ADA Section 508 and Electronic Publications for Institutional Researchers

TAIR Presentation

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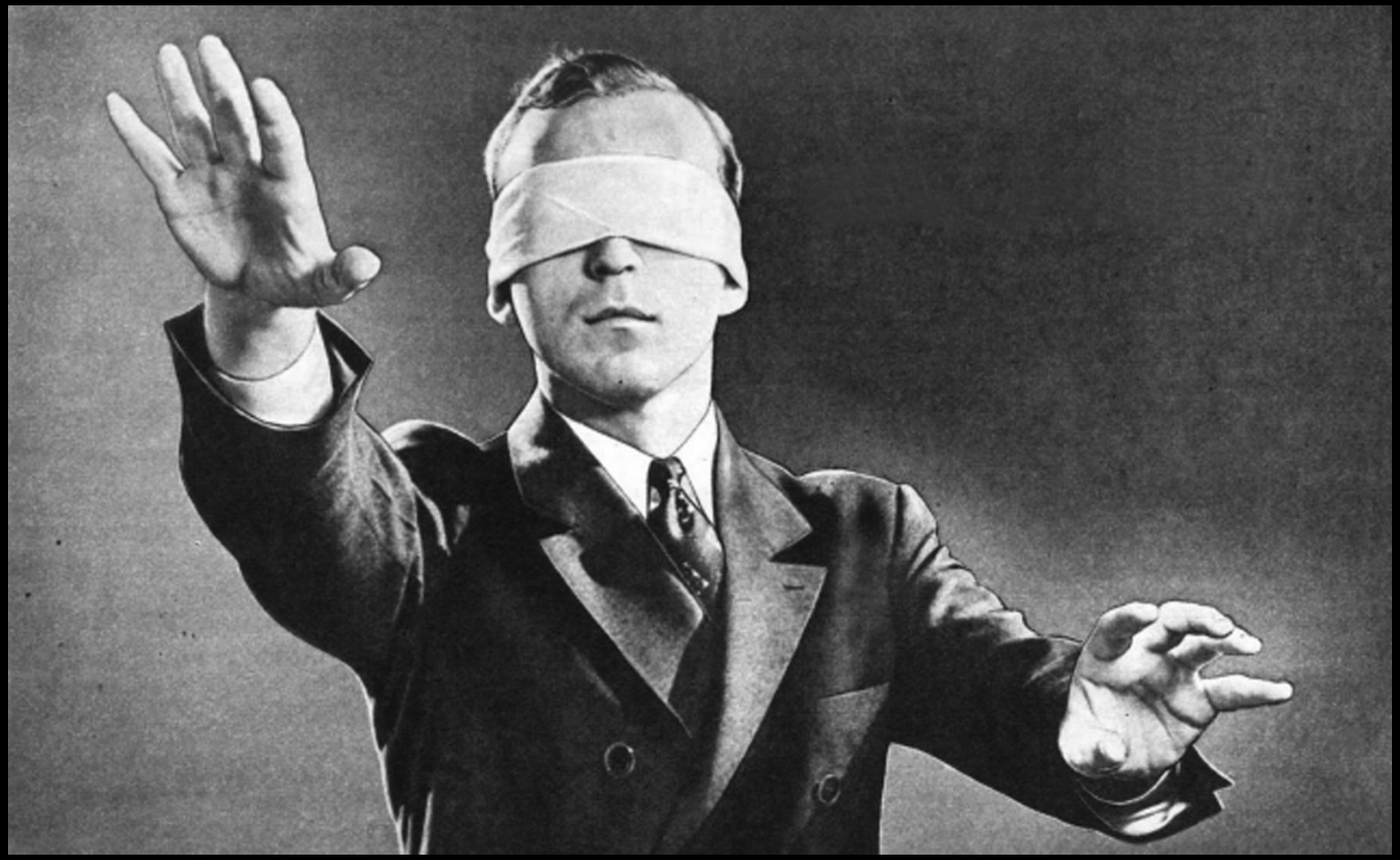


Why Make Publications Accessible?

Reason #1a:
IT'S THE RIGHT THING TO DO

Reason #1b:
IT'S THE LAW

WCAG 2.0
Principles of Accessibility

POUR

Perceivable

Operable

Understandable

Robust

What is the law?

Texas Administrative Code,
Title 1 Part 10 Chapters 206 & 213
State Agencies: Subchapters B
Higher Ed: Subchapters C

These subchapters have
practically identical language

Americans with Disabilities Act, Section 508

(a) Effective September 1, 2006…all new or changed web pages must comply with:

(1) the standards described in Section 508 Subpart B §1194.22, paragraphs (a) through (p), excluding paragraphs (b) and (k)

Electronic Information Resource (EIR) Requirements: Chapter 213

- Compliance Exceptions & Exemptions
- EIR Accessibility Policy & Coordinator
- Functional Performance Criteria

Functional Performance Criteria A

- No Vision
- Low Vision (20/70)
- No Hearing
- Low Hearing
- No Speech

Functional Performance Criteria B

- No Fine Motor Control/ Simultaneous Action
- Limited Reach & Strength
- Colorblind *
- Epileptic *
- Cognitively Impaired *

Understanding Disability: No Vision

Perceivable – No graphics, layout, color

Operable – No use of mouse

Understandable – Linear content order

Robust – Screen reader friendly, valid semantics/syntax, nothing obsolete

Understanding Disability: Screen Readers

- JAWS, VoiceOver, ChromeVox
- Open source freeware: NVDA
- Reads raw file contents
- Optimized for HTML
- Allows user to read whole page or navigate links, tables, headings, form fields, frames, list items, landmarks, and other focusable elements

Understanding Disability: Low Vision

Perceivable – Try to avoid:

- Small Text
- Cluttered Fonts
- Graphical Text
- Low Contrast

Understanding Disability: Colorblind A

Perceivable – Don't exclusively use color to communicate

If you must use color to communicate, provide an alternate means of getting the same information

Understanding Disability:
Colorblind B

Normal Vision example:

one two three four

Understanding Disability:
Colorblind C

Deuteranopia example:

one two three four

Understanding Disability:
Colorblind D

Tritanopia example:

one two three four

Understanding Disability:
Colorblind E

Achromatic example:

one two three four

Understanding Disability:
No Hearing

Perceivable – Provide:

- No audio-only content
- Transcripts for audio
- Captioning for multimedia

Also, do not rely on lip reading or ASL

Understanding Disability: Low Hearing

Perceivable – Provide:

- Headset access
- Volume controls
- Transcripts for audio
- Captioning for multimedia

Understanding Disability: Motor Impairments

Operable – To perform common computer-related tasks, design for:

- Keyboard-only and mouse-only input
- Large links, tabs, menus, controls
- Error tolerance
- No reliance on simultaneous action
- Avoidance of repetitive tasks

Understanding Disability: Cognitive Impairments

Understandable – Make primary content accessible to users with minimally sufficient:

- Language or Math Ability
- Visual Comprehension
- Problem Solving Skills
- Attention Span
- Memory

Understanding Disability: Epilepsy & Visual Distractability

Operable – Do not provide ANY visual content that:

- Strobes, flashes, or flickers more than twice per second (2 Hz)
- Has unneeded animation (for needed animations, avoid the color red)
- Produces an optical illusion effect, e.g., tight parallel black & white lines

Perceivable: Text Alternatives

(a) A text equivalent for every non-text element shall be provided (e.g., via "alt", "longdesc", or in element content).

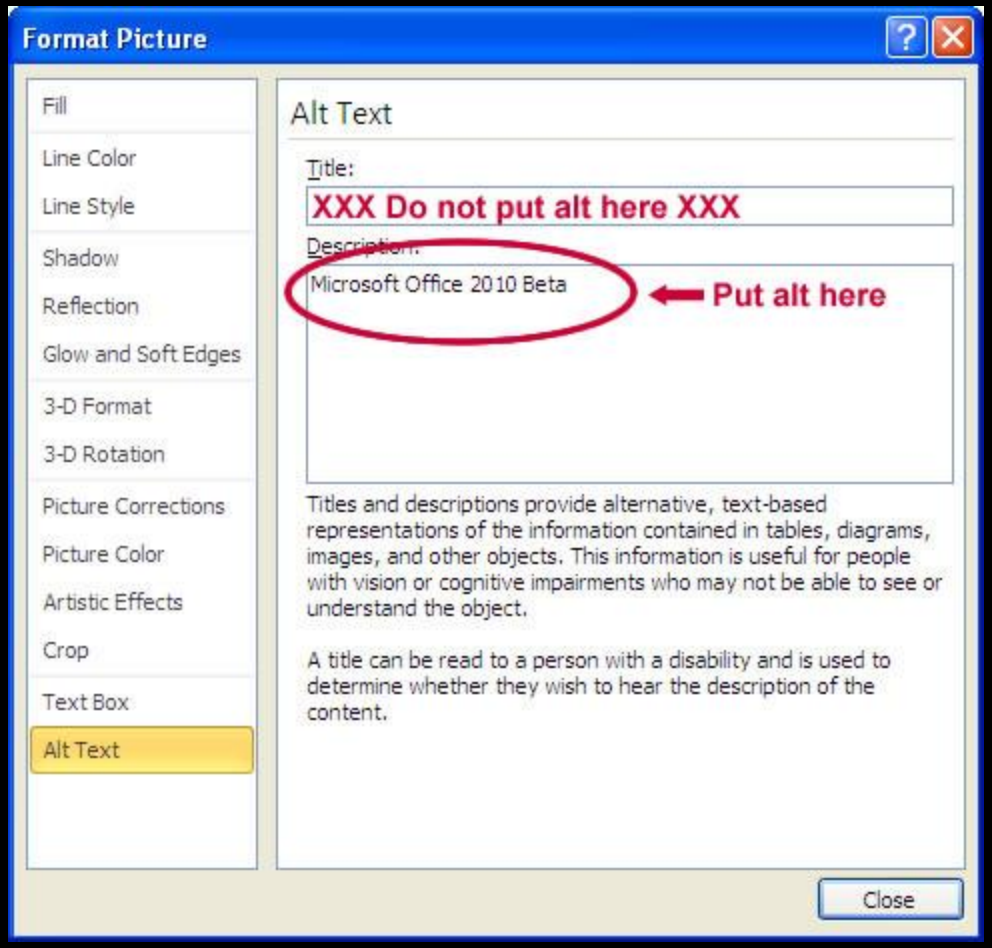
Alternate text can be contained:

- In the context of the element
- In the non-text element itself (i.e., “alt attribute”)

Alt Attributes

- sound
- video
- images
- graphical representations of text
- image maps
- animations
- ascii art
- frames
- scripted content
- images used as list bullets
- spacer images
- graphical buttons
- charts

Alt Attributes – MS Office



Alt Attribute Tips

- Preserve Both Content & Function
- Be Succinct
- Do Not Be Redundant
- Include All Graphical Text
- HTML: Use Blank Alt Attribute (alt="") for Decorative Images

Perceivable: Multimedia A

(b) Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation.

Multimedia – Mandatory captioning

Federal-only version

Perceivable: Multimedia B

(b) Based on a request for accommodation of a (webcast or video) each state agency must consider alternative forms of accommodation.

State of Texas version

Perceivable: Color A

(c) Web pages shall be designed so that all information conveyed with color is also available without color, for example from context or mark-up.

Advice: Colorblindness is common and comes in several varieties. Assume the sighted reader will see everything in black and white.

Perceivable: Color B

OPINION

Obama's Divided Nation

ama presides over
ica more divided
any time in 50
ry that was riven
g racial lines gath-
2008 to elect its
ident. That presi-
four years dividing
the basis of eco-
The campaign re-
vealed no evi-
dence that Mr.
Obama will close
the chasm he has
created between
his voters and
those he attacked
and vilified.

It may be true
that Mitt Romney
failed to respond

drawn attention to what hap-

Obama spokestotum replied:

problem with pols, e
verbally facile as Mr.
that in crunch time,
reverts to No. 1. Exi
that 9% of the electo
who to vote for jus
Tuesday; and amo
42% said Mr. Oban
Sandy response—t
tie photo-op—wa
factor. Of those,
voted for Mr. Ob
Mr. Christie is o
politico who is

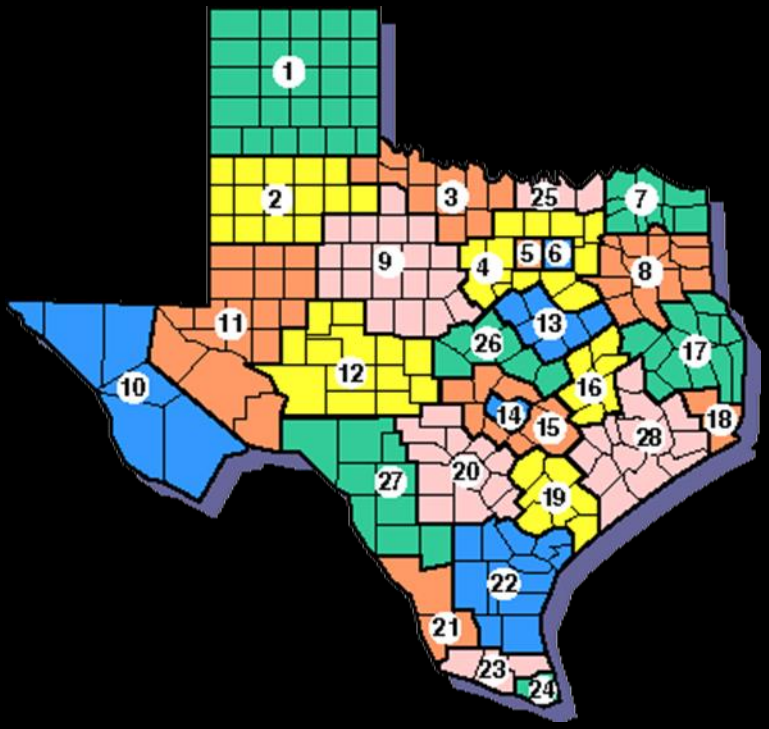
Yes, Republic
across two pres
that there are
how crudely
issue like ill
Blowing up th
if you thoug
day's results

Perceivable: Image Maps A

(e) Redundant text links shall be provided for each active region of a server-side image map.

What is a “server-side image map”?

Perceivable: Image Maps B



Perceivable: Image Maps C

example:

```
<map name = "WDA Map">
      <area shape="POLYGON"
      coords="314,142 318,146"
      href="http://dallascounty.wda.gov"
      alt="Dallas County WDA" >
</map>
```

Understandable: Image Maps D

(f) Client-side image maps shall be provided instead of server-side image maps except where the regions cannot be defined with an available geometric shape.

Why?

Because screen readers can parse client-side maps.

Understandable: Data Tables

(g) Row and column headers shall be identified for data tables.

(h) Mark-up shall be used to associate data cells and header cells for data tables that have two or more logical levels of row or column headers.

Data Tables in HTML

Simple data tables:

Use proper HTML table elements (table, thead, tbody, th, tr, td, tfoot) for data tables

and only data tables.

Complex data tables:

Also use "id" and "header" attributes.

Data Tables in Other Documents

PDF/Acrobat Pro: Use Table Inspector to check that table is correctly tagged

PowerPoint: Native and exported tables are not accessible

Word/Excel: Simple tables, properly formatted, should be accessible

Understandable: Frames

(i) Frames shall be titled with text that facilitates frame identification and navigation.

Frames = advanced use only

- Web pages inside web pages
- Resizing text can be problematic
- Screen readers can get confused
- Inaccessible products use frames

Operable: Flicker

(j) Pages shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.

Remember:

- not the only issue for epileptics,
- not only an issue for epileptics

Operable: Skip Links

(o) A method shall be provided that permits users to skip repetitive navigation links.

Most common elements to be skipped:

Headers, sidebars

Operable: Timed Response

(p) When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.

Best Practice:

No unnecessary timed elements

Exceptions: secure login, timed survey for research purposes

POU: Text-Only A

(k) A text-only page, with equivalent information or functionality, shall be provided to make a web site comply with the provisions of this part, when compliance cannot be accomplished in any other way. The content of the text-only page shall be updated whenever the primary page changes.

Federal-only version

POU: Text-Only B

(c) An alternative version page, with equivalent information or functionality, shall be provided to make a web site comply with the provisions of this section, when compliance cannot be accomplished in any other way. The content of the alternative version page shall be updated whenever the primary page changes.

State of Texas version

POU: Scripts

(l) When pages utilize scripting languages to display content, or to create interface elements, the information provided by the script shall be identified with functional text that can be read by assistive technology.

POU: Applets/Plug-Ins

(m) When a web page requires that an applet, plug-in, or other application be present on the client system to interpret page content, the page must provide a link to a plug-in or applet that complies with (ADA Section 508).

POU: Forms

(n) When electronic forms are designed to be completed on-line, the form shall allow people using assistive technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.

What about Robustness?

WCAG 2.0: Content must be robust enough that it can be interpreted reliably by a wide variety of user agents including assistive technologies.

Current technology? Yes

Future technology? Yes

Legacy technology?

When possible

Robust HTML: Syntax Validation

- Separate content (HTML) and formatting (CSS)
- Validate your HTML and CSS and minimize any errors found
- Use unique page titles & element labels
- Follow best web design practices

Robust HTML: WAI-ARIA

- Relatively new standard for accessibility tagging
- Allows much more robust scripting
- Supported by JAWS, NVDA, VoiceOver, ChromeVox
- Increasingly common in third-party visualization tools

Robust HTML: Semantic Validation

- Use elements for their intended purpose
- Organize content so that it makes sense in linear and spatial formats
- Avoid behavior that complicates assistive technology tasks, e.g., popup windows, timed refreshes
- Test your site thoroughly

Robust HTML: Testing Tools

- Section 508 Checklist
- Built-in Accessibility Checkers
- WebAIM & WAVE
- W3C HTML/CSS Validation
- Other Browser Plug-Ins

Questions?