Accessibility for Everyone

Beth Tucker Long

Beth Tucker Long

- PHP Developer
- Stay-at-homeMom
- User Group Leader
- OSMI volunteer





WHAT'S ACCESSIBILITY?

What's Accessibility?

The measure of a web page's usability by persons with one or more disabilities.

--Usability.gov https://www.usability.gov/what-and-why/glossary/accessibility.html

What's Accessibility?

- Improving your usability
- Following government mandates
- Improve customer satisfaction
- Increase customer diversity
- Be fair

Widening your audience

How much bigger?

The United Nations estimates:

 10% of the world's population has a disability

http://www.un.org/en/sections/issues-depth/persons-disabilities/index.html

All Age Issue

Regardless of age, disabled Americans are adopting tech at lower rates

% of U.S. adults who say they have ...

	Ages 65+			Ages 18-64		
	Any disability	No disability	Diff	Any disability	No disability	Diff
Desktop/laptop computer	50	66	-16	67	84	-17
Smartphone	32	45	-13	70	87	-17
Home broadband	36	57	-21	66	80	-14
Tablet	21	36	-15	44	57	-13

Source: Survey conducted Sept. 29-Nov. 6, 2016.

PEW RESEARCH CENTER

http://www.pewresearch.org/fact-tank/2017/04/07/disabled-americans-are-less-likely-to-use-technology/

Main Areas of Difficulty

- Vision
- Mobility
- Hearing

Colorblindness

http://www.colourblindawareness.org/colour-blindness/

Vision Impairment

http://www.who.int/news-room/fact-sheets/detail/blindness-and-visual-impairment

Mobility

Movement

https://ftp.cdc.gov/pub/Health_Statistics/NCHS/NHIS/SHS/2016_SHS_Table_A-10.pdf

Hearing

Hearing Trouble

https://www.cdc.gov/nchs/fastats/disability.htm

Need More to Sell This?

 It's not just for people with disabilities.

 http://www.pewresearch.org/fact-tank/2017/12/12/nearly-half-of-americansuse-digital-voice-assistants-mostly-on-their-smartphones/

WHAT CAN WE DO?

Vision - Color

_ast Name *	
Tucker Long	
Address Line 2	
tate *	
	•
ountry *	
United States	•
	Sign Me Up

Last Name *	
Tucker Long	
Address Line 2	
State *	
	▼
Country *	
United States	▼
	Sign Me Up

• Here is some text that does not have high enough contrast.

• Here is some text that does not have high enough contrast.

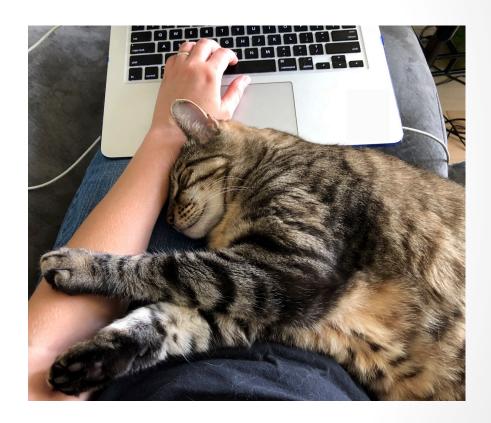
• High contrast is important.

• Here is some text that does not have high enough contrast.

• High contrast is important.

High contrast makes a difference.

This is really important text on my site. You need to be able to read all of it, so make sure you can. This is really important text on my site. You need to be able to read all of it, so make sure you can. This is really important text on my site. You need to be able to read all of it, so make sure you can.



This is really important ext composite. You need to be able to read all of it, so make sure you can. This is really important text on my site. You need to be able to read all of it so make sure you can. This is really important text on my site. You need to be able to read all of it



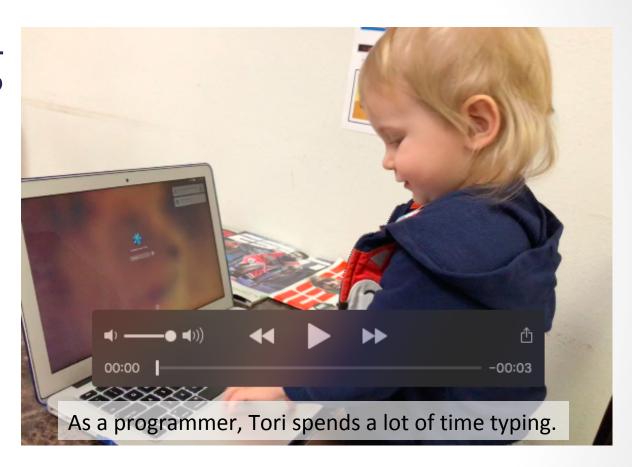
This is the great description of my website. You can click here to get to some great content or you could click here to get to our newsletter or you could click here to send us an email.

- 1. Enter your name. 2. Enter your email.
- 3. Click Continue. 4. Choose an item.
- 5. Click Select Item. 6. Choose the color.
- 7. Click Select Color. 8. Enter payment info.

Mobility

First Name *	Last Name *			
Beth	Tucker Long	Tucker Long		
Address Line 1 *	Address Line 2			
123 Street Boulevard				
City *	State *			
That Place	Select a State			
Zip *	Country *			
12345	United States	•		
Special Shipping Instructions?				
	Clear Form	Sian Me Un		

Hearing



TESTING

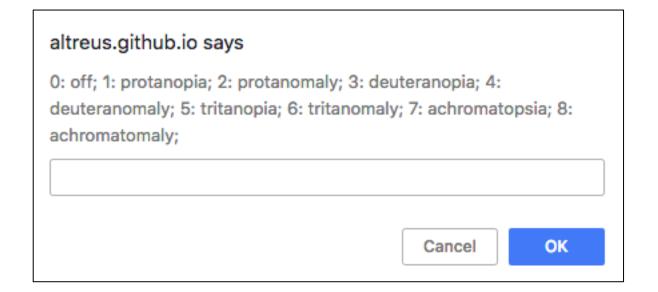
- Enlarge your fonts
- Turn down your screen brightness
- Adjust the color saturation on your screen
- Disable your stylesheets

Turn your monitor around and use

VoiceOver https://help.apple.com/voiceover/info/guide/

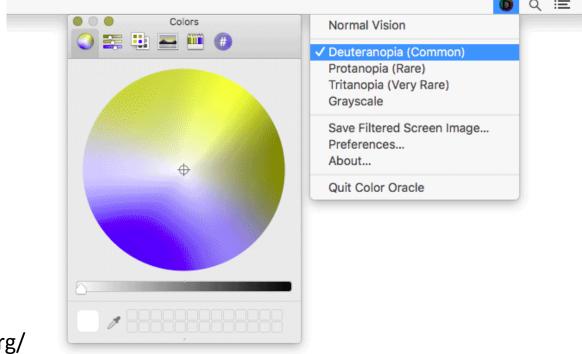
Narrator https://support.microsoft.com/en-us/help/17173/ windows-10-hear-text-read-aloud

Simulate Colorblindness



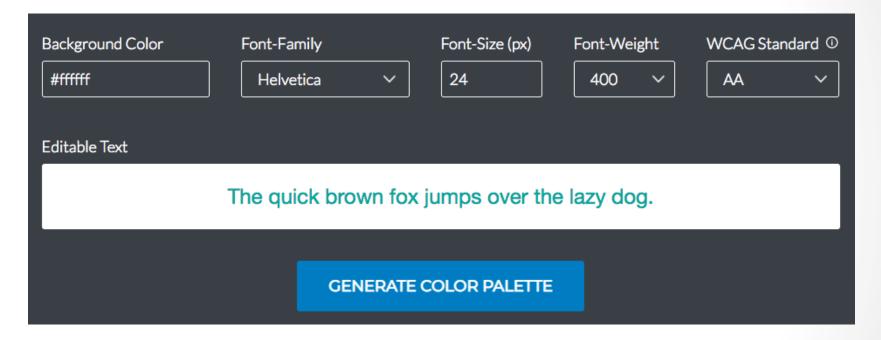
Colour Blind https://github.com/Altreus/colourblind

Simulate Colorblindness



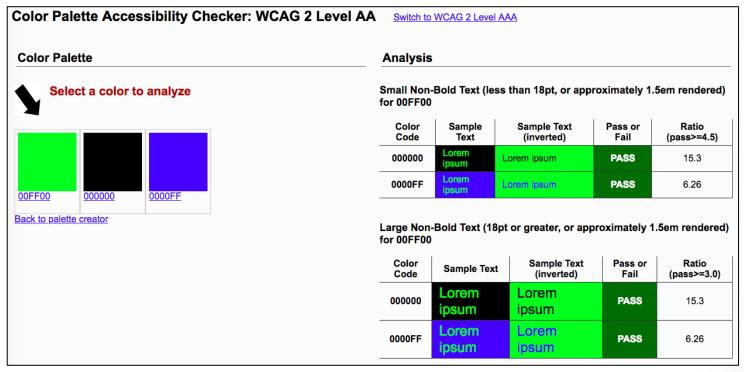
Color Oracle http://colororacle.org/

Generate a Color Palette



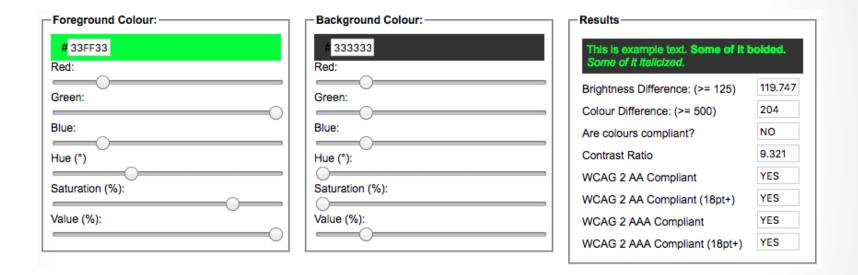
http://colorsafe.co/

Color Palette Accessibility Evaluator



https://accessibility.oit.ncsu.edu/tools/color-contrast/

Snook.ca Color Contrast Check



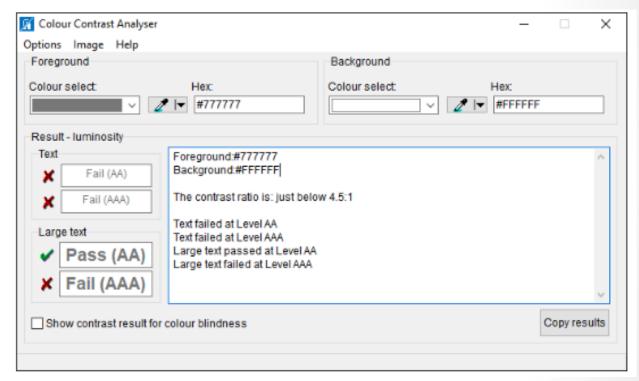
https://snook.ca/technical/colour_contrast/colour.html

WebAIM- Color Contrast Checker

Foreground Color	Background Color		
#0000FF	#FFFFFF	8.59:1	
Lightness	Lightness	0.37.1	
		permalink	
Normal Text WCAG AA: Pass			
WCAG AAA: Pass	The five boxing wizards jump quickly.		
Large Text			
WCAG AA: Pass WCAG AAA: Pass	The five boxing wizards jump	quickly.	

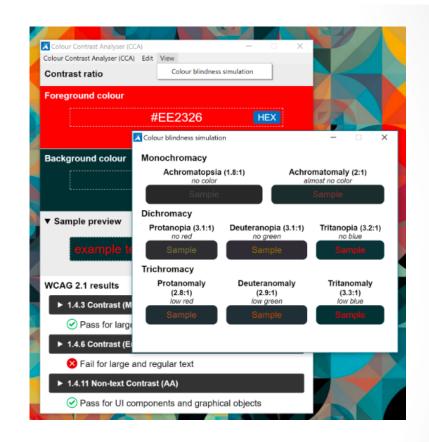
https://webaim.org/resources/contrastchecker/

Vision - Colour Contrast Analyser



https://developer.paciellogroup.com/resources/contrastanalyser/

Colour Contrast Analyser from The Paciello Group



https://developer.paciellogroup.com/resources/contrastanalyser/

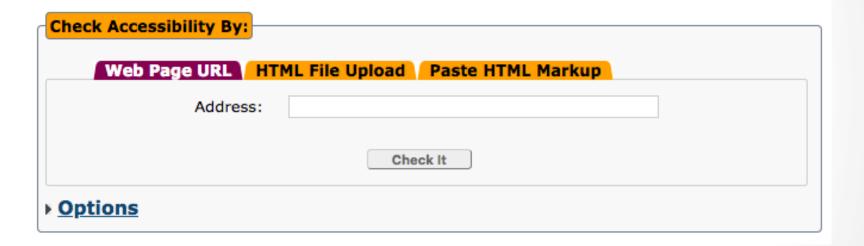
Mobility

- Disable your mouse/trackpad
- Interact with a touch screen using a stylus you hold with tweezers, chopsticks, or in your mouth
- Use your website one-handed
- Use voice recognition software only to navigate your site

Hearing

• Turn off the sound

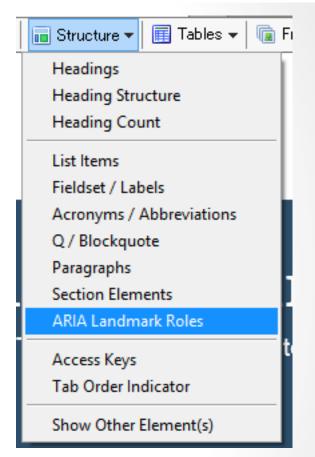
AChecker



https://achecker.ca/checker/index.php

Web Accessibility Toolbar

The Paciello Group



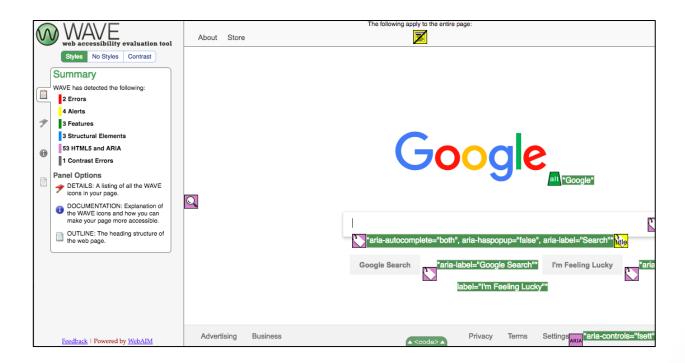
https://developer.paciellogroup.com/resources/wat/

 WAVE API http://wave.webaim.org/api/

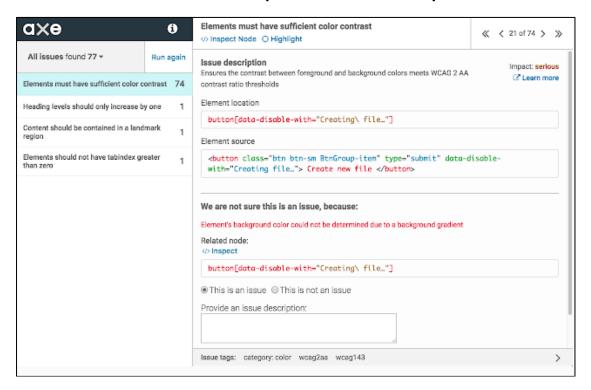
Dinolytics front-end for WAVE https://dinolytics.com/

WAVE Runner http://wave.webaim.org/waverunner

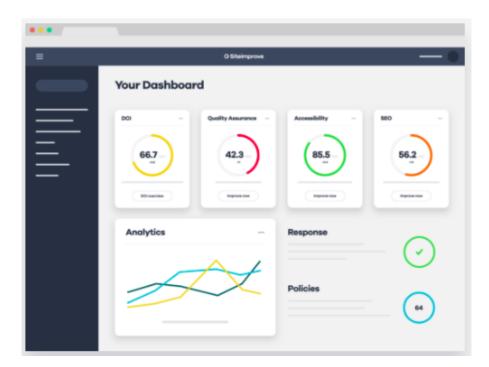
WAVE Browser Extension - http://wave.webaim.org/extension/



aXe Browser Extension - https://www.deque.com/axe/



SiteImprove- https://siteimprove.com/



Automate Tests

- Unit Tests
- Integration Tests

Writing Automated Tests for Accessibility https://www.deque.com/blog/writing-automated-tests-accessibility/

Diverse Testers

Standard Usability Tests https://www.usability.gov/how-to-and-tools/methods/usabilityevaluation/index.html

Live Accessibility Testing

- Accessible360
 https://accessible360.com/
- Perkins Access https://www.perkins.org/access
- AccessWorks https://access-works.com/

Lots More Tools

Web Accessibility Evaluation Tools List https://www.w3.org/WAI/ER/tools/

18F Accessibility Guide – Resources https://accessibility.18f.gov/

18F Accessibility Guide – Tools https://accessibility.18f.gov/tools/

GAAD

The purpose of GAAD is to get everyone talking, thinking and learning about digital (web, software, mobile, etc.) access/inclusion and people with different disabilities.

http://www.globalaccessibilityawarenessday.org/



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At Treeline Design, <u>LLC</u>, we will build you a dynamic website or custom web application to fit your business needs. We program in <u>HTML</u>, <u>PHP</u>, and <u>MySQL/SQL</u> as well as create custom graphics to make your site stand out. It is our goal to maximize your efficiency while keeping your costs down. Let your website do the work!

How We Work

We will get to know you, your business, and your customers. We will sit down with you and talk through your vision, your goals, and your budget for the project. Then, we will come up with a plan to get you where you need to be and discuss each step of that plan with you. Our goal is not to just work for you, but to work with you. After completing the work, we will make sure that you are not only happy with the solution, but feel comfortable using it. We will always make sure that you receive a high-quality product that fits your business needs and personality.

Our site upholds the following standards:

W3C WAI-A

W3C css ✓

W3C XHTML







Home

Web Design to Bring your Business to the Heet Our Customers

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Web Design to Bring your Business to the Top

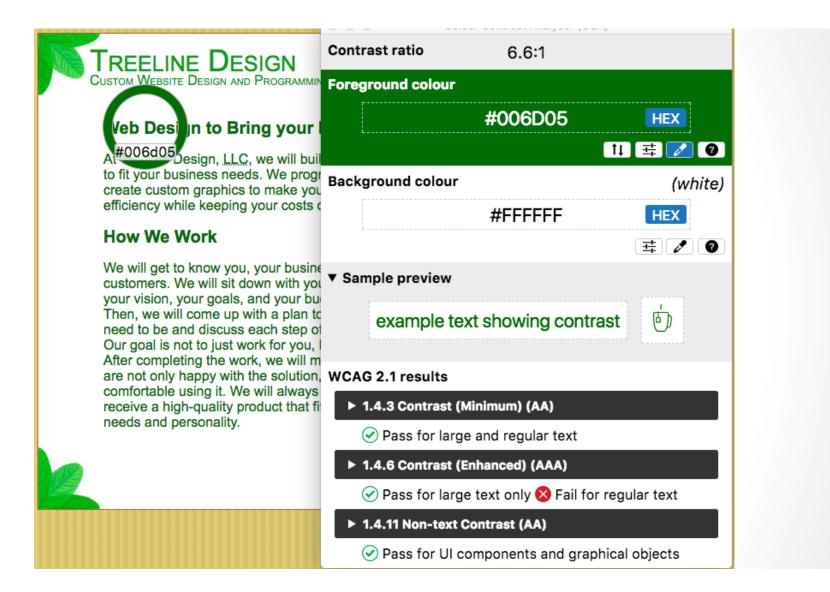
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Colour blindness simulation

Web Design to Bring your I

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Monochromacy

Achromatopsia (8.3:1)

no color

Sample

Achromatomaly (8:1)

almost no color

Sample

Dichromacy

Protanopia (6.6:1) Deuteranopia (6.6:1) Tritanopia (6.6:1) no red no green no blue

Sample Sample Sample

Trichromacy

 Protanomaly (6.9:1)
 Deuteranomaly (7:1)
 Tritanomaly (6.7:1)

 low red
 low green
 low blue

 Sample
 Sample
 Sample







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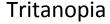
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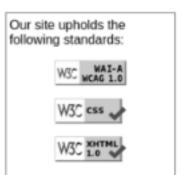


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Achromatopsia



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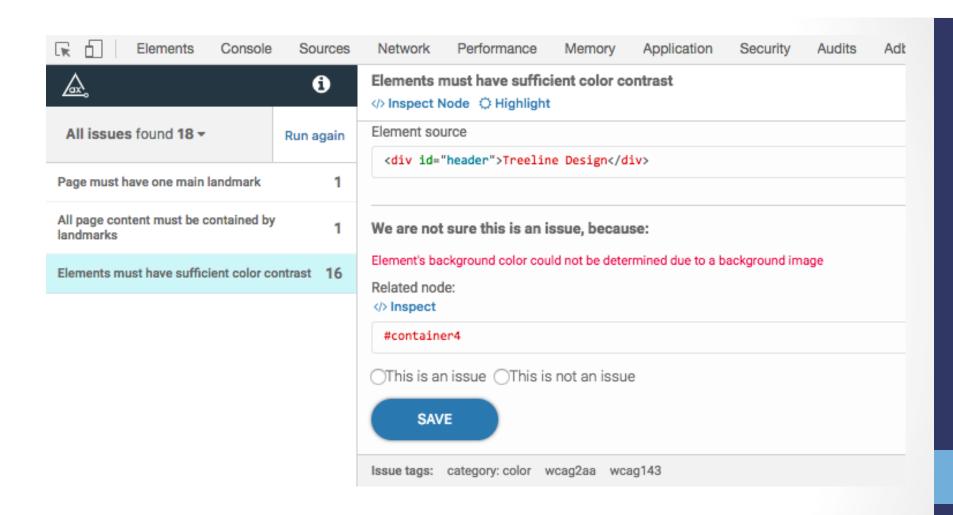
How We Work

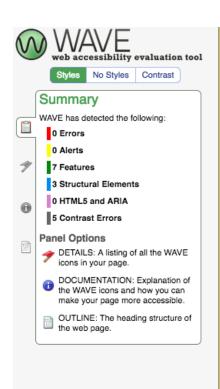
Issue tags: category: semantics best-practice

We will get to know you, your business, and your customers. We will sit down with you and talk through

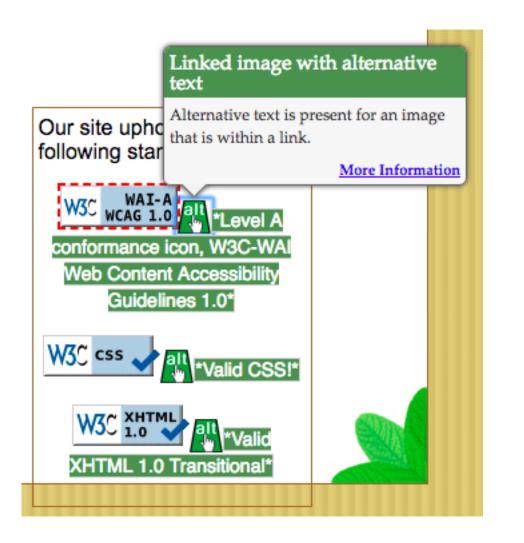
Our site upholds the

Plus axe		
solve this violation, you need to:		
Fix the following: Page does not have a main landmark		
o X		









Learn More - Design

- Inclusive Design Principles https://inclusivedesignprinciples.org/
- Inclusive Design 24 https://inclusivedesign24.org/
- The Paciello Group: cupper https://github.com/ThePacielloGroup/cupper
- Nutrition Cards for Accessible Components
 https://davatron5000.github.io/a11y-nutrition-cards/

Learn More - Tools

- An Introduction to Screen Readers (Webinar) https://accessibility.deque.com/live-webinarintroduction-to-screen-readers
- Facebook's Alt Tag Al https://newsroom.fb.com/news/2016/04/usingartificial-intelligence-to-help-blind-people-see-facebook/

Status of Platforms

- HTML5 Accessibility https://www.html5accessibility.com/
- HTML5 Implementation Status http://stevefaulkner.github.io/html-mapping-tests/
- Android and iOS Mobile Testing Guide https://developer.paciellogroup.com/downloads/ TPG_Mobile_Testing_Guide.pdf
- Windows Accessibility Options https://www.microsoft.com/en-us/accessibility/windows Apple Accessibility Options https://www.apple.com/accessibility/

Standards

- Section 508 Guidelines and Resources https://www.section508.gov/
- United States Laws relating to 508 Standards https://www.w3.org/WAI/policies/united-states/
- VFO Standards
 https://github.com/FreedomScientific/VFO-standards-support
- Web Content Accessibility Guidelines
 https://www.w3.org/WAI/standards-guidelines/wcag/
- ADA Standards for Accessible Design https://www.ada.gov/2010ADAstandards_index.htm

Standards Help

- Use Assistive Technology to Comply with Section 508 https://www.youtube.com/watch?v=4XJcswWmmAw
- HTML 508 Checklist https://www.hhs.gov/web/section-508/making-filesaccessible/checklist/html/index.html

Resources

- Stories of Web Users https://www.w3.org/WAI/people-use-web/user-stories/
- WAI Tools & Techniques https://www.w3.org/WAI/people-use-web/toolstechniques/
- Mythbuster's Guide to Accessibility https://medium.com/the-u-s-digital-service/ mythbusters-guide-to-accessibility-92ccd88655c6
- Usability.gov's Accessibility Page https://www.usability.gov/accessibility

Additional Articles

- "Not All Screen Reader Users Are Blind" by Adrian Roselli http://adrianroselli.com/2017/02/not-all-screen-reader-users-areblind.html
- "The Accessibility of Styled Form Controls & Friends" https://scottaohara.github.io/a11y_styled_form_controls/
- "Lessons in iOS Voiceover Accessibility" https://medium.com/aaptiv-engineering/lessons-in-ios-voiceover-accessibility-834c5ed9a374
- "The Importance Of Manual Accessibility Testing"
 https://www.smashingmagazine.com/2018/09/importance-manual-accessibility-testing/
- "Involving Users in Evaluating Web Accessibility" https://www.w3.org/WAI/test-evaluate/involving-users/

More Additional Articles

- "5 accessibility tests you can do in 5 minutes" https://openinclusion.com/blog/5-accessibility-tests/
- "The 6 Simplest Web Accessibility Tests Anyone Can Do" http://www.karlgroves.com/2013/09/05/the-6-simplest-web-accessibility-tests-anyone-can-do/
- "Easy Checks A First Review of Web Accessibility" https://www.w3.org/WAI/test-evaluate/preliminary/
- "Handling common accessibility problems"
 https://developer.mozilla.org/en-US/docs/Learn/
 Tools_and_testing/Cross_browser_testing/Accessibility

Takeaways

- Accessibility testing doesn't have to be expensive.
- A diverse testing group means better testing.
- Improving accessibility helps everyone.

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Twitter: e3betht

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 http://www.MadisonPHP.com (@MadisonPHP)

 Madison Web Design & Development Meetup http://www.MadWebDev.com (@MadWebDev)

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 https://joind.in/talk/b9e4c
 or
 Beth@TreelineDesign.com

Slides: http://www.TreelineDesign.com/slides