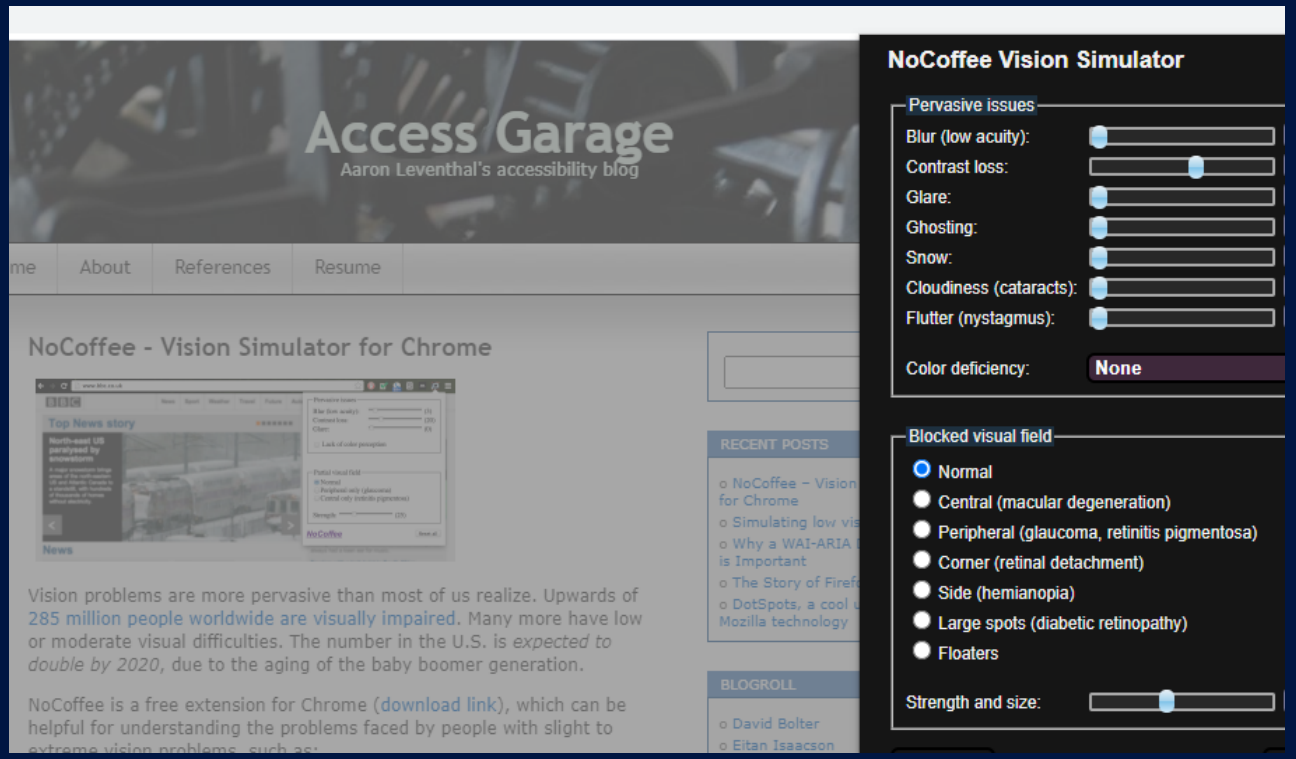


Ensure Good Contrast

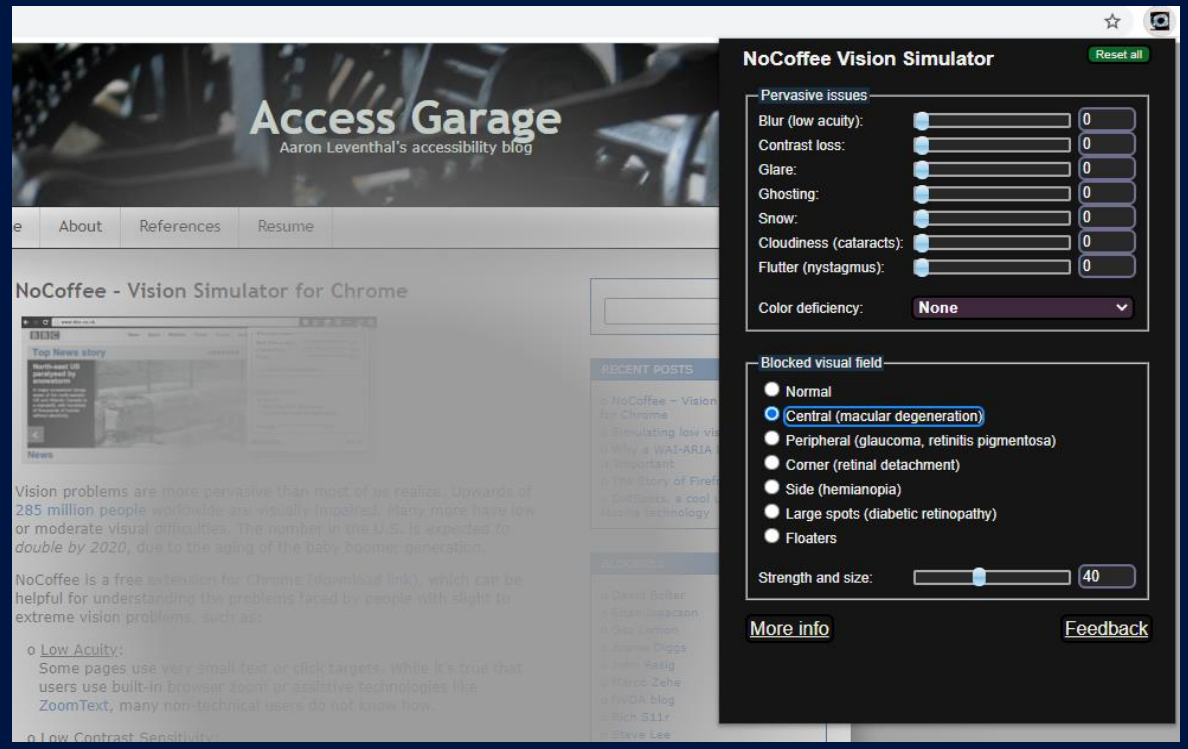
- Can be checked at: https://webaim.org/resources/contrastchecker/
  - If you need to determine hex code first: https://imagecolorpicker.com/en/

Simulate Vision Issues

- NoCoffee Vision Simulator extension for Chrome



Normal Vision



With Macular Degeneration

ARIA

- ARIA stands for Accessible Rich Internet Applications Suite
  - Helps to make online content more accessible
  - Includes:
    - Mark-ups to create hidden menu options for screenreader use
    - Adds coding to operate forms or read tables
    - Can allow screen readers to use JavaScript
  - Needs to be built into the webpage HTML
    - Most likely used by web developers

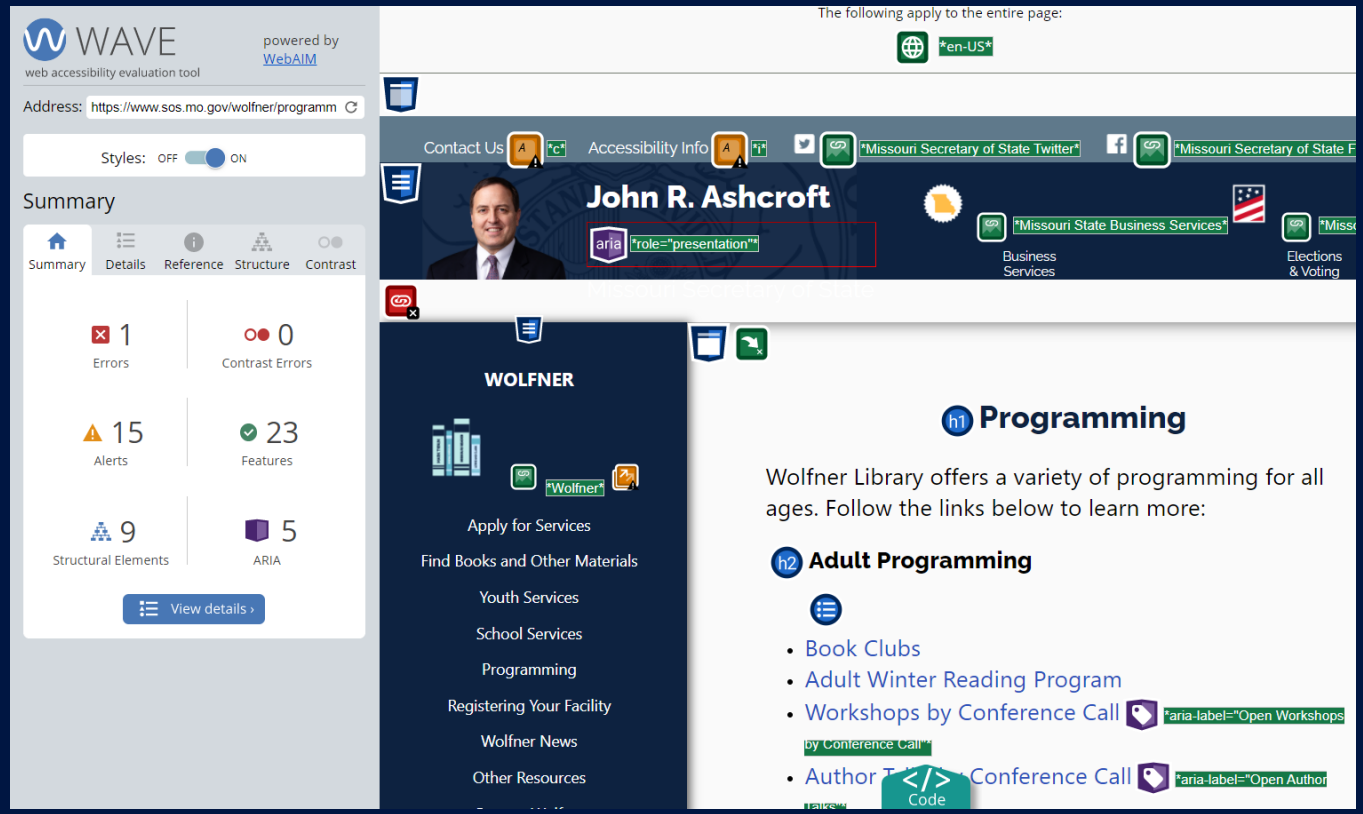
Audio Description and Captions

- Audio Description
  - For those with visual loss
  - Adds a sound overlay to describe visuals
- Audio Captions
  - For those with hearing loss
  - Adds a text overlay that shows what is heard

IMSTVUK's *Frozen Trailer with Audio Description*

Websites that Check for Accessibility

- Websites that check webpages for accessibility:
  - aXe: http://www.deque.com/products/axe/
    - Free Chrome extension
  - WAVE: http://wave.webaim.org/
    - Free to use
    - Offers paid options for testing entire websites
    - Example→
  - Tenon: http://www.tenon.io/
    - Assorted pricing plans

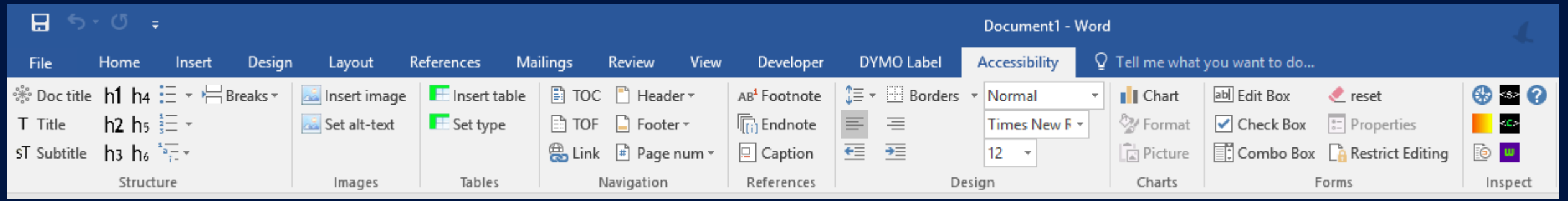


Document Accessibility

Assistive Technology for Libraries

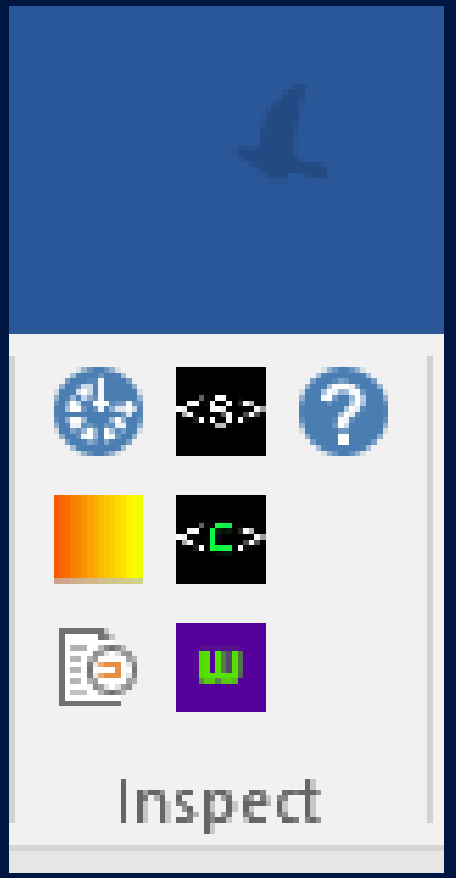
Word Accessibility

- Vision Australia's Document Access Toolbar (DAT)
  - Download from: https://www.visionaustralia.org/services/digital-access/document-accessibility-toolbar



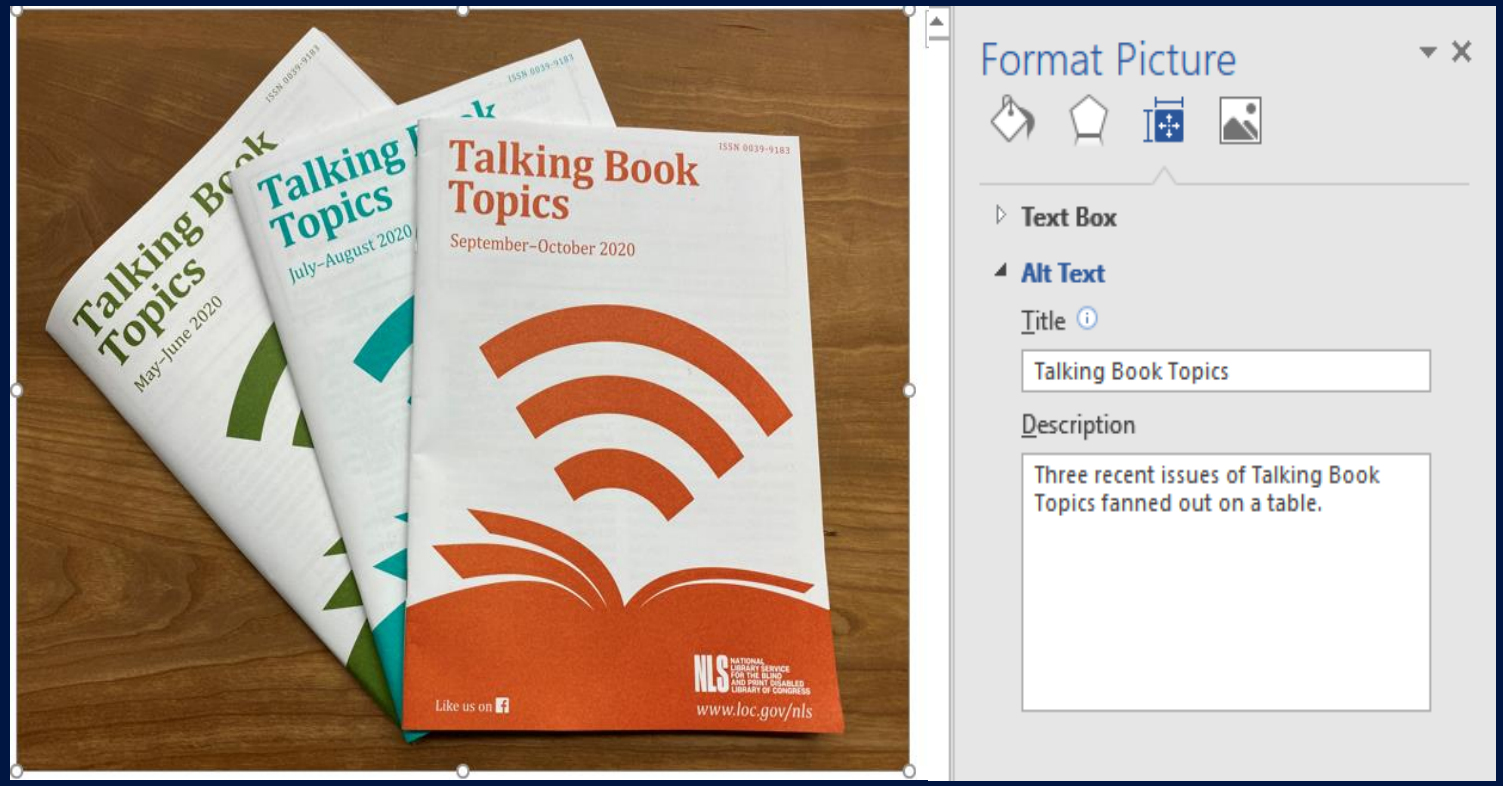
Word Accessibility

- Vision Australia's Document Access Toolbar
  - Inspect (counterclockwise from top left)
    - Microsoft's Accessibility Checker
    - Color Contrast Checker
    - Document Inspector
    - WORDS Screenreader Demo
    - Copy HTML
    - Save as HTML
    - The ? is the Vision Australia User Guide link



Word Accessibility

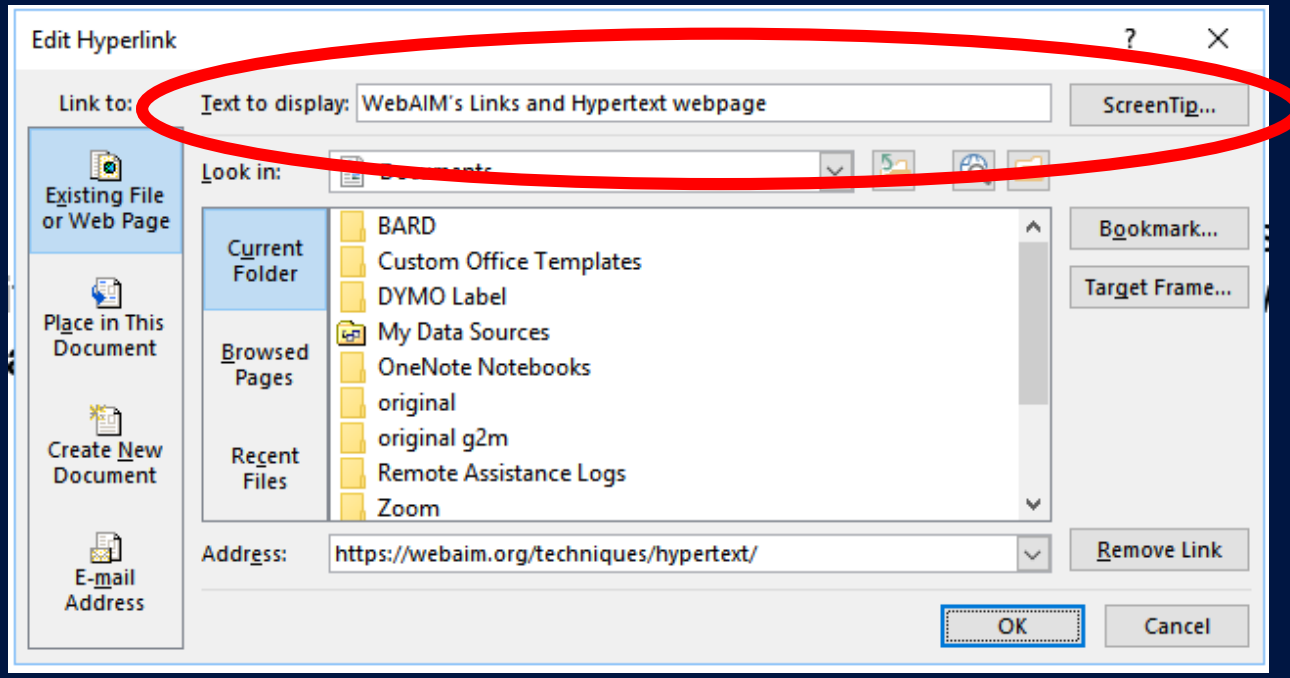
- Manually
  - Adding Alt-Text
    1. Insert image
    2. Right click
    3. Format picture
    4. Layout & Properties
    5. Alt Text
    6. Add title and description



Word Accessibility

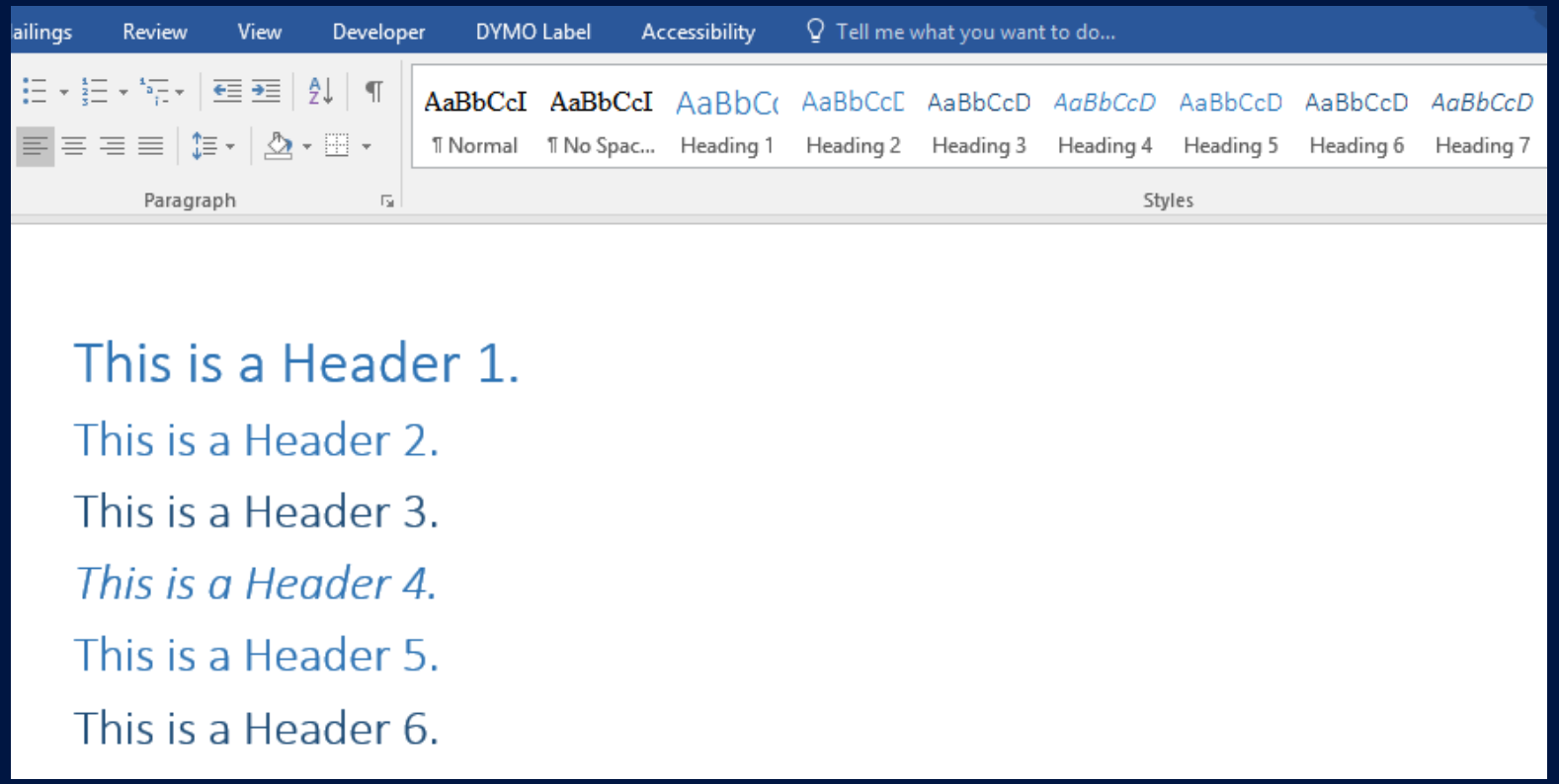
- Manually
  - Hyperlinks
    1. Insert the hyperlink
    2. Right click to select edit hyperlink
    3. Edit “Text to Display” to reflect the linked page
    4. Add ScreenTip
       1. Should be phrased similar to the displayed text, but shorter if possible

To learn more about how to create accessible hyperlinks, visit visit WebAIM’s Links and Hypertext webpage. Never, ever write please click here.



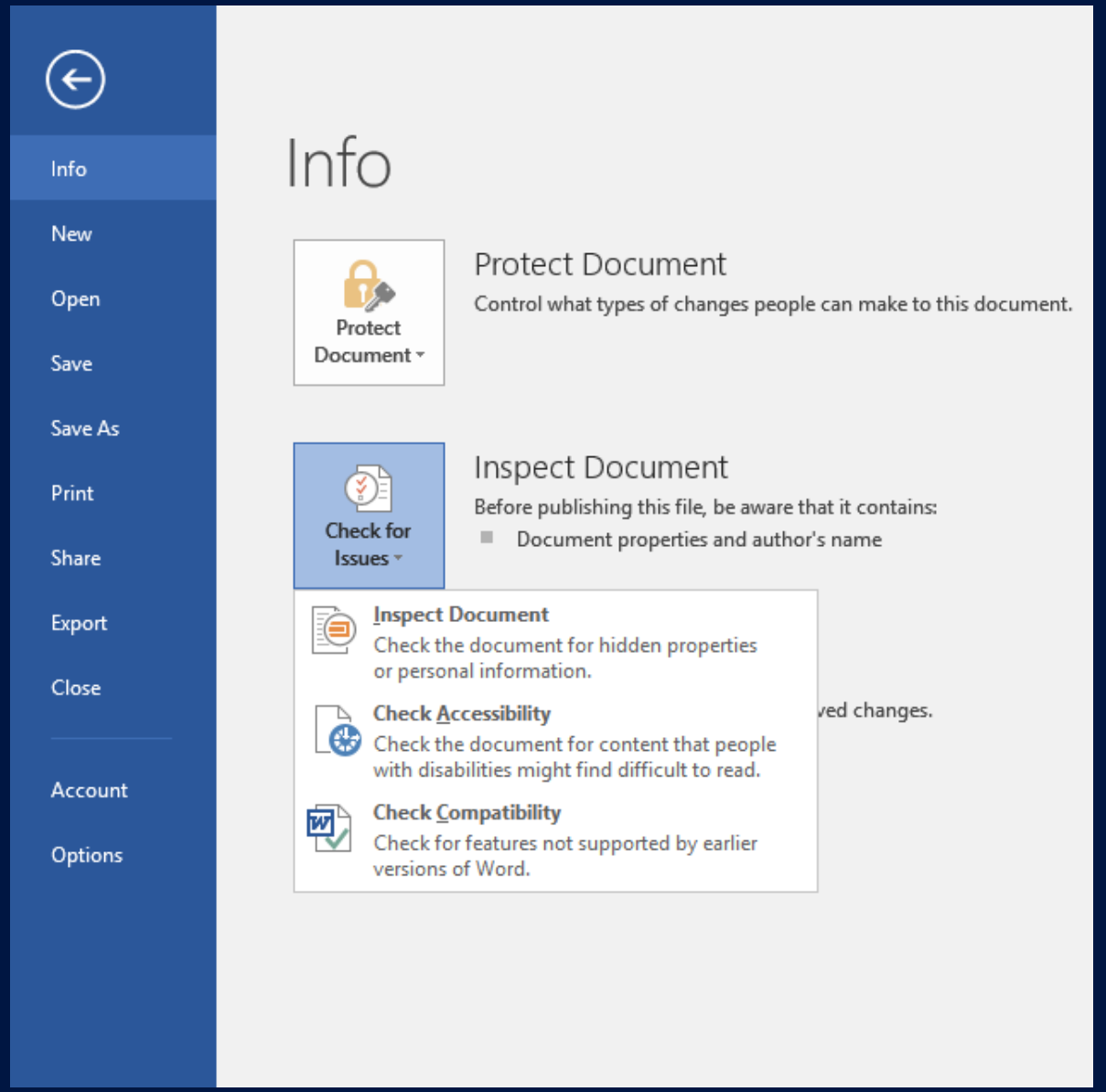
Word Accessibility

- Manually
  - Headers
    1. Home Tab
    2. Styles
    3. Add Header 1
    4. Add subsequent headers
    5. Never go beyond a Header 6!



Word Accessibility

- Manually
  - Check for Issues
    1. File
    2. Inspect document→ Check for Issues
    3. Check Accessibility
    4. Once the Inspection Report Appears
       1. Select each identified issue
          1. Will list why it needs fixed and how to fix
- Only works with .docx files



Word Accessibility

- Other Tips:
  - For spaces between lines use Breaks
    - Using Enter instead reads “Blank” for each use in JAWS
  - Avoid tables whenever possible
    - If necessary, use the DAT
    - JAWS may not read table correctly otherwise*
  - For lists:
    - Bullets: Only use for items with no particular order
      - JAWS reads “bullet” before items
    - Numbered: Use only for ordered lists
      - JAWS will read numbers before the items

Accessible Public Access Computers

Assistive Technology for Libraries

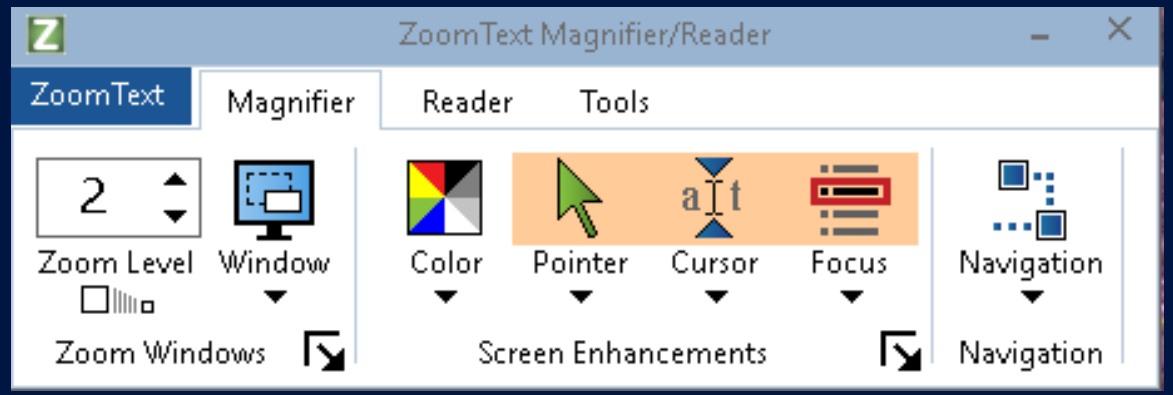
JAWS (Job Access With Speech)

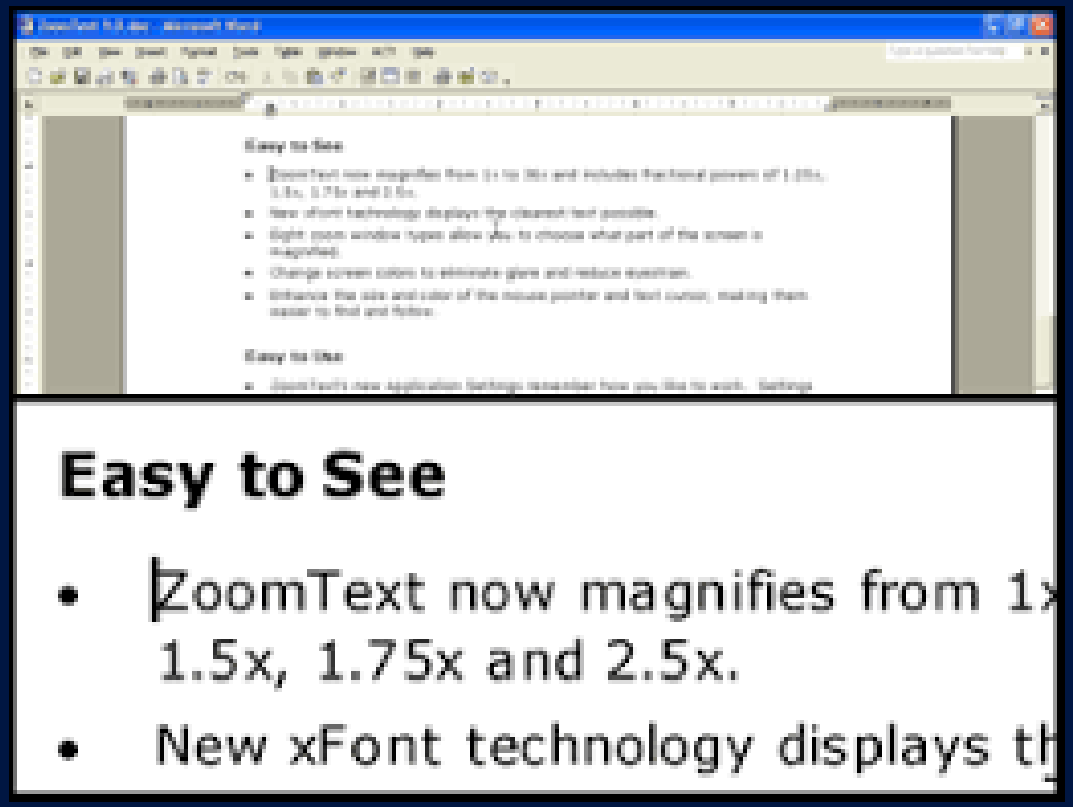
- Screenreader software
  - Most popular program of type
  - For those with vision loss and physical disabilities
  - Fully navigate via keyboard
  - Allows for braille output
  - Works with all browsers
  - PC only

JAWS User from Freedom Scientific's website

ZoomText

- Magnifier/Reader software
  - Designed for low-vision users
  - Magnify up to 36x
  - Reads text (option to disable)
  - Display choices:
    - High contrast themes
    - Make cursor more noticeable
    - Pointer large and contrasted





Top: ZoomText Menu

Bottom: Zoomtext screenshot from one of their tutorials

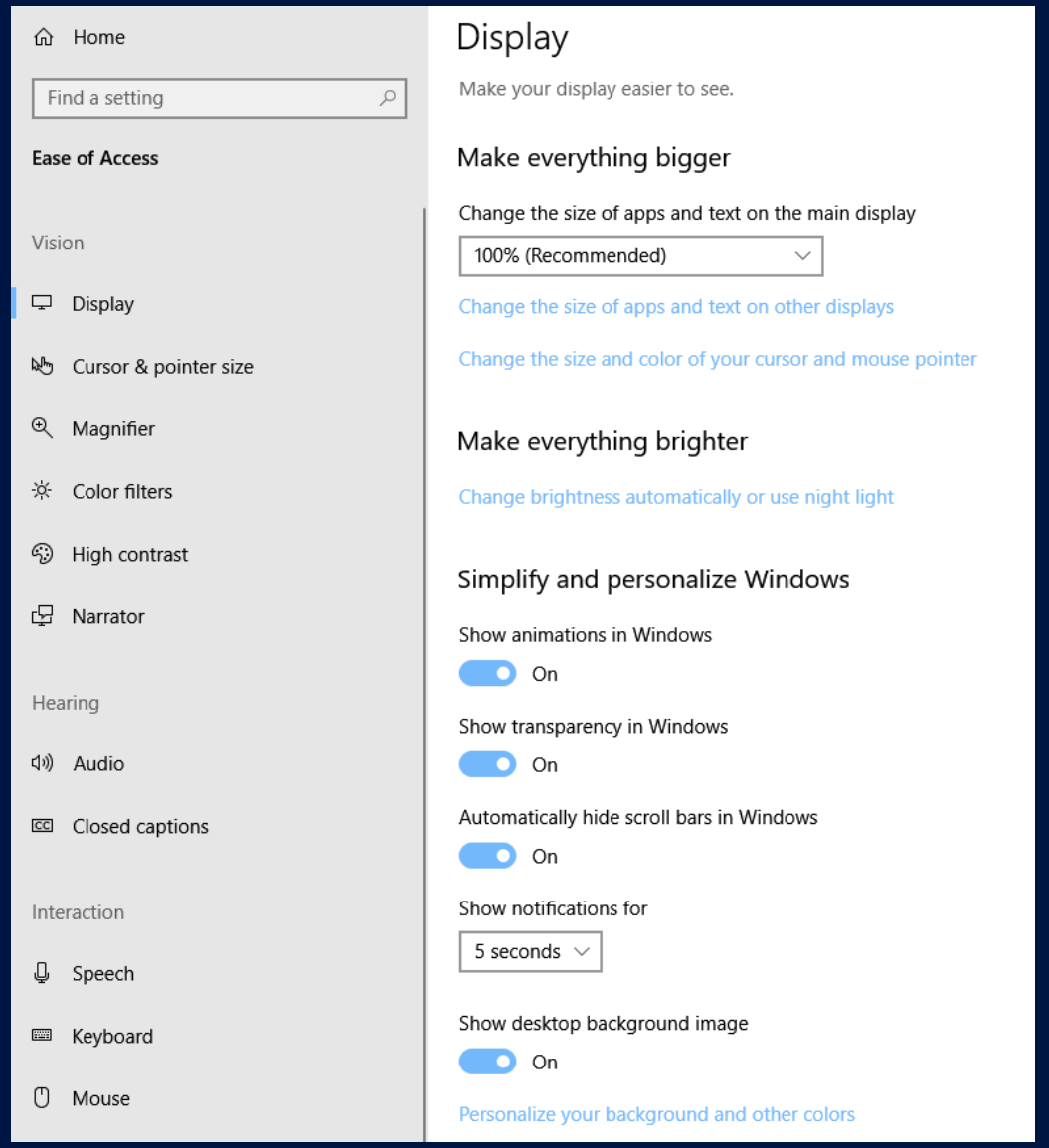
Fusion

Screenshot from Freedom Scientific's website

- Combines JAWS and ZoomText
  - All the features of both!

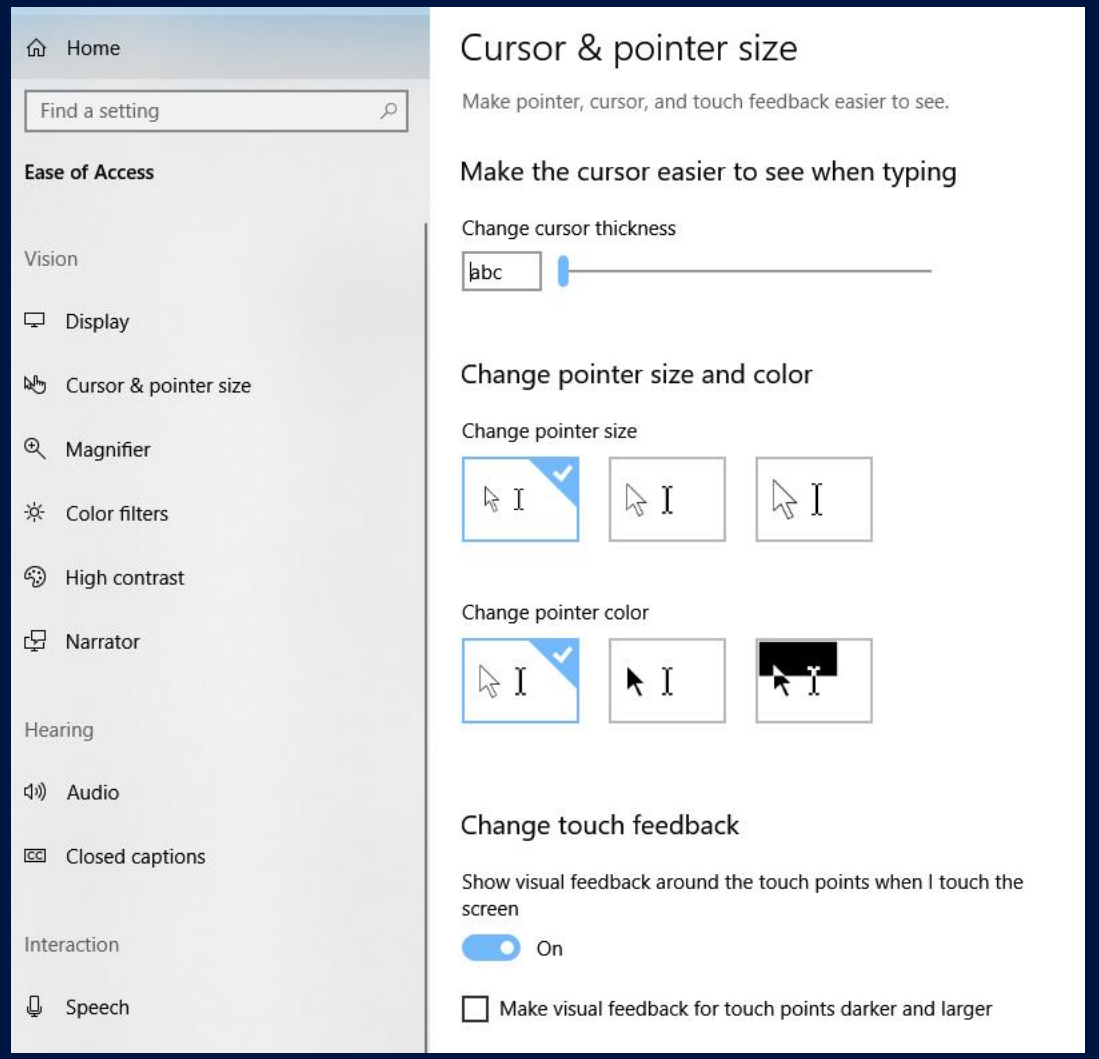
Built in Windows Tools

- Settings → Ease of Access
  - Change text size



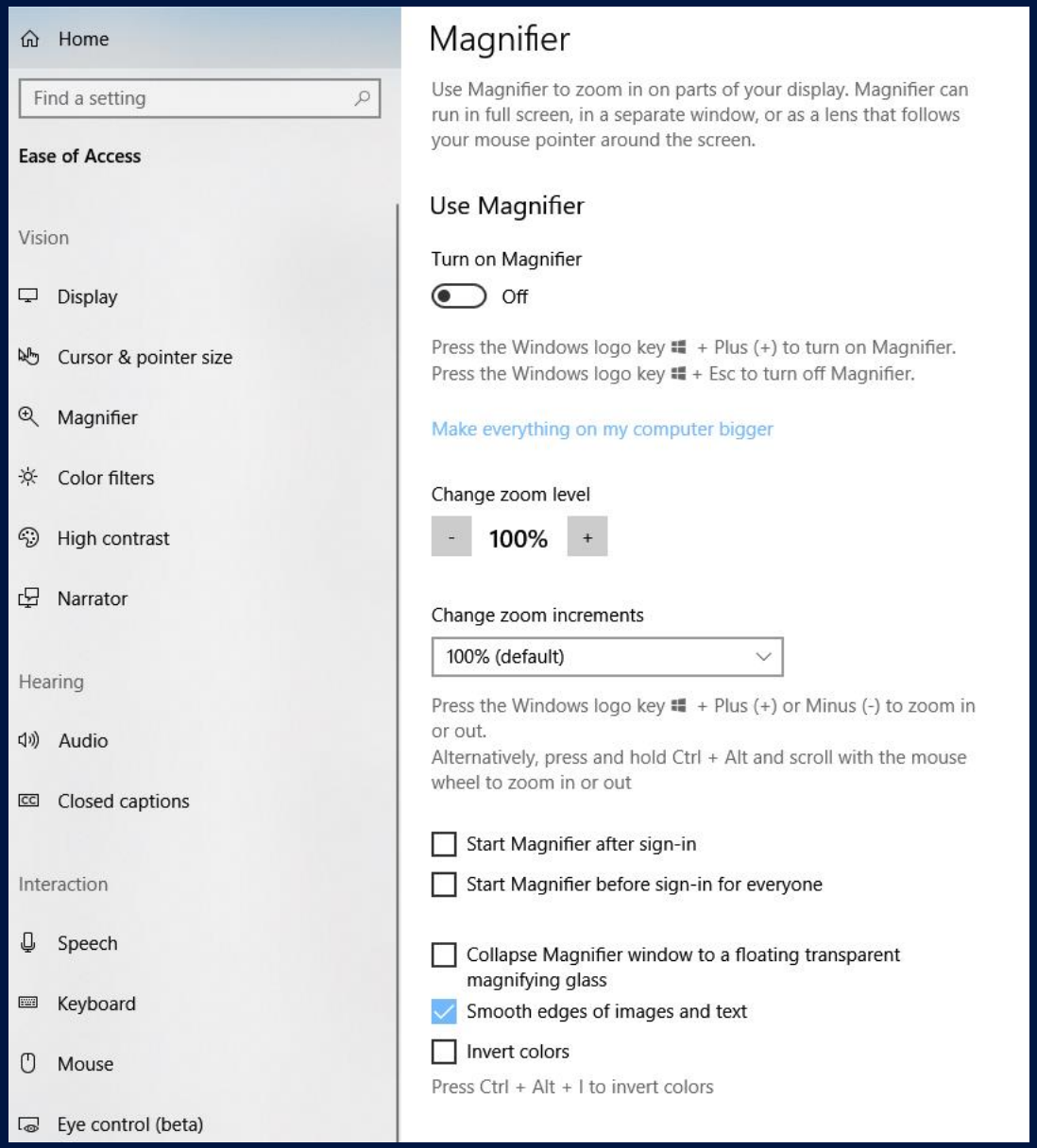
Built in Windows Tools

- Settings → Ease of Access
  - Change the curser size and color

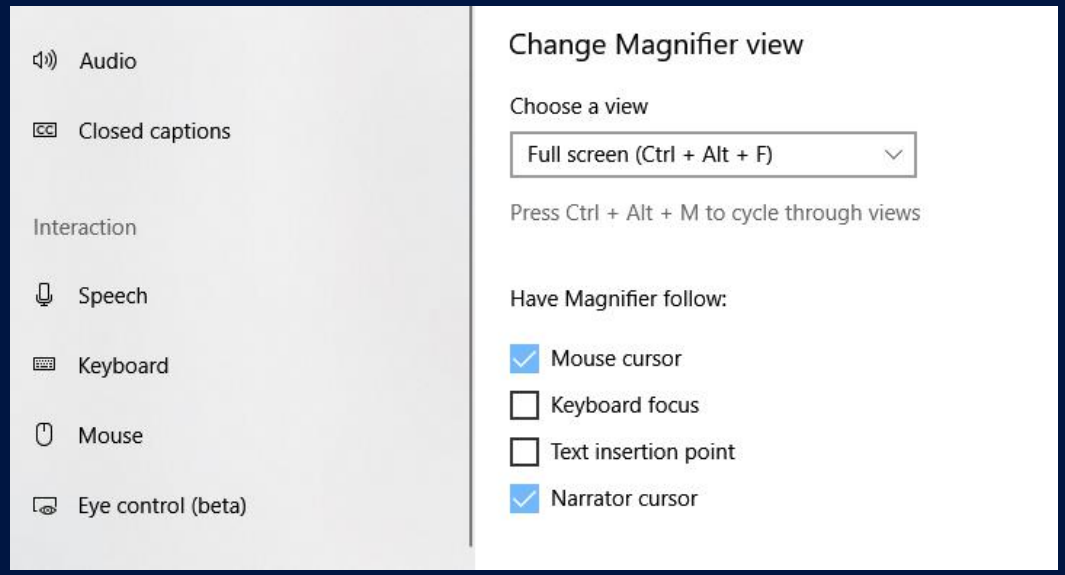


Built in Windows Tools

- Settings → Ease of Access
  - Magnifier



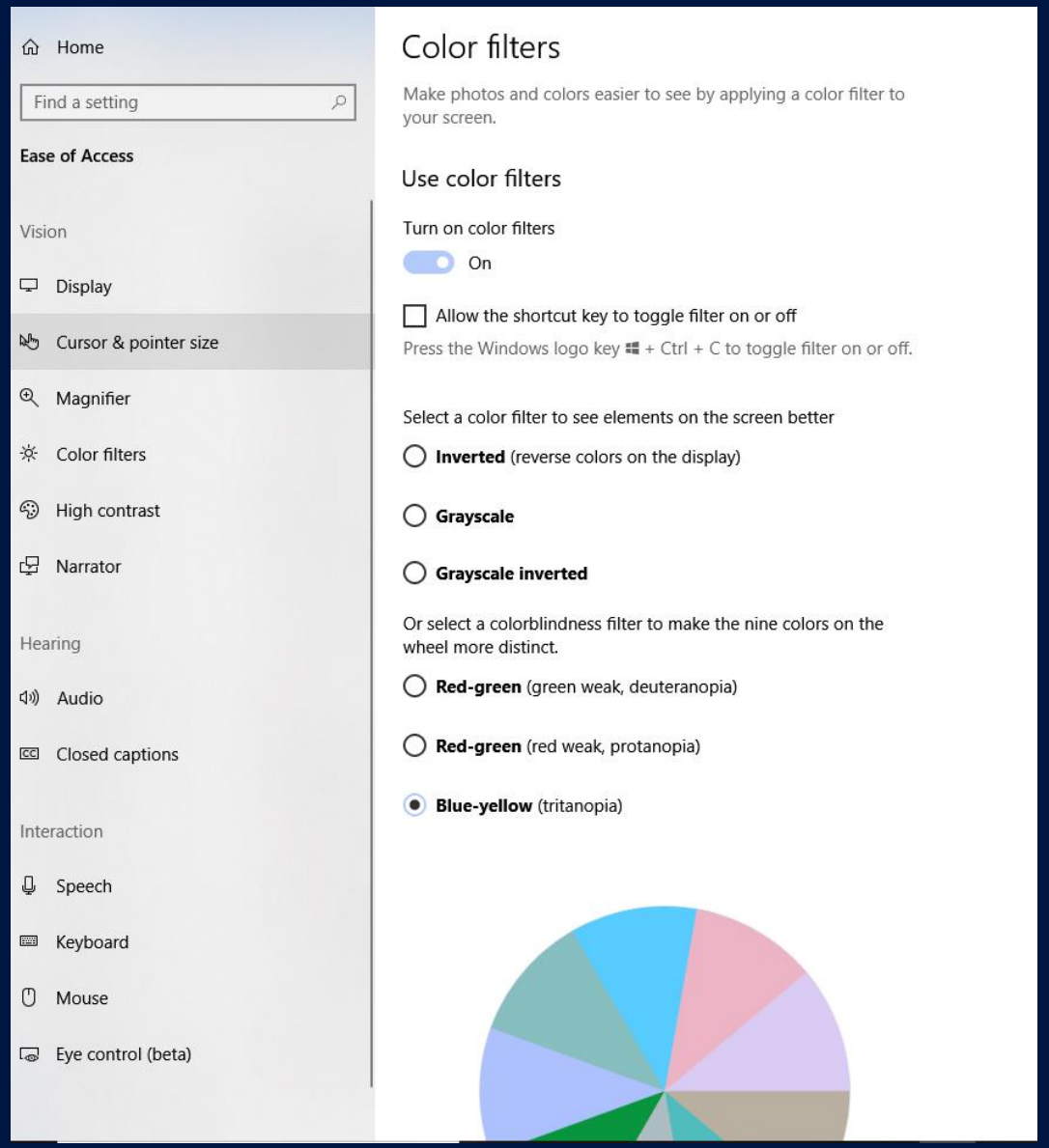
Top ¾ of screen



Bottom ¼ of screen

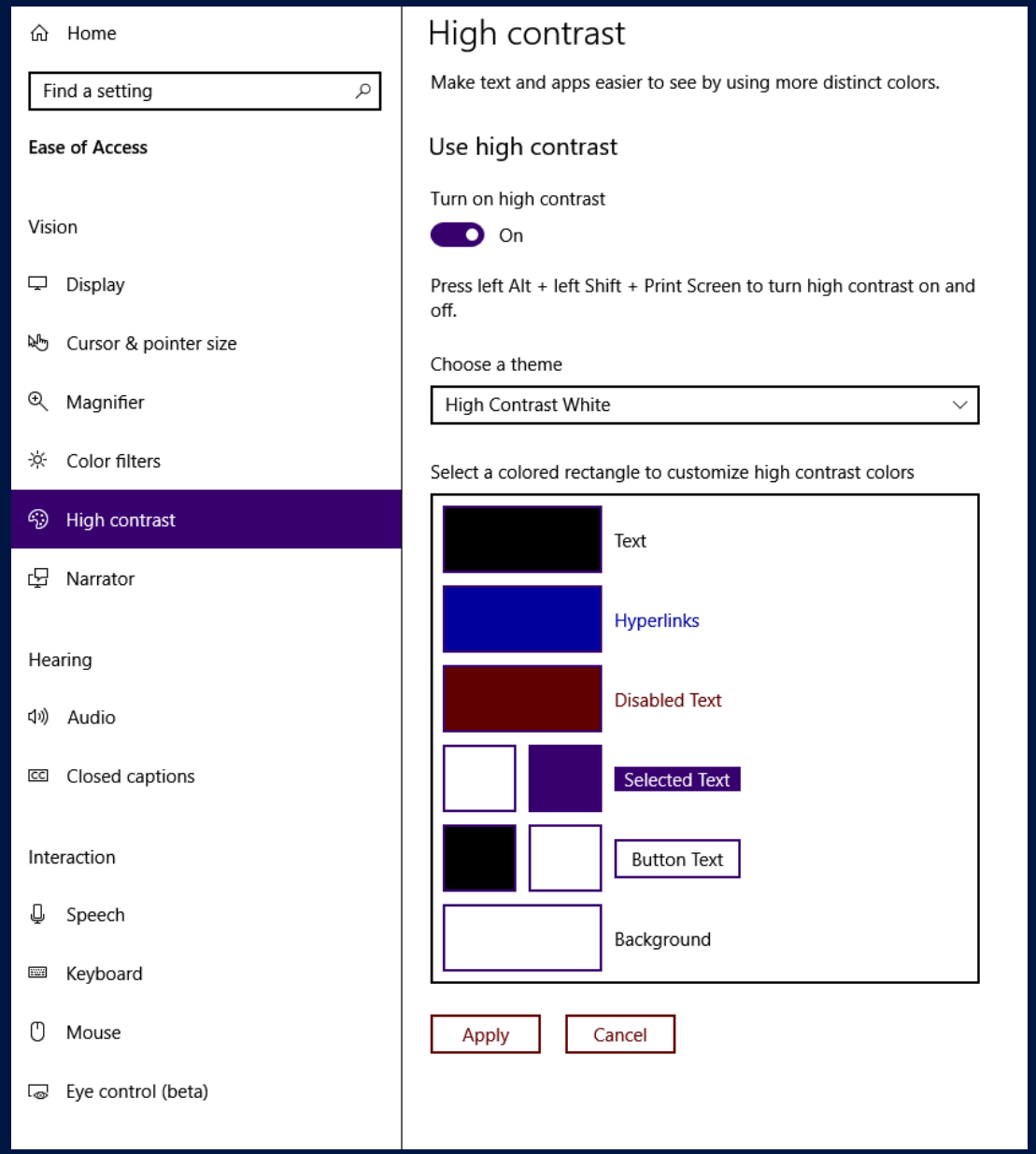
Built in Windows Tools

- Settings → Ease of Access
  - Color filters



Built in Windows Tools

- Settings → Ease of Access
  - High Contrast Themes
    - High Contrast White →

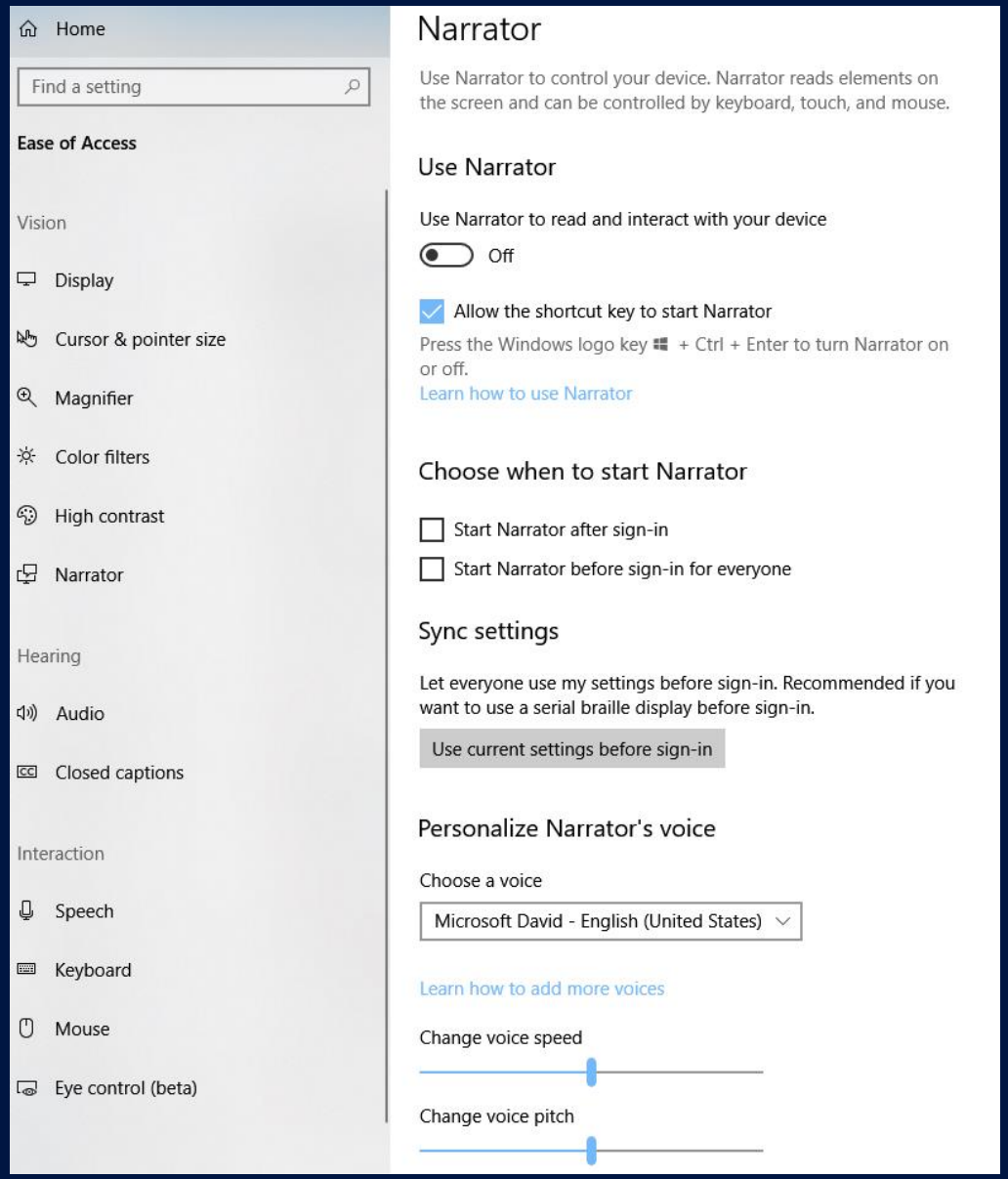


Built in Windows Tools

- Settings → Ease of Access
  - High Contrast Themes
    - High Contrast Black →
      - Plus two other dark high contrast themes

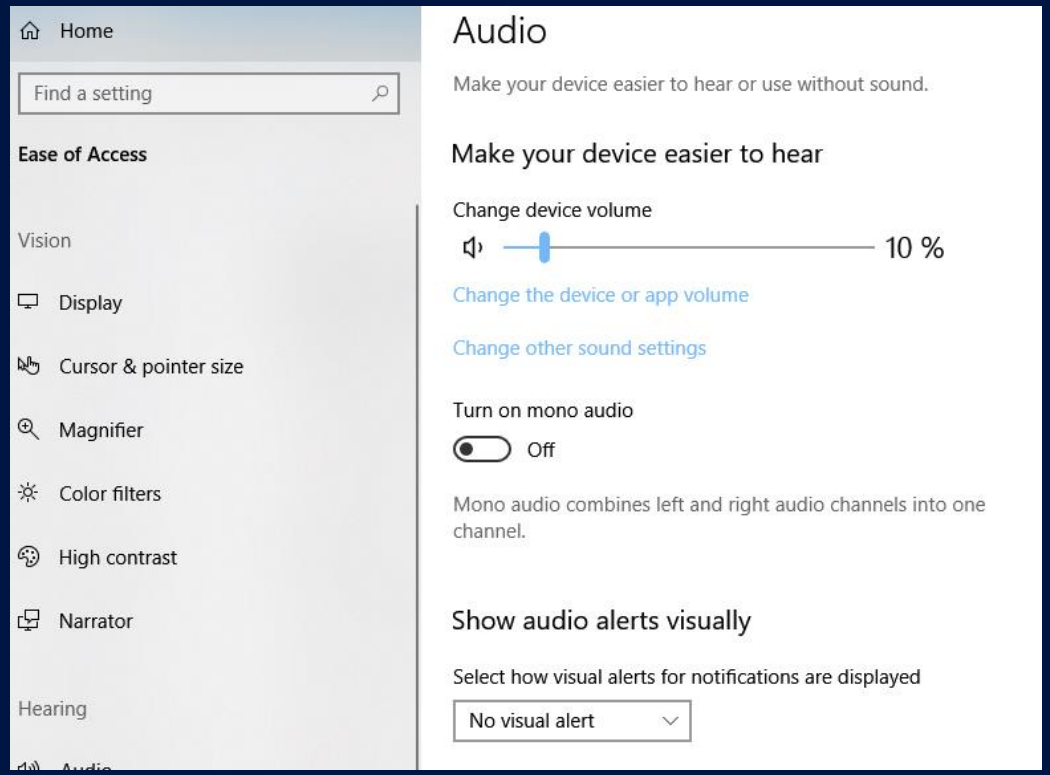
Built in Windows Tools

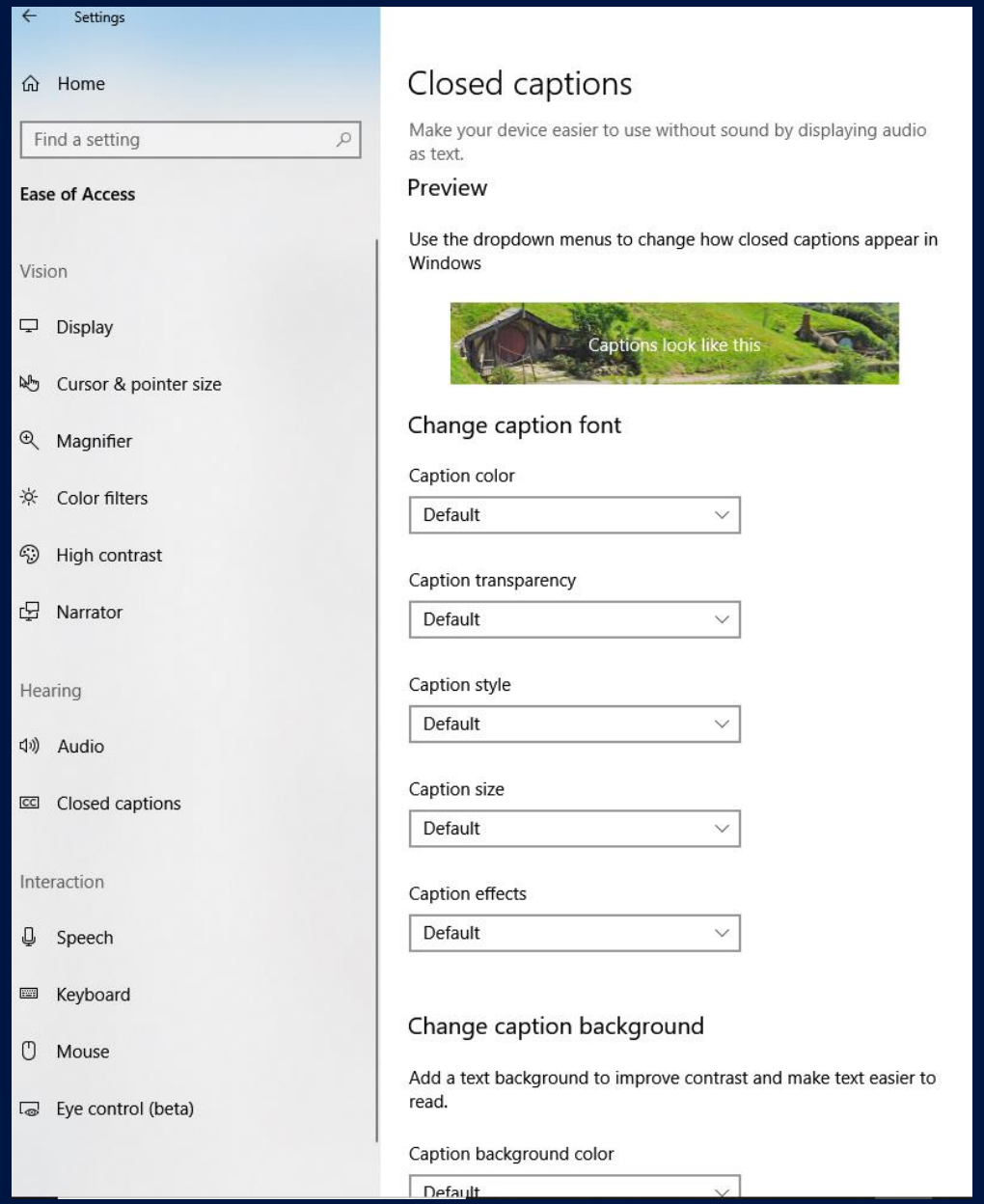
- Settings → Ease of Access
  - Narrator



Built in Windows Tools

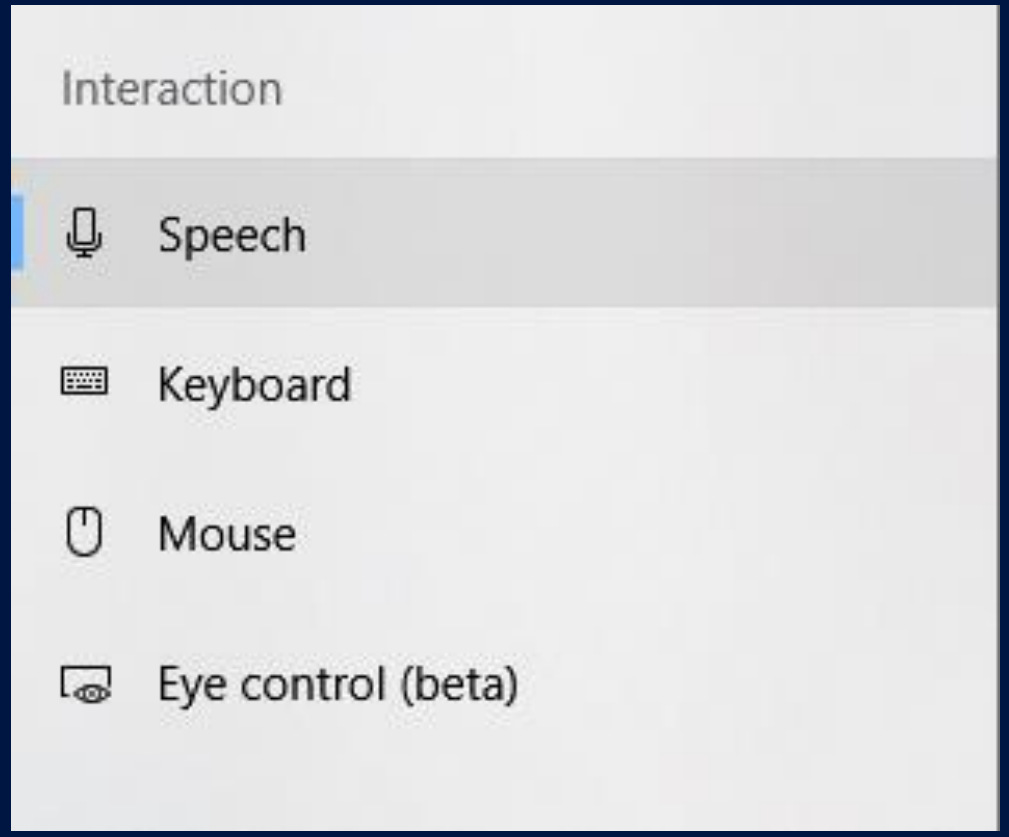
- Settings → Ease of Access
  - Hearing Options





Built in Windows Tools

- Settings → Ease of Access
  - Interaction
    - Speech: Cortana and Dictate
    - Keyboard: On-screen keyboard, sticky keys, toggle keys, filter keys
    - Mouse: Use numeric keypad to move mouse pointer
    - Eye Control: Requires connected device



Smart Device Accessibility

Assistive Technology for Libraries

Apple Device Accessibility

- VoiceOver:
  - Narrates content on screen
  - Can connect to a refreshable braille display
  - Rotor
- Zoom:
  - Magnifies screen
  - Adjustable
  - Full screen or window option

Apple Device Accessibility

- Other Options:
  - Adjust display and text size
  - Increase Contrast
  - Invert Colors
  - Color Filters
  - Bold Text
  - Large Cursor
  - Reduce motion
  - Sticky and Slow Keys

Android Device Accessibility

- TalkBack:
  - Voice Assistant
  - Screen Zoom and Font
  - Magnifier Window
  - Invert Colors
- Other for Android 11:
  - Live Transcribe
  - Lookout
  - Braille Keyboard

Features of Smart Device Accessibility

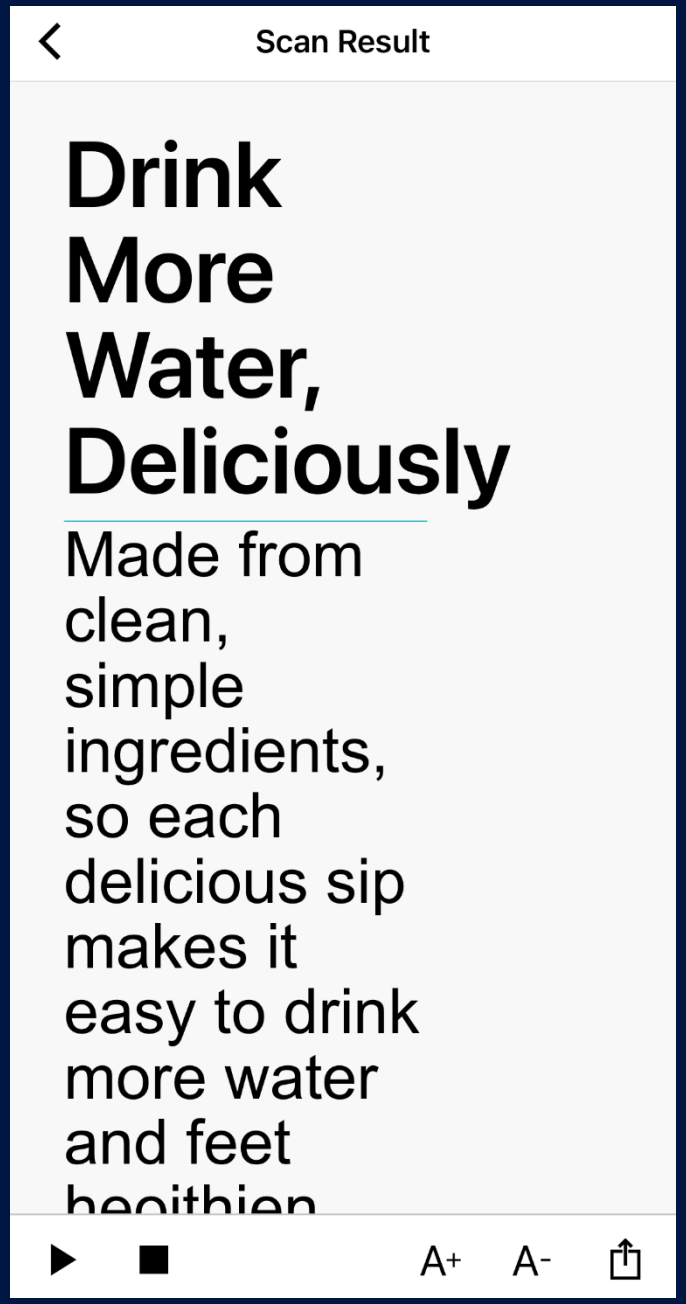
Feature	Windows	Apple	Android
Screen Reader	Narrator	VoiceOver	TalkBack
Screen Magnifier	Magnifier	Zoom	Magnifier Window
Change visuals	Display, Cursor & Pointer Size, High Contrast	Display, Text Size, Increase Contrast, Dark mode, Invert Colors, Color Filters	Display, Text Size, High Contrast
Voice and Switch Control Options	Cortana for Voice Control, Switch Control	Voice Control, Switch Control	Switch Control, Voice Access (download app)
Software for hearing issues, including Visual Alerts	Yes	Yes, hearing aid compatible & RTT/TYY	Android 10 and higher hearing aid compatible
Audio Description available	Depends on video settings	Automatically plays if enabled on video	n/a
Auto captioning available	Yes, depending on video settings	Yes, depending on video settings	Yes, depending on video settings. Can record and add captions.

Seeing AI

- FREE Microsoft-produced app for Apple products
- App can narrate things in the world around the user
- Available in 8 languages, including English and Spanish

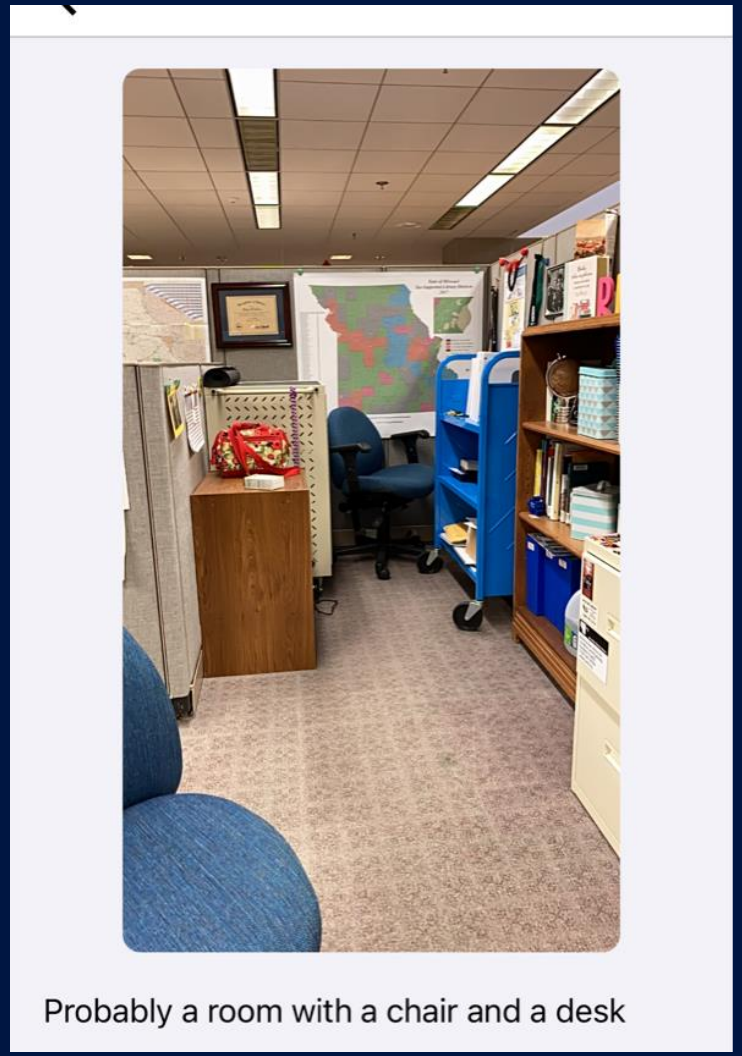
Seeing AI

- Features:
  - Short Text (immediately reads text)
  - Documents (scan and read printed page)→
  - Products (scan barcode to recognize)
  - Person (recognize people around you)



Seeing AI

- **Features:**
  - **Scene (describes environment)→**
  - **Currency Reader**
  - **Light detector**
  - **Color detector**
  - **Handwriting reader**



Accessible Digital Resources

Assistive Technology for Libraries

Check the Website/Resource Yourself

- Look for an accessibility webpage, often found on the bottom menu
  - This page often features:
    - Information for navigating with a screenreader
    - A point-of-contact for accessibility issues
    - Their latest accessibility report if available
    - A Section 508 and/or ADA disclaimer

Accessibility - Navigation Guide

EBSCO is committed to providing positive experiences for all users. Accessibility is a key consideration in all our product development strategies. Contact accessibility@ebsco.com with accessibility questions. For Voluntary Product Accessibility Template® (VPAT®) requests, email support@ebsco.com.

EBSCOhost provides several accessibility features to allow users to navigate the website.

- Landmarks – these define the page structure, like navigational areas and the main content
- Headings – these denote the beginning of sections of content
- Access Keys – these allow you to jump to different portions of the page

Access Keys for EBSCO Discovery Service/EBSCOhost include:

- Access Key + 0 – Jump to the Help link
- Access Key + 2 – Jump to the Search box

Tips for Navigating

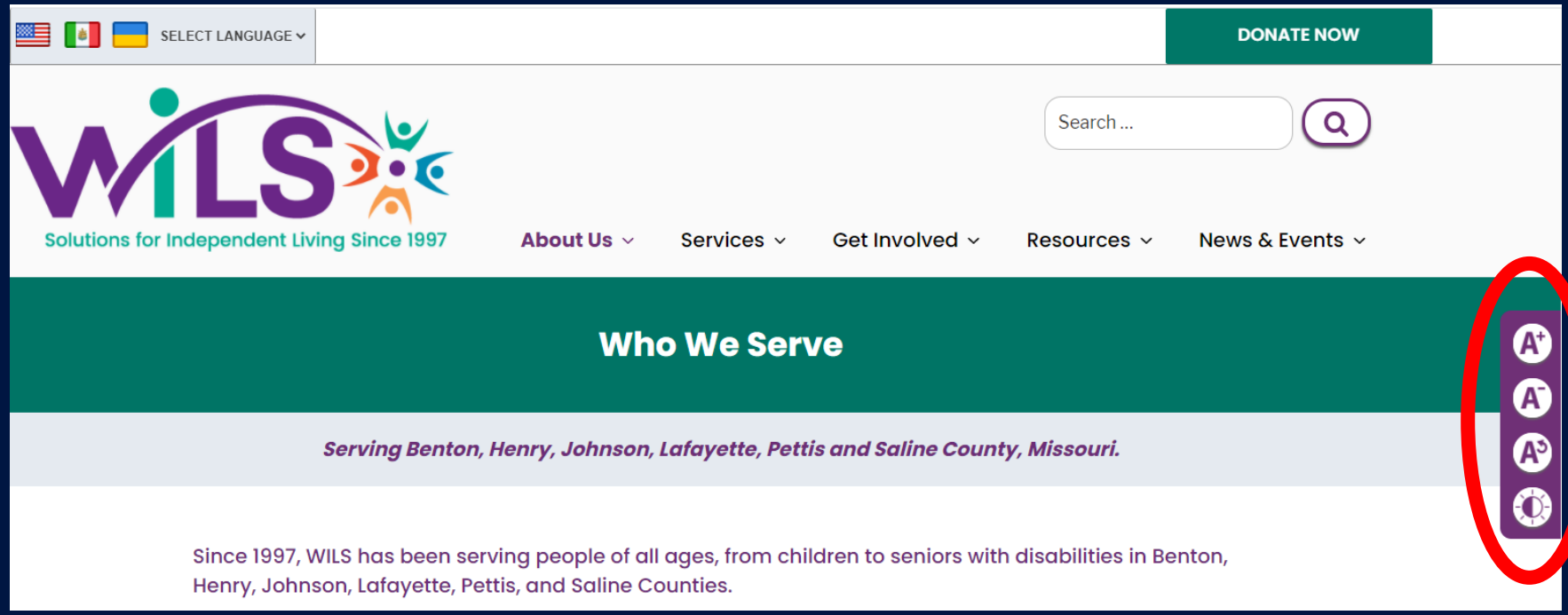
Below are some tips for navigating the site using a screen reader and select browsers.

How do I get to...	NVDA and Firefox Steps	NVDA and Chrome Steps	JAWS and IE Steps
Help	Shift+Alt+0	Alt+0	Alt+0
Search Box	Shift+Alt+2	Alt+2	Alt+2
First Title in Result List from Search box	Tab. Then H2. Then H3. Use H3 to jump to all subsequent article titles.	Tab. Then h2. Then h3. Use H3 to jump to all subsequent article titles.	Alt+1. Then h3. Use H3 to jump to all subsequent article titles.
Refine Search from within Search box	Tab. Then h2 2 times. Then Tab through options. Then enter to expand filter. Then use spacebar to select a specific filter option.	Tab. Then h2 2 times. Then Tab through options. Then enter to expand filter. Then use spacebar to select a specific filter option.	Tab. Then h2 2 times. Then Tab through options. Then enter to expand filter. Then use spacebar to select a specific filter option.
Full Text from Results List article title	Tab to PDF or HTML link. Then select Enter.	Tab to PDF or HTML link. Then select Enter.	Tab to PDF or HTML link. Then select Enter.
PDF Full Text from Detail Page	H2. Then h3. Then h3. Then Shift+Tab	H2. Then h3. Then h3. Then Shift+Tab	H2. Then h3. Then h3. Then Shift+Tab
HTML Transcript (text to speech)	Shift+Alt+L	Alt+L	Alt+L
Save PDF, once opened	Insert+F7. Then Select 'PDF Download'. Then select Enter. Then Control+S	Insert+F7. Then Select 'PDF Download'. Then select Enter. Then Control+S	Insert+F7. Then Select 'PDF Download'. Then select Enter. Then Control+S
Export and Cite options from Detail Page	h2 for 'Tools' section. Then Tab to option	h2 for 'Tools' section. Then Tab to option	h2 for 'Tools' section. Then Tab to option

EBSCOhost Accessibility Navigation Guide

Check the Website/Resource Yourself

- There could also be highly visible built-in accessibility tools, including:
  - Contrast options
  - Options to increase/decrease font size



←Often these options are in the header menu or one side of the screen

Selecting Databases & eBook Platforms

- General Tips:
  - Include accessibility in the conversation with vendors from the start
  - Keep bringing accessibility up in conversations
  - Review all products for accessibility before procuring/renewing a product
  - Ask questions that go beyond the VPAT (Voluntary Product Accessibility Template)
  - Report accessibility issues to vendor

Table 1: Success Criteria, Level A

Notes:

Criteria	Conformance Level	Remarks and Explanations
1.1.1 Non-text Content (Level A) Also applies to: EN 301 549 Criteria • 9.1.1.1 (Web) • 10.1.1.1 (Non-web document) • 11.1.1.1.1 (Open Functionality Software) • 11.1.1.1.2 (Closed Functionality Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)	Web: Partially Supports Content: Partially Supports	Most active images (links or buttons) and other static images have alt-text. However there are some exceptions In-context help icon, Share icons (Facebook etc.), document-level images in results list Folder icon shows that items are in folder by image but not in text/state Some PDF documents contain images and figures that do not have captions. As an aggregator we do not have permissions to edit documents so can only include what is provided.
1.2.1 Audio-only and Video-only (Prerecorded) (Level A) Also applies to: EN 301 549 Criteria • 9.1.2.1 (Web) • 10.1.2.1 (Non-web document) • 11.1.2.1.1 (Open Functionality Software) • 11.1.2.1.2.1 and 11.1.2.1.2.2 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)	Web: Supports Content: Supports	
1.2.2 Captions (Prerecorded) (Level A)	Web: Supports	

VPAT for Academic Search Premier, courtesy of EBSCOHost

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- Start with basic questions, such as:
  - Is this resource screen-reader accessible?
  - Can the resource be accessed entirely via keyboard operations?
  - Are videos captioned and audio described?
  - Have the pages been formatted to include headers 1-6?
  - Has ARIA been used within the HTML?

Ezsee Low Vision Keyboard; high contrast and large print
Source: Staples website

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- If the vendor passed the basic questions, move to more advanced questions:
  - How do you test for accessibility?
  - At what stage of development do you test for accessibility?
  - Do you have accessibility experts on your team? If not, do you hire an outside consultant?
  - Do real-end users with disabilities help to design your products? If so, how?

Questions borrowed from Indiana University.
Full list available at: https://kb.iu.edu/d/awxb

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- If the vendor answered the basic questions, ask more advanced questions:
  - Can you share your latest accessibility report with us?
  - Are the supported accessibility features in your products listed and explained?
  - Does your support staff get trained on accessibility?
  - Where do your designers and developers get accessibility training?

Questions borrowed from Indiana University.
Full list available at: https://kb.iu.edu/d/awxb

Other Accessibility Considerations

Assistive Technology for Libraries

Making your Building Accessible

- Signage should be large print and include braille
- Have a wheelchair-height counters/tables available
- Aisles and restrooms should be wheelchair assessable
- Have a ramp into the building and sidewalk cut-outs
- Have handicapped parking
- Service animals cannot be denied entry

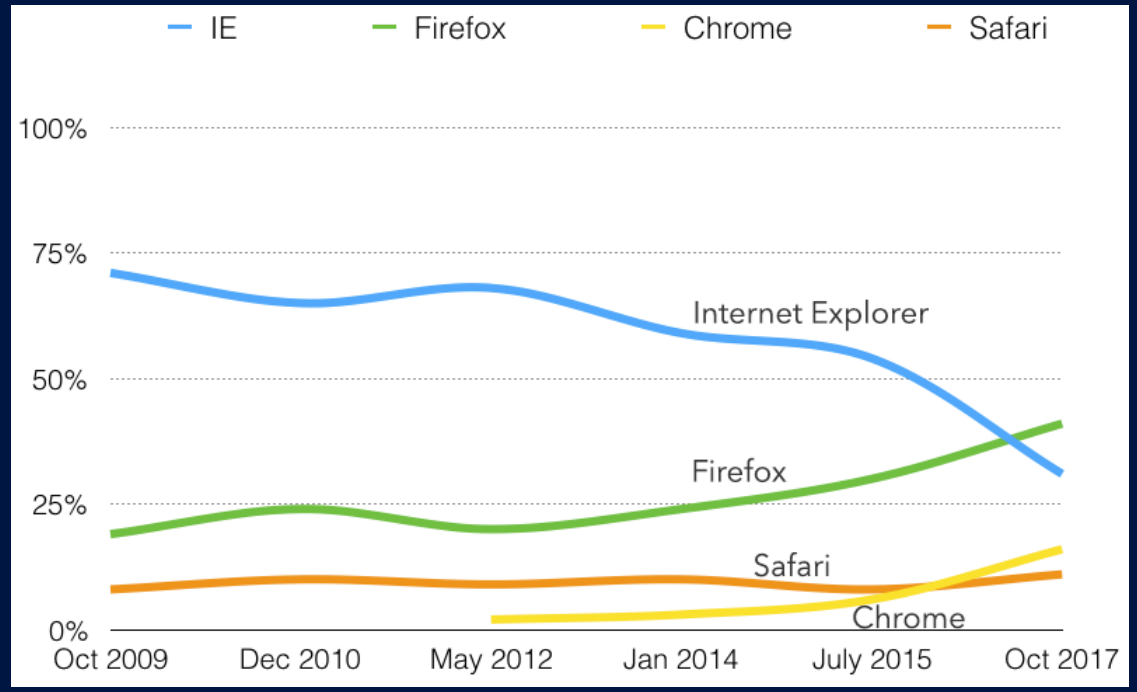
Other ADA Considerations

- Discrimination based on disability is not allowed
- Aim for accessible programming:
  - Describe visuals during presentations
  - Aim for tactile crafts
  - Show movies with audio description and/or captions on
  - Keep the name of an ASL translator handy
  - Check and see if Wolfner Library offers your library's One Reads or book club titles for shared patrons

Image source: http://plainvanillamom.com/2014/02/valentine-sponge-painting.html

Most Popular Accessible Browsers

- From a survey conducted by WebAIM in October, 2017, focusing on screenreader users:
  - Firefox: 41%
  - Internet Explorer 11: 23.3%
  - Chrome: 15.5%
  - Safari: 10.5%
  - Microsoft Edge .5%
  - Other: 9.2%



From the 10/17 WebAIM Survey Report

Assistive Technology Programs

- Offers various programs to obtain low or no cost AT devices
  - TAP (Telecommunications Access Program) is most popular

- Missouri Assistive Technology:
  - Offers the regional Power-Up AT Conference yearly
  - Website: https://at.mo.gov
- Illinois Assistive Technology Program
  - Website: https://iltech.org/

Final Notes

Assistive Technology for Libraries

Presenter Contact Information

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- 573-522-2768 (direct line)

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Questions?