

Beyond WCAG

Making Websites Usable for
People with Disabilities





Digital accessibility

Making electronic content available to and usable by everyone, including and especially, people with disabilities.

Why accessibility matters

1. *Improve lives*
2. *Reach a wider audience*
3. *Avoid lawsuits*

19%
*of the U.S. population has a
disability*

Major Categories of Disability Types

- **Visual** (*blindness, low-vision, color blindness*)
- **Hearing** (*deafness, hard of hearing*)
- **Motor** (*inability to use mouse, limited fine motor control*)
- **Cognitive** (*learning disabilities, inability to focus*)

Assistive Technology Examples

- **Visual** (*screen readers, magnification software*)
- **Hearing** (*transcripts, captioning*)
- **Motor** (*alternative input devices, eye-tracking control*)
- **Cognitive** (*browser extensions for reading, color overlays*)

WCAG Overview

- *Guidelines*
- *Success criteria*
- *Levels (A, AA, AAA)*
- *Essential for learning & reference*

***“Nobody has ever been sued because
they didn’t meet a specific
WCAG level.”***

-Karl Groves

WCAG Principles

- *Perceivable*
- *Operable*
- *Understandable*
- *Robust*

Automated Accessibility Evaluation Tools



WAVE

web accessibility evaluation tool

snow

Clear X



Everything

Stories

Videos

Photos

Date



- All CNN
- U.S.
- World
- politics
- Business
- Opinions
- health
- entertainment
- style
- Travel

Displaying results 1-10 out of 4374 for **snow**

[Snow Colorado - Right Now](#)

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Drought woes? This tech can literally make it rain

🕒 Sep 30, 2018

Don't call them the weather gods, but the **selected, radio button, 5 of 10** based Weather Modification International is trying to coax rain from them. The concept, called cloud seeding, is new urgency due to climate change and a rapidly growing global population, which have

snow

Clear X



Videos

Photos

Date

 All CNN U.S. World politics Business Opinions health entertainment style Travel

Displaying results

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literally make it rain

company can actually make it rain. North Dakota-
uses planes to target clouds and draw out morerain from them. The concept, called cloud seeding, has been around for decades. But there
is new urgency due to climate change and a rapidly growing global population, which have

Summary

WAVE has detected the following:

- 46 Errors
- 26 Alerts
- 26 Features
- 80 Structural Elements
- 12 HTML5 and ARIA
- 17 Contrast Errors

Panel Options

- DETAILS: A listing of all the WAVE icons in your page.
- DOCUMENTATION: Explanation of the WAVE icons and how you can make your page more accessible.
- OUTLINE: The heading structure of the web page.



penguins

Clear X

- aria- label="Search"
- U.S.
- World
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- Travel

Virtual views from seats · Best value on tickets · 100% FanProtect Guarantee · Largest ticket selection

Highlights: Large Ticket Marketplace, Provides Hassle-Free Event & Mobile available

Hockey Tickets · All NHL Tickets · NHL Parking Passes · Sell NHL Tickets

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Amenities: Huge Inventory, Interactive Seating Chart, Schedule and Tickets

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About Penguins - Latest About Penguins

Find the latest About Penguins

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'Mary Poppins Returns' dazzles with new trailer

Sep 17, 2018

Prepare to have another jolly holiday with Mary. Disney debuted its latest trailer for its upcoming magical musical, "Mary Poppins Returns," on Monday. The film, which stars Emily Blunt as the famous nanny and Lin-Manuel Miranda, is the sequel to the 1964 classic that

An automated tool tests for
25-29%
of WCAG success criteria

*“WAVE cannot tell you if your web content is accessible. **Only a human can determine true accessibility.**”*



 **General Settings**

 Confidentiality Agreement

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 MessageMe



General Settings

Save

▼ General Options

Accessibility Layout

Screen reader mode off ▾

▶ Navigation Personalizations

WHAT AUTOMATED ACCESSIBILITY TOOLS WON'T TELL YOU ABOUT



Alt Text



Headings



**Keyboard
Access**



Links



Videos

WHAT AUTOMATED ACCESSIBILITY TOOLS WON'T TELL YOU ABOUT



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Alt text isn't required on decorative images.

Alt text does not need the words "Image of..."



Headings



Keyboard Access



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Screen reader users navigate by headings

Heading tags should not be used just for formatting

Don't overuse headings



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Keyboard Access

AT users or people with mobility impairments may use the keyboard.

- Focus indicator*
- Equal functionality*
- Avoid traps*

Links

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Links

Link language - avoid **learn more**, **see all**, and **click here**

More than color

Hover state

Title attribute is useless

Videos

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Need transcript or captioning. One is required; both is best.

Make sure video playback controls are accessible via keyboard.

Building a Participant Pool



User Research Center @ Harvard Library

Recruiting

- **40+ member participant pool** includes people who use JAWS, NVDA, VoiceOver, ChromeVox, and ZoomText.
- **Recruitment strategies**
 - Qualtrics form; no HIPAA information asked
 - Job fairs for people with disabilities; Braille handouts
 - Announcement at local affinity group meetings
 - Email blasts to mailing lists & ads in newsletters

Lessons Learned from Test Sessions

Before the Test Sessions

- **Write good directions** to the test location. Ask someone with a disability help you write them.
- Consider **etiquette training** for staff.
- **Conduct a pilot of the test** with a partner who is familiar with assistive technology to catch any obvious technical problems.

Test Design & Planning

- Use a plain-language **NDA**.
- Make sure that you provide enough **context**.
- **Use inclusive language** in your script.
- Allow for **additional time** for testing sessions with AT users.
- Consider running **multiple tests per visit**.

At the Test Sessions

- Offer **adjustable lighting** like a desk or floor lamp.
- Give participants time to make **adjustments to settings** on the software they use.
- Screen recorders (Morae, Quicktime) **won't capture the 'zoomed in' state**; use over-the-shoulder camera instead.

At the Test Sessions (continued)

- Not everyone is **technology expert**.
- Offer screen reader users **headphones** (or don't); depends on the moderator and participant.
- **Personal devices** or peripherals, **versus consistency**.

Final Lessons & Advice

- Pool management, recruitment, testing workflows *takes time.*

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- Pool management, recruitment, testing workflows *takes time.*
- Discovering **JAWS bugs.**
- **User testing** complements WCAG standards.
- **Perfection is the enemy of done.**

Thank you

amy_deschenes@harvard.edu

Complete information about our testing pool available at:

<https://tinyurl.com/harvardallytesting>