De-Puzzling TR & Web Access

2019 FRPA Conference

Slide 1 – Welcome to the 2019 FRPA Conference

Parks and Economics FRPA 2019

Slide 2 – Presenter

Marsha Schwanke, CTRS

Southeast ADA Center , Burton Blatt Institute (BBI) at Syracuse University

Slide 3 – Learning Objectives

- Identify at least two rationale for web access in TR practice and service delivery.

- Describe three common barriers to web access for people with disabilities.

- Summarize three methods to evaluate web access in TR practice and service delivery.

Slide 4 – A Word from Our Sponsors

- Southeast ADA Center   adasoutheast.org

- ADA National Network adata.org

- Burton Blatt Institute at Syracuse University bbi.syr.edu

- National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR) funded by Grant #90DP0090 -01-00

Slide 5 – Keep in mind …

Slide 6 - … technology changes

- Desktop

- Laptop

- Smartphone

- i-Pad

- Smart Watch

- …?

Slide 7 - … not what's trendy "shiny new" or the "look"

Slide 8 – People first and foremost…

Are the heart of the matter!

Slide 9 – Where to start?

Slide 10 – "Basics" *Corners of Web Access

- *Why?

- *Terms

- *Legal

- *WCAG (Web Content Accessibility Guidelines)

Slide 11 – Why? People & Disability

- U.S.   61 million (26%) = 1 in 4
  Source: CDC

- World   + 1 billion (15%)
  Source: World Health Organization

Slide 12 – U.S. Disability Statistics by State

U.S. map with % of state population reporting a disability in four ranges (0 -12%, 12-14%, 14-16%, more than 16%).

- Lowest: Utah 9.9%.

- Highest: W. Va. 19.4%.

- Overall, disabilities most prevalent in the South.

Source: Pew Research Center; U.S. Census Bureau 2015 American Community Survey.

Slide 13 – Why? Aging & Anytime

- Continuum of disability

- Temporarily able-bodied (TAB)

Slide 14 – Why? Web Accessibility

- Increasingly essential in life

- Equal access and equal opportunity

- Basic human right: Convention on Rights of Persons with Disabilities (UN-CRPD)

Slide 15 – Why? Technology & Mobile

- **Internet:** 4 billion (> 1/2 world)

- **Social Media:** 3 billion (9 in 10 use mobile)

- Share of Web Traffic: 52% mobile

- **Mobile phone:** 5 billion (2/3 world)

- Adults with disabilities

  ~ 72% own smartphone   ~ 70% access mobile apps

Source: Global Digital Report (2018) from We Are Social

Slide 16 – Why? Technology by Generation

Four column table: % who own or use smartphone, tablet computer, and social media in each of five generations (Gen Z, Millennial, Gen X, Boomer, Silent)

- Smartphone
  - 98% Gen Z (born 1996 and after)
  - 92% Millennial (born 1981-95)
  - 85% Gen X (born 1965-80)
  - 67% Boomer (born 1946-64)
  - 30% Silent (born before 1945)
- Tablet Computer
  - 23% Gen Z (born 1996 and after)
  - 54% Millennial (born 1981-95)
  - 64% Gen X (born 1965-80)
  - 52% Boomer (born 1946-64)
  - 25% Silent (born before 1945)
- Social Media
  - 97%   Gen Z (born 1996 and after)
  - 85% Millennial (born 1981-95)
  - 75% Gen X (born 1965-80)
  - 57% Boomer (born 1946-64)
  - 23% Silent (born before 1945)

Source: Pew Research Center, 2018

Slide 17 – Why? Social Media

Three column table: Top five social media, % Adults, % Young Adults.(Number in parentheses is rank of social media for that group.)

Social Media: % Adults (Rank); %Young Adults (Rank)

- YouTube: 73% (1); 94% (1)

- Facebook: 68% (2); 51% (4)

- Instagram: 35% (3); 71% (3)

- Snapchat: 27% (4); 78% (2)

- Twitter: 24% (5); 45% (5)

Source: Pew Research Center, 2018

Slide 18 – Power of the Web

"… is in its universality.   Access by everyone, regardless of disability, technology, or environment is an essential, integral aspect of life."

Source: Tim Berners-Lee, W3C Director, Inventor of Web

Slide 19 – Why? Business Case

- Essential for some, useful for all

- Positive, free publicity

- Socially responsible

- Easier to manage & use

    - Standards compliant

    - Improved compatibility

- Avoid potential litigation

- Save $$: less time, cost, stress vs. retrofit

Slide 20 – Why? Improves Search (SEO)

"Google is, for all intents, a billionaire blind user with tens of millions of friends, all of whom hang on his every word."   - Karsten M. Self

Source: Steve Pemberton (2005)

Slide 21 – On the Same Terms

Slide 22 – I T

Information Technology

- Any technology that stores or processes information.

    – Hardware and software

    – Web pages

    – Word, PowerPoint, PDF files

    – Email

    – Social media

Slide 23 –   I C T

Information & Communication Technology

E I T   Electronic & Information Technology

Slide 24 – C M S

Content Management System

A software tool that allows you to create, edit, and publish content.

W Y S I W Y G   What You See Is What You Get

Slide 25 – U R L

Uniform Resource Locator ("web address")

Slide 26 – A T

Assistive Technology

"any item, piece of equipment, software program, or product system, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities"

Not: medical device surgically implanted, or the replacement of such device.

Slide 27 – A I T

Accessible Information Technology

- In principle, "how the technology is built" -- users are able to interact with the technology in ways that best work for them.

- Compatible with assistive technology (AT).

- May include flexible features or "built-in accessibility" to assist people with disabilities.

Slide 28 – U D

Universal Design   Also: Design for All, Lifespan Design

- Principles:

    – Equitable Use

    – Flexibility in Use

    – Simple and Intuitive

Slide 29 – Usability

- Efficiency with which user can perform required tasks with a product, i.e. website.

- Measure and design of a user experience that is:

    – Effective, Efficient, Satisfying, and

    – Inclusive of more people in more situations.

Source: Understanding Web Accessibility, S. Henry

Slide 30 – a 11 y

short version of accessibility

#a11y

Slide 31 – WCAG: Web Content Accessibility Guidelines

- Four **"P O U R"** principles (**P**erceivable, **O**perable, **U**nderstandable, **R**obust)

- Guidelines

- Success criteria and techniques

- Three **compliance levels** (A, AA, AAA)

[W3C Web Accessibility Initiative (WAI)](#) www.w3c.org/WAI

Slide 32 – Applying WCAG

- WCAG [Quick Reference Guide](#)

- [How WCAG Apply to Mobile](#)

- [WebAIM WCAG 2 Checklist](#) webaim.org/standards/wcag/checklist

Slide 33 – WCAG 2.1

- **June 2018**: extends WCAG 2.0 (from 2008)

  - +1 guideline. +17 success criteria

- Primarily touch inputs

- More:

  - mobile devices

  - speech recognition software

  - people with low vision and with cognitive disabilities

[What's New in WCAG 2.1](#)

w3.org/WAI/standards-guidelines/wcag/

Slide 34 – Laws and Web Accessibility

- Federal Law

  – Americans with Disabilities Act (ADA)

  – Section 504

  – Section 508 Refresh

  – Air Carrier Access Act (ACAA)

  – Twenty-First Century Communications and Video Accessibility Act (CVAA)

- State Law

Slide 35 – Americans with Disabilities Act (ADA)

- Passed in 1990 before Internet BUT ...

  – non-discrimination requirements

  – effective communication

  – equal access

  – equal opportunity

Slide 36 – Five Titles of the ADA

Title I   Employment Protections

Title II   Public Entities and Transportation   (State and Local Governments)

Title III   Places of Public Accommodation and Commercial Facilities
(Private Business)

Title IV   Telecommunications

Title V   Technical Provisions

Slide 37 – Section 504

- Prohibits discrimination of individuals with disabilities under programs or activities of the federal government

- And those receiving federal financial assistance, such as:

    – State and local governments

    – Institutions of higher education

    – Public school systems

Slide 38 – Section 508

- Requires electronic and information technology to be accessible to people with disabilities.

- Applies to **federal government** and their vendors

- Adopted into some state laws and policies.

- Adopted for **accessibility compliance** by many educational institutions, companies, organizations, and other entities.

    – Initially based on WCAG.

Slide 39 – Section 508 Refresh

- Published by U.S. Access Board

    – Final Rule effective March 20, 2017

    – Deadline for compliance: **January 18, 2018**

- Updates Section 508 in function-based approach

- Broad application of WCAG 2.0 Level A and AA

    – web content

    – covered non-Web documents

    – software user interfaces

U.S. Access Board   www.access-board.gov

Slide 40 – Florida State Law

Sections 282.601 - 282.606, Florida Statutes, known as the Florida Accessible Electronic and Information Technology Act

Web: leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=Ch0282/PART03.HTM

State of Florida Accessibility Statement

- " While these standards currently apply to federal government, it is the direct responsibility of Florida state government agencies and their Web designers and developers to become familiar with these accessibility guidelines and to apply these principles in designing and creating any official State of Florida website.

- All Florida State Government websites must comply with Section 508 to ensure the widest possible audience easy access to government information. These standards are based on access guidelines developed by the Web Accessibility Initiative of the World Wide Web Consortium (W3C)."

Web: myflorida.com/myflorida/accessibility.html

Slide 41 – Web Standards & ADA

- **1990:** None as ADA passed before Internet.

- **2010:** DOJ starts rulemaking process for new regulations on websites: public accommodations, state and local governments.

- **July 2017:** DOJ guidance for web access "inactive list."

- **December 26, 2017:** all pending ADA rulemakings, including web access rules officially withdrawn.

Slide 42 – Court Cases & "Surf-By" Lawsuits

- Varying outcomes across state and federal courts

– **Nexus** between physical location and website.

– **WCAG** often used or referenced as the standard**.**

ADA Title III News & Highlights   adatitleiii.com

Accessibility Laws, Regulations & Legal Updates   lflegal.com

Slide 43– Cases of Note

- Gil v. Winn-Dixie (June 2017, on appeal)
  First to trial under **ADA** on web access, place of public accommodation, not "undue burden," must WCAG 2.0

- DOT & Airline SAS (Nov. 2018)
  Provision of accessible alternative website violates **ACAA**: "all airlines make all web pages on their *primary* websites accessible by 12/12/2016"

Slide 44 – Cases of Note (continued)

- Almeda County CA - Voting (Nov. 2018)
  First accessibility agreement in U.S. to use **WCAG 2.1**: reached with structured negotiation

- Robles v. Domino's Pizza (Jan. 2019)
  Appeals court reversed, issued opinion: ADA covers websites and mobile application; Rejected 'no regulations under ADA specific to web access'

- State of CA (Dept. of Parks and Recreation) v. Xerox/Conduent (July 2019, updated)
  State-wide park reservation system website, per the contract, is required to be accessible; after website delivered and rolled out, find inaccessible. Lawsuit filed against the vendor to fix and get money back.

Slide 45 – DOJ Confirms Websites Covered by ADA

- *"…* goods, services, privileges, or activities provided by places of public accommodation be equally accessible to people with disabilities.

- "…the absence of a specific regulation does not serve as a basis for noncompliance with a statute's requirements. "

- "…comply with ADA's general requirements of nondiscrimination and effective communication."

Web: PEATworks.org/blog/

Slide 46 – Accessibility Statement & Policy

- Best practice: footer link ("Accessibility") to webpage.

- Why?

  - Show care and commitment to accessibility and users.

  - Provide information on accessibility of content and contact.

- Resources

  - [Developing an Accessibility Statement](#)

  - [Generate an Accessibility Statement](#)

  - [Developing Organizational Policies on Web Accessibility](#)

Web: w3.org/WAI/planning/

Slide 47 – "Background"
User Experience & Perspectives Frame Access

- Blind / Visual

- Learning/Dyslexia

- Deaf / Hard of Hearing

- Cognitive

- Physical/Dexterity

- Environment

- Technology

- Aging

Slide 48 – Disability?

- How do you know she has a disability?

  – Picture: Woman sitting in a chair at a desk with two laptop computers, cell phone, camera on tripod, various books.

- Video [YouTube, 6:13 min.]: Accessibility at Work: Christine Ha

  – How people who are blind email, tweet, and blog (excerpt)
    Web: youtube.com/watch?v=LAgB2P2NH4Q

Source: PEAT: Get Started: Why Accessible Technology Matters
    www.peatworks.org/content/get-started

Slide 49 – Disability and the Web

- "Hidden" – especially over the Web

- Environment

- Technology

- Attitudes -- **People first!**

- Different experience for each person

- Access in different ways by different disabilities

Slide 50 – Get to Know: My Web Access

- Blind and Deaf-Blind

- Low Vision and Visual Perceptual

- Physical/Dexterity

- Learning Disabilities/Dyslexia

- Cognitive Disabilities/Traumatic Brain Injury (TBI)

- Deaf and Hard of Hearing

Slide 51 – Through My Eyes

Simulation: webpage viewed by one form of 20/200 vision, which is the definition of "legally blind". None of the words are visible and the structure of the webpage no longer appears obvious.

Slide 52 – Web Access: Blind & Deaf-Blind

- Users "see" content through screen reader or Braille display/refreshable

- May navigate by:

  – Keyboard only, no mouse

  – List of headings and links

  – Page sections and other page elements

- Often listen to content at very fast reading rate.

Slide 53 – How Screen Reader Works

- Software "reads" text in webpage code (mark -up) and translates into speech

- Examples:

  – Stand-alone: JAWS, NVDA

  – "Built in": VoiceOver (Mac), Narrator (Windows)

- HyperText Markup Language (HTML)

  – Programming language is basis of web pages.

  – Web browsers interpret to display web pages.

Slide 54 – Behind the Webpage

- Bottom: Logo circled in header of ADA National Network website (www.adata.org)

- Top: The HTML code behind the visual display of the logo, including the source (src) of the image file and the alt-text (alt) of the image.
  <img src=" banner_ada_logo.png" alt="ADA">

Slide 55 – In Action: Voice Recognition & Text to Speech

- [Video: Web Accessibility Perspectives: Voice Recognition [YouTube, 1:10 min.]](youtube.com/watch?v=7RHG_XiQ0ck)
  Web: youtube.com/watch?v=7RHG_XiQ0ck

- [Video: Web Accessibility Perspectives: Text to Speech [YouTube, 53 sec.]](youtube.com/watch?v=8Rn5pXCdZWU)
  Web: youtube.com/watch?v=8Rn5pXCdZWU

Source: W3C WAI Web Accessibility Fundamentals – Perspectives Videos

https://www.w3.org/WAI/perspective-videos/

Slide 56 – Through My Eyes…Color Blindness

- Most common: red-green

- More common men (8%) vs. women (0.5%)

- Affects 1 in 10 people

- Simulation: Push the green button to start. Three buttons are displayed in varying shades of gray.

Slide 57 – Through My Eyes…Macular Degeneration

Simulation:

- Macular Degeneration (left):   The whole picture is blurry and the faces of the boys are blocked out.

- Normal vision (right) Two boys sitting next to each other. Each boy is holding a ball (left: yellow with red swirls; right: soccer ball - white with red pentagons)

Source: National Eye Institute

Slide 58 – Through My Eyes … Diabetic Neuropathy

Simulation:

- Diabetic Neuropathy (left):   The whole picture is blurry with various areas blacked out.

- Normal vision (right) Two boys sitting next to each other. Each boy is holding a ball (left: yellow with red swirls; right: soccer ball - white with red pentagons)

Largest single cause of visual impairment among those of working class.

Source: National Eye Institute

Slide 59 – Through My Eyes… Tunnel Vision

Simulation:

- Tunnel Vision (left):   Like looking through a straw. Except for a small circle, the whole picture is totally blacked out.

- Normal vision (right) Two boys sitting next to each other. Each boy is holding a ball (left: yellow with red swirls; right: soccer ball - white with red pentagons)

Often makes it possible to read small print but not large print.

   Source: National Eye Institute

Slide 60 – Through My Eyes … Glaucoma

Simulation:

- Glaucoma (left):   Except for a small area, the picture is gradually grayed and blacked out.

- Normal vision (right) Two boys sitting next to each other. Each boy is holding a ball (left: yellow with red swirls; right: soccer ball - white with red pentagons)

Leading cause of irreversible blindness worldwide

> 2.7 million age 40+ in U.S.

Source: National Eye Institute

Slide 61 – Through My Eyes...Myopia

Simulation:

- Myopia (left):   The picture is overall fuzzy, blurry.

- Normal vision (right) Two boys sitting next to each other. Each boy is holding a ball (left: yellow with red swirls; right: soccer ball - white with red pentagons)

Source: National Eye Institute

Slide 62 – Aging Vision

Simulation:
Computer system window as seen with aging vision with various colored buttons.

- Dimming, yellowing typical of aging vision, plus some glare from a mild cataract. Note that color-related information is gone.

- If the green and the blue and the red have meaning, they can't be detected at all at this level of vision.

Slide 63 – Web Access: Low Vision & Visual Perceptual

May use:

- Magnification in general.

- Adjust colors and/or contrast.

- Alternate format of materials.

- "Built-in" features for font-size, etc.

Slide 64 – Cascading Style Sheet (CSS)

- Holds website "look and feel"

    – Separates content from presentation.

- Users may turn off or apply own style sheets

    – Allows flexibility to user (color, size, font, screen)

Slide 65 – Web Access: Physical/Dexterity

May use:

- Voice-activation

- Pointers

- Keyboards

- Switches

- Eye-gazing

- Trackballs

- Touch pads

Slide 66 – Physical/Dexterity in Action

- Video [YouTube, 2:43 min.]: Inclusion inspires innovation
  youtu.be/zQTite7wzxM

Source: PEAT: Get Started: Why Accessible Technology Matters
         peatworks.org/content/get-started

Slide 67 – Web Access: Learning, Cognitive

May:

- Focus on images, symbols, icons

- Use speech to text

- Need increased time and easier language

Slide 68 – What is the User Experience?

Aoccdrnig to a rscheearchr at Cmabrigde Uinervtisy, it deosn't mttaer in waht oredr the ltteers in a wrod are, the olny iprmoetnt tihng is taht the frist and lsat ltteer be at the rghit pclae. The rset can be a tatol mses and you can sitll raed it wouthit porbeslm. Tihs is bcuseae the huamn mnid deos not raed ervey lteter by istlef, but the wrod as a wlohe. Amzanig huh!

Slide 69– Web Access: Deaf/Hard of Hearing

- Reliant upon textual element or visual indicator for any audio or sound

- May use sign language

- Benefits adjustable volume and captioning of video and multimedia

- Video [YouTube, 1 min.]: **Hearing Loss Simulator**
  Web: youtube.com/watch?v=_jpe0_v2nAc

Slide 70– Unfair Hearing Test

- 5 words each preceded by a number:

  – Heard by person with hearing loss.

  – Heard by person with normal hearing.

Source: YouTube - Success for Kids with Hearing Loss

Slide 71 – Words of Unfair Hearing Test

1.

2.

3.

4.

5.

Slide 72 – "Barriers" in Content & Information

- Images

- Links

- Color & Contrast

- Audio & Video

- Order & Structure

- Navigation

- Forms & Login

- Writing for the Web

Slide 73 – More Than the Web

- Word documents

- Excel files

- PowerPoint files

- PDF files

- Stay Connected (social media)

  – Facebook

  – Twitter

  – LinkedIn

  – Pinterest

  – YouTube

  – Email

Slide 74 – Passing the Test

- [WAVE](#) Free validation toolwave.webaim.org

- [W3C Web Accessibility Evaluation Tools List](#)   w3.org/WAI/test-evaluate/tools/

- Built-in Tools" check accessibility"(i.e. MS office, PDF, etc.)

Slide 75– Keep in Mind for Testing

- Tools good start but can't do EVERYTHING.

  – Results: False + and false -

- Always need to apply human judgment, manual review, and user feedback.

- Research showed testing with users may uncover 45% more accessibility problems than testing with tools alone.

Slide 76 – Test: One Size Fits All

- View in different screen sizes and devices.

- Adjust size of web browser window.

- Adjust font size in the web browser to 150%-200%

  – [How to Change Text Size](#)

- Check readability of content/text.

- Keyboard access: unplug mouse & "Run a Tab"

Slide 77 – Images

Alternative-text (alt-text) is required.

- Short, equivalent content and function in context.

- Read by screen readers or displayed if image unavailable due to disability, technology, environment

- Screenshot: Header image for Federal Concepts Module with arrow pointed to "alt-text" of this image - Federal Court Concepts

Slide 78 – Images: No alt-text = no understanding

- Without alt-text, the filename of image (i.e. kwajex.gif) or embedded image is displayed (i.e. inline, inline, inline, link, inline)

Slide 79 – Images: Decorative/No information

Null/Empty/Blank   alt-text

- Decorative, spacer, background & bullet images

- If image repeats surrounding text or the link text.

Bad (X):   alt= "Image of"   alt= "right green corner"

alt= "Picture of"   alt= "Link to"   alt= "Information"   Information

- In Microsoft Office products:

    – On Alt-text tab, checkbox "Mark as decorative

    – Generate a description for you

Slide 80 – Images: Decorative/No information

Null/Empty/Blank   alt-text

- Set so voice-enabled technology ignores (Note: no space between "")

Good (checkmark):   alt= ""

- In Microsoft Office products:

    – On Alt-text tab, checkbox "Mark as decorative"

    – Avoid "Generate a description for me"

    Man wearing a suit and tie

    Description automatically generated

    [Note: The man in the image is not wearing a tie nor a suit.]

Slide 81 – Testing Images

- Use validation tool: WAVE

no alt-text   alt-text   null alt-text

Slide 82– Practice 1: Alt Text for Image

What alt-text would you provide for these images?

Slide 83 – Practice 2: Alt Text for Image

What alt-text would you provide for these images?

Slide 84 – Practice 3: Alt Text for Image

What alt-text would you provide for this image?

Slide 85 – Links are Web's #1 interaction

- Violating common expectations for how links work is a sure way to confuse and delay users, and prevent them from being able to use your site.

- Life is too short to click on an unknown.   Tell people where they're going and what they'll find at the other end of the link.

Source: Jakob Nielsen (2005)

Slide 86 – Navigation: Hearing vs. Seeing

- Screen readers

    o Get Information

    o In Order of Code

    o And

    o By Navigating

    o Headings

    o Or Links

    o In a Page.

- Visual Eye Tracking Example: Yahoo Answers webpage

Slide 87 – How Links are Identified

- Visually scanned and recognized in content by underline.

- Screen reader - List of links

- Which link goes to the new training form?

  Click here

  More

  Document

  Here

  Download

Slide 88 – Make Links Distinct and Information

- Provide **distinct link text**   so makes sense if read out of context on its own

  – Avoid web address/URL as the link

  – Shorten URL (i.e. TinyURL)

- Inform user if opening new window.

- Identify file type and/or size in link text to non-web files (plus provide link to download software).

PRACTICE: Make link to registration form, a PDF file.

Slide 89 – Skip Links

- Permits users to skip repetitive navigation links and directly access the content.

- Helps users of screen readers, low vision, small screen devices, and keyboard-only access

- This link may be visible always or displayed by action

  – Example: WebAIM website   www.webaim.org

Slide 90 – Test Navigation: WAVE tool

- Outline view (headings) and Skip link
- Screenshot: Results of WAVE tool for ADA National Network webpage

Slide 91 – Color and Contrast

- Use contrast between text and background.
- Examples:
  - Very Low Contrast (bright green text on green background)
  - Low Contrast (purple text on dark gray background)
  - Good Contrast (brown text on light gray background)
  - High Contrast (bright yellow text on black background)

Slide 92 – Color and Contrast: Backgrounds

- Avoid distracting and watermark backgrounds.
- Example: Read this against a highly-colored rainbow psychedelic background. (The text is white.)

Slide 93 – Test Contrast: WAVE tool

Screenshot: Results of WAVE tool for ADA National Network webpage

Slide 94 – Test Color: WAVE tool

Under Contrast, select link to "Desaturate page"

Screenshot: Results of WAVE tool for ADA National Network webpage

Slide 95 – Test Color

- [Coblis Color Blindness Simulator](#)   color-blindness.com

- [Colorblind Web Page Filter](#)   toptal.com/designers/colorfilter/

- Built-in tools, i.e. Photoshop

- Original image: U.S. map showing states covered by each of the 11 U.S. Circuit Courts

  - Image viewed with Blue/Yellow Color Blindness

  - Image viewed with Red/Green Color Blindness

Slide 96 – Convey with More Than Color

- Use color to highlight, set focus, and aesthetics.

- Ensure color alone not required to understand content and separate from navigation.

  Bad: Information in **red** is required.

  Good: ****Required information**

[Link Contrast Checker](#)
webaim.org/resources/linkcontrastchecker/

[Colorzilla](#)
colorzilla.com/firefox/

Slide 97– Forms & Log-ins

- Forms entry fields need to be labeled correctly.

- User can move from one field to next in right order.

Example: Participant Information form. Required fields in red and have asterisk. Seven entry fields.

Slide 98 – Forms & Log-ins: CAPTCHA

- Completely Automated Public Test to tell Computers and Humans Apart – remains most problematic

- Types: image, word, audio, logic ?s, challenge

- Examples of CAPTCHA

  - reCAPTCHA

  - Audio Verification

  - Image with distorted letters

  - Word Verification (text)

Slide 99 – Test Forms: WAVE tool

Screenshot: Results of WAVE tool for ADA National Network webpage

Slide 100 – Videos & Multimedia

- Captioning: Closed (CC) - Open - Real time

  – [Video [YouTube, 7:13 min.] How sign language innovators are bringing music to the deaf](). Web: youtube.com/watch?v=EuD2iNVMS_4

- Audio description (AD)

  – [Video [YouTube, 1:42 min.] Accessibility & Sady with audio description](). Web: https://www.youtube.com/watch?v=u06u-LqFk6k

- Tools

  – [CADET (Caption and Description Editing Tool)]() ncamftp.wgbh.org/cadet/

  – [YouDescribe]()   youdescribe.org

  – [YouTube Captions and Translation]() support.google.com/youtube/topic/3014331

Slide 101 – Tips & Tools: Video & Multimedia

- Check accessibility of player.

- Review captions.

- Check captioning box not overlap text on screen.

- Videos and live audio must have captions and a transcript.

- A transcript is sufficient for archived audio.

- Captions should be synchronized, equivalent, and accessible.

Slide 102 – Writing for Web

- Different than paper; each page independent.

    – Reading computer screens 25% slower vs. paper. -- Trenton Moss (2004)

- Concise "quick-scan" structured chunks.

    – 50 milliseconds to make a good first impression. -- Lindgaard, et. al (2006)

- Enter document properties (title,subject,author)

    – Used when bookmark webpage.

    – First read by screen reader.

    – First contact for search engine.

Slide 103 – Writing for Web: Headings

- Use to hierarchically organize content.

- Users often read only first 3-4 words of headline.

- Keep short (< 20 words or one line).

- Required use for web accessibility.

- Helps users navigate content by headings.

Slide 104 – Format with Styles Pane and Tools

- Headings/Content   (Word)

    – Styles Pane in Microsoft Word.

- Lists (Word, Excel, PPT)

    – List icons in toolbar of Microsoft Word, Excel, PowerPoint

Slide 105 – Writing for Web: Font and Format

- Define acronyms and abbreviations first instance.

- Avoid ALL CAPS "shouting"

  – Reduces reading speed by 10%.

- Large print: **> 18 pt.** (when bold); or 24 pt. (regular)

- Fonts

  – Avoid serif, script, and *italics* as Hard To Read

  – Use sans-serif fonts: i.e. Arial, Helvetica, Verdana

Slide 106 – Plain Language

- Use the clearest and simplest language appropriate for a site's content.

- Keep it simple and standard – K.I.S.S. Principle

- Plain Language Guidelines
  www.plainlanguage.gov

Slide 107– PowerPoint Tips

- Reading Order

  1. Select the Arrange icon.

  2. Open the Selection Pane.

  3. View reading order of elements in slide from bottom to top.

- Alt Text

  1. In the Format Picture tab and Alt Text tab, add "alt-text" for images.

  2. Under Alt-Text, also a checkbox can select if image is decorative.

Slide 108 – PDF Tips

- Start with accessible source document.

- Check reading order in Pages and Order panes

- Check proper tag use in Tags pane.

- Touch Up Reading Order in Tag tree

  – Set artifacts to be "ignored"

- Check tab order.

Slide 109 – Email Tips

- Use a larger font size (11pt or larger), sans serif fonts, and sufficient white space.

- Left align copy and can zoom-in to 200%

- Line spacing at least half the height of text, and paragraph spacing 1.5 times the height of text.

- Make your email subject lines descriptive.

- Use built-in functions and tools.

Slide 110 – Social Media Tips

- Don't use text in banner art

- Links near end message

- Hashtags: after link; use CamelCase

Toolkit: Improving the Accessibility of Social Media in Government
digital.gov/resources/

Slide 111 – Web Accessibility = Equal Opportunity

An Accessible Website Provides Equal Opportunity for Everyone to:

– Get Information, Learn, Work, Communicate

Slide 112 – Challenge to You …

- Accessibility, usability, and aesthetics go hand in hand.

- Think outside of the box.

- Remember no pat "cookie-cutting" recipe or tools for ensuring success.

Slide 113 – At the end of the day, comes down to…

— a real person who needs access —

Slide 114 – Piece by Piece …

- **"Basics"** concepts: 4 corner pieces (purple background, asterisk before text);

- **"Background"** user experience: 12 edge pieces (green background, bold text);

- **"Barriers"** in content: 8 middle pieces (white background, icon after text)

Slide 115 –You can solve the puzzle of web accessibility

24-piece puzzle (6 across by 4 down) breaking down Web Accessibility into 3 parts.

1. **"Basics"** concepts (4 corner pieces – purple background with asterisk before larger bold text) – Why? Terms, Legal, WCAG;

2. **"Background"** user experience (12 edge pieces – green background, bold text) – Blind, Visual, Learning, Color Blindness, Deaf, Cognitive, Hard of Hearing, Physical/Dexterity, Environment, Aging, Technology, Attitudes;

3. **"Barriers"** in content & information (8 middle pieces – white background with icon after text) – Images, Color & Contrast, Links, Audio & Video, Order & Structure, Navigation, Forms * Login, Writing.

Slide 116 – Resources

- [Links & Archive: Web Accessibility in a Nutshell](#)
  Source: ADA Live! program & podcast
  Web: adalive.org/episode65

- [W3C Web Accessibility Initiative (WAI)](#)
  Source: World Wide Web Consortium (W3C)
  Web: w3.org/WAI/

- [Accessibility in the News e-Newsletter](#)
  Source: MicroAssist
  Web: microassist.com/digital-access/news/

Slide 117 – Disclaimer

The Southeast ADA Center is authorized by the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR) to provide information, materials, and technical assistance to individuals and entities that are covered by the Americans with Disabilities Act (ADA) under Grant # #90DP0090-01-00.   However, you should be aware that NIDILRR is not responsible for enforcement of the ADA.   For more information or assistance, please contact the Southeast ADA Center via its website at [ADAsoutheast.org](#)   or by calling 1-800-949-4232 or 404-541-9001.

The information, materials, and/or technical assistance are intended solely as informal guidance, and are neither a determination of your legal rights or responsibilities under the Act, nor binding on any agency with enforcement responsibility under the ADA. The Southeast ADA Center does not warrant the accuracy of any information contained herein.   Any links to non-Southeast ADA Center information are provided as a courtesy and are not intended to nor do they constitute an endorsement of the linked materials.

Slide 118 – Contact

Marsha Schwanke, CTRS

Southeast ADA Center

Phone: 404-541-9001

Web: adasoutheast.org

Email: adasoutheast@law.syr.edu

ADA National Network

Phone: 800-949-4232
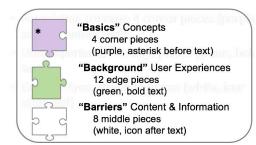
Web: adata.org

Slide 119 – FRPA

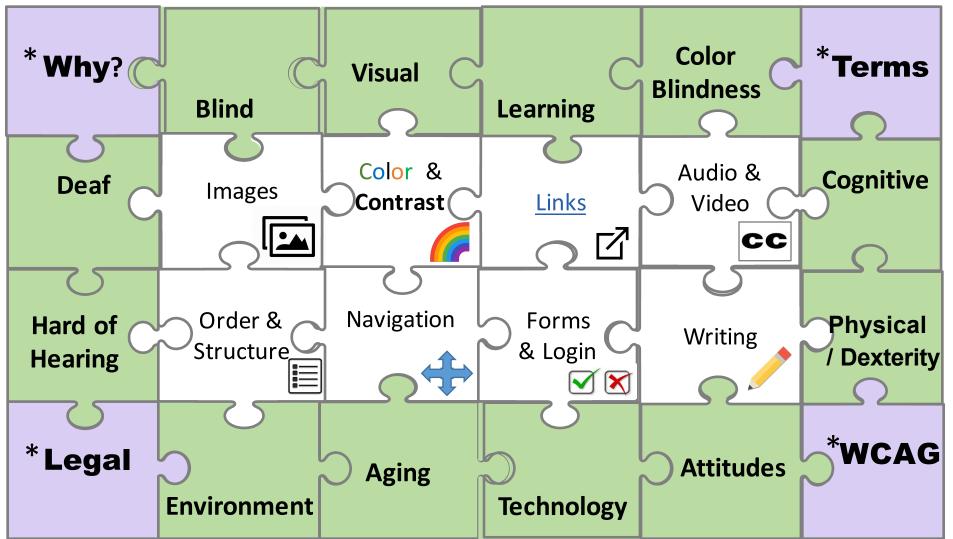Florida Recreation & Park Association

Parks and Economics FRPA 2019

For more information about the Florida Recreation and Park Association,

Visit FRPA.org

De-Puzzling Digital Accessibility

"Basics" Concepts
4 corner pieces
(purple, asterisk before text)

"Background" User Experiences
12 edge pieces
(green, bold text)

"Barriers" Content & Information
8 middle pieces
(white, icon after text)

*__Why?__	**Blind**	**Visual**	**Learning**	**Color Blindness** / *__Terms__
Deaf	Images	Color & **Contrast**	Links	Audio & Video / **Cognitive**
Hard of Hearing	Order & Structure	Navigation	Forms & Login	Writing / **Physical / Dexterity**
*__Legal__	**Environment**	**Aging**	**Technology**	**Attitudes** / *__WCAG__