Assistive Technology for Libraries

Presented by Amy Nickless, Adult Services Librarian at Wolfner Talking Book and Braille Library
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

H1 Programming
Wolfner Library offers a variety of programming for all ages. Follow the links below to learn more:

H2 Adult Programming
- Book Clubs

H3 Adult Winter Reading Program
- Workshops by Conference Call
- Book Club Kits
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
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
• 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
ARIAS

• 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:
    - Free Chrome extension
  - WAVE: [http://wave.webaim.org/](http://wave.webaim.org/)
    - Free to use
    - Offers paid options for testing entire websites
    - Example→
    - 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](https://webaim.org/techniques/hypertext/). Never, ever write please [click here](https://example.com).
Word Accessibility

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

This is a Header 1.
This is a Header 2.
This is a Header 3.
This is a Header 4.
This is a Header 5.
This is 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
      2. 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
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

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

Screenshot from Freedom Scientific's website
Built in Windows Tools

• Settings → Ease of Access
  • Change text size
• Settings → Ease of Access
  • Change the cursor size and color
**Built in Windows Tools**

- **Settings → Ease of Access**
  - **Magnifier**

---

**Magnifier**

Use Magnifier to zoom in on parts of your display. Magnifier can run in full screen, in a separate window, or as a lens that follows your mouse pointer around the screen.

**Use Magnifier**

**Turn on Magnifier**

- **Off**

Press the Windows logo key + Plus (+) to turn on Magnifier. Press the Windows logo key + Esc to turn off Magnifier.

**Change zoom level**

- **100%**

**Change zoom increments**

- **100% (default)**

Press the Windows logo key + Plus (+) or Minus (-) to zoom in or out. Alternatively, press and hold Ctrl + Alt and scroll with the mouse wheel to zoom in or out.

- **Start Magnifier after sign-in**
- **Start Magnifier before sign-in for everyone**
- **Collapse Magnifier window to a floating transparent magnifying glass**
- **Smooth edges of images and text**
- **Invert colors**

Press Ctrl + Alt + 1 to invert colors

---

**Audio**

- **Closed captions**

**Interaction**

- **Speech**
- **Keyboard**
- **Mouse**
- **Eye control (beta)**

---

**Change Magnifier view**

Choose a view

- **Full screen (Ctrl + Alt + F)**

Press Ctrl + Alt + M to cycle through views

**Have Magnifier follow:**

- **Mouse cursor**
- **Keyboard focus**
- **Text insertion point**
- **Narrator cursor**
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

**Audio**

Make your device easier to hear or use without sound.

**Make your device easier to hear**

- **Change device volume**
- **Change the device or app volume**
- **Change other sound settings**

**Turn on mono audio**

Mono audio combines left and right audio channels into one channel.

**Show audio alerts visually**

Select how visual alerts for notifications are displayed.
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

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

EBSCOhost Accessibility Navigation Guide

- 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
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**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Conformance Level</th>
<th>Remarks and Explanations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.1 Non-text Content (Level A) Also applies to: EN 301 549 Criteria</td>
<td>Web: Partially Supports</td>
<td>Most active images (links or buttons) and other static images have alt-text. However, there are some exceptions in-content help icon, Share icon (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.</td>
</tr>
<tr>
<td>1.1.2 Audio-only and Video-only [Prerecorded] (Level A) Also applies to: EN 301 549 Criteria</td>
<td>Web: Supports</td>
<td>Content: Supports</td>
</tr>
</tbody>
</table>

---

VPAT for Academic Search Premier, courtesy of EBSCOHost
Selecting Databases & eBook Platforms

• 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?

Source: Staples website
Selecting Databases & eBook Platforms

• 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
Selecting Databases & eBook Platforms

• 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/
Presenter Contact Information

Amy Nickless, Adult Services Librarian
• amy.nickless@sos.mo.gov
• 573-522-2768 (direct line)
Connect with Wolfner Library

@wolfnerlibrary

E-mail Wolfner@sos.mo.gov

Address: 600 West Main Street
P.O. Box 387
Jefferson City, Missouri 65101
Toll Free: (800) 392-2614
Phone: (573) 751-8720
Fax: (573) 751-3612
Questions?