ADA Compliancy for Electronic Communication and Websites

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Overview

• Defining accessibility
• Types of disabilities
• What is the ADA?
• Disabilities and the Web
• Making your site accessible
• It’s the right thing to do!
Defining Accessibility

• Making things usable by people with a disability.
• Disabilities can include issues related to:
  – Vision
  – Hearing
  – Motor skills
  – Cognition
  – Seizure
Accessibility:
Introduction to the Screen Reader

Learn about screen readers (YouTube)
National Numbers

American Disabilities

- 8.1 million have difficulty seeing
- 2 million are blind or unable to see
- 7.6 million experience difficulty hearing
- 31 million have difficulty walking or climbing stairs

57 million people in the United States have disabilities, or 19% of the population.

From: Beyond Complex: How to Keep Up with Changing ADA Regulations (http://www.wearharris.com)
Breaking things down by age

Alabama Disability Prevalence by Age (%)

- 4 and under: 0.6%
- 5 to 15: 6.5%
- 6 to 20: 6.8%
- 21 to 64: 14.7%
- 65 to 74: 32.0%
- 75 and older: 53.4%
By Disability

Alabama Disability Prevalence Rates: All Ages (%)

- Any Disability: 16.2%
- Visual: 3.1%
- Hearing: 4.1%
- Ambulatory: 9.8%
- Cognitive: 6.6%
Understanding the population

- Disabilities are higher among African-Americans and Native Americans
- Disabled workers earn $4000 less working full time
- $20,000 difference in household income
- Twice the poverty rate
Some legislative background

- Architectural Barriers Act of 1968
  Access to federal buildings

- Rehabilitation Act of 1973
  Prohibits discrimination on the basis of disability

- Section 504 of the Rehabilitation Act of 1973
  Prohibits discrimination in programs receiving federal financial assistance

- Section 508 of the Rehabilitation Act of 1973
  Electronic media standards
ADA

- Americans with Disabilities Act (1990)
- Protects civil rights
- Applies to all aspects of public life
- Public places of accommodation
- Geared toward brick-and-mortar world.
- Signed into law about the time the Web starts
Changes to the ADA (1991)

- Title II – State and local government accessibility
- Communication issues focus on telephone services and automated attendant services.
2010 Title II Rule Change

• Moves ADA firmly into the virtual world
• State and local government website accessibility, regardless of federal funding
• Accessible sites are needed for citizens “to participate fully in civic life” (Title II: 2010 Guidance)
• Alternative services should be available the same hours as online services.
Setting Standards

• Section 508 Amendment to the Rehabilitation Act of 1973 (1998)
• Originally guidelines were U.S. specific
• January 2017 US Access Board adopts W3Cs Web Content Accessibility Guidelines 2.0 AA
• New content must meet WCAG 2.0 AA after January 2018.
WCAG 2.0: POUR

- **Perceivable** - Information and user interface components must be presentable to users in ways they can perceive.

- **Operable** - User interface components and navigation must be operable.

- **Understandable** - Information and the operation of user interface must be understandable.

- **Robust** - Content must be robust enough that it can be interpreted reliably by a wide variety of user agents, including assistive technologies.
Website accessibility?

• How usable a site is for a user with a disability
• Tim Berners-Lee: “Access by everyone is an essential aspect.”
• We need to make content available for all our citizens
• Online accessibility, much like brick-and-mortar accessibility can help everyone
• Think curb cuts
When your site isn’t accessible

• 82% of American Internet users have used online government services in the 12 months (2010)
• No or limited access to:
  – Voting information
  – Tax information
  – Government financial information
  – Human resources information
  – Emergency management information
The Internet offers independence

• Computers read text
• Provide captioned video
• Allow people to fill out forms that they might not be able to do by hand
• Poor accessibility forces people to go to an office where they may encounter more barriers
How do we read pages?

Welcome!

Accessible University (AU) is a fictional university, and this is its fictional home page. This page is designed to demonstrate a variety of common web design problems that result in visitors with disabilities being unable to access the content or features of a web page. Although the heading at the top of this section of the page suggests that AU may be a welcoming institution, the inaccessible design of this page sends the opposite message.
Using a web page

When we consume a web page, we

• skim pages
• rely on headings
• look for underlined and colored text to find links
• scan the navigation

Blind users do essentially the same thing!
Low Vision and Colorblindness

Low Vision
• Screen Readers
• Screen magnification tools
• Need for resizable text
• Need for responsive design

Color Blindness
• Color contrast issues
Blindness

• Screen Readers and Braille Devices
• Users who are blind cannot use a mouse
• Images must have alternative text: <img src="logo2.jpg" alt="Accessible City">
• Page structure and linked text quality
• Using color for meaning doesn’t work
Audio Description for Video

The video clip with audio descriptions in the presentation was from the Netflix video series, Daredevil. Audio descriptions provide a narration of what is happening on the screen. To enable audio descriptions in Netflix on a computer, hover over the play bar and select the icon for closed captioning. Under the Audio settings, you should see an option for “English–Audio Description.” Other devices will work similarly. The video clip is not included in the PDF due to copyright restrictions.
Low Vision and Color Blindness

Low Vision
• Need for resizable text
• Need for responsive design

Color Blindness
• Color contrast issues
Simulating a screen reader

**Fangs Screen Reader Emulator**

Fangs renders a text version of a web page similar to how a screen reader would read it. The ambition is to help developers understand how an assistive device would present a website and thereby increase chances of finding accessibility issues early.

🌟🌟🌟🌟 (10) - 3,874 users

**Ecosia — The search engine that plants trees!**

Ecosia is a search engine that donates 80% of its surplus income to planting trees. By searching with Ecosia you can help the environment for free. This extension adds Ecosia.org as the default search engine to your Firefox...
Welcome!
Bienvenido! Accessible Universidad left paren UA right paren es una universidad ficticia, y esta es su página de ficción. Esta página está diseñada para demostrar una variedad de común diseño web que se traducen en problemas de los visitantes con discapacidad no poder acceder al contenido o las características de una página web. Aunque el título en la parte superior de esta sección de la página sugiere que AU puede ser una institución de bienvenida, el diseño inaccesible de esta página envía el mensaje opuesto.

Can you spot the barriers? There are at least eighteen accessibility issues on this page. To see a list of all known issues, click here.

To see a more accessible version of this same page, click here. For a cheat sheet of accessibility issues, click here.

Graphic horizontal line graphic AU Enrollment Trends Table with three columns and five rows: two thousand seven dash eight two thousand eight dash nine CS Eng Eco Phy Psy Spa Total eighty-four one hundred twenty-six forty-three thirty-two one hundred twelve fifty-nine eighty-two one hundred forty forty-five thirty-four one hundred one sixty-four percent Male eighty-nine
Links List & Heading List

Fangs output for: Accessible University Demo Site - Inaccessible Version

**Links list**
- About
- Academics
- Admissions
- Visitors
- AU student wins engineering award for talking robot sign language interpreter.
  - click here
  - click here
  - click here

University of Washington
Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License
Deafness/Hard of Hearing

Assistive Technology

• American Sign Language Interpreter
• Transcripts
• Captions
• Captions help a wide range of people
• 80% of caption users have NO hearing issues (2006)
Mobility Issues

Assistive Technology

• Sip-and-puff controllers
• Mouth and head sticks
• Eye tracking
• Voice recognition

Most devices interact with or emulate a keyboard
Cognition Disabilities

Assistive Devices

– Screen Readers
– Turning off images to limit distractions

Making it Better

– Well structured content
– Consistent navigation
– Progress bars and error detection
– Short forms
– Use plain languages & omit unneeded information
– Stop animations and avoid distracting backgrounds
Seizure Disorders

• Avoid flickering images
• Be careful about optical illusions, particularly those in which lines appear to move
Making your site accessible

It’s not just enough to say, “Make the site accessible.”

1. Set clear policies and guidelines
2. Set clear penalties
3. Anyone adding content needs training and probably a checklist of critical items
Remember:
It just takes one mistake
Fixing your existing site

- Accessibility checks are like proofreading
- You still need to manually check things
- (Automated tools are still pretty cool though)

Accessibility, is the write thing to do!
Welcome to AChecker. This tool checks single HTML pages for conformance with accessibility standards to ensure the content can be accessed by everyone. See the Handbook link to the upper right for more about the Web Accessibility Checker.
1.1 Text Alternatives: Provide text alternatives for any non-text content

Success Criteria 1.1.1 Non-text Content (A)

Check 1: \texttt{img} \texttt{element missing} \texttt{alt} \texttt{attribute}.

\textbf{Repair:} Add an \texttt{alt} attribute to your \texttt{img} element.

- \textit{Line 25, Column 7:}
  \texttt{<img id="logo" src="images/aui23456789.gif" width="441" height="90">}

  \begin{center}
  \textit{Accessible University}
  \end{center}

- \textit{Line 68, Column 15:}
  \texttt{<img src="images/slide1.jpg" />

- \textit{Line 76, Column 15:}
  \texttt{<img src="images/slide2.jpg" />

- \textit{Line 84, Column 15:}
There are also site-wide Tools

Example: SortSite by PowerMapper
Make a plan

Evaluating the site

• Start with automated analysis
• Identify and fix the easiest problems
• Evaluate specific tasks for problems
• Involve people in the testing process
• Be careful about site templates
• Include accessibility in your website style guide
Mistakes are not always obvious
See what I mean?
Major issues to watch for

• Images
• Page structure
• Easy to understand links
• PDFs - Don’t use scanned PDFs
• Move PDF forms to online submission
• When needed offer an HTML and PDF version of a document
What if you get caught?

• Section 504 violations handled through a lawsuit
• Section 508 violations handled by the DOJ
• Vision Technology Solutions estimates around $750,000 over four years including legal fees, required consultants, and required hires
• Does not include the staff time for remediation
• It shouldn’t require a law to make it accessible
• It’s the right thing to do
Resources and products mentioned

• ADA Information Line
  – 800-514-0301 (voice)
  – 800-5124-0383 (TTY)
• ADA.gov
• Section508.gov
• U.S. Access Board
• W3C’s Web Accessibility Initiative
Resources (continued)

- WebAIM
- AChecker
- Alabama Interactive
- PowerMapper/SortSite

- You can listen to a screen reader version of this PDF in Acrobat by using the “Read out Loud” option in the View menu. This option may vary by Acrobat version and operating system.

- Inclusion of companies and products on this list is not an endorsement of services.
Questions

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