The Good, the Bad, and the Ugly of Web Accessibility

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Workshop overview

- Introductions and overview
- AODA and WCAG
- POUR principles
- Activity: Landmarks
- Tools we've found useful
- Activity: Find and fix
- Wrap-up

"Accessibility is the practice of making your websites usable by as many people as possible."

– Mozilla/MDN

“Accessibility is usability.”

– Sarah Richards, Content Design London

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AODA and WCAG

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Accessibility for Ontarians with Disabilities Act (AODA)

14. Accessible websites and web content

(1) The Government of Ontario and the Legislative Assembly shall make their internet and intranet websites and web content conform with the World Wide Web Consortium Web Content Accessibility Guidelines (WCAG) 2.0, at Level AA, and shall do so in accordance with the schedule set out in this section. O. Reg. 191/11, s. 14 (1).

(2) Designated public sector organizations and large organizations shall make their internet websites and web content conform with the World Wide Web Consortium Web Content Accessibility Guidelines (WCAG) 2.0, initially at Level A and increasing to Level AA, and shall do so in accordance with the schedule set out in this section. O. Reg. 191/11, s. 14 (2).

(3) The Government of Ontario and the Legislative Assembly, for both their internet and intranet sites, shall meet the requirements in this section in accordance with the following schedule:

1. By January 1, 2012, new internet and intranet websites and web content on those sites must conform with WCAG 2.0 Level AA, other than,

i. success criteria 1.2.4 Captions (Live), and
ii. success criteria 1.2.5 Audio Descriptions (Pre-recorded).

2. By January 1, 2016, all internet websites and web content must conform with WCAG 2.0 Level AA, other than,

i. success criteria 1.2.4 Captions (Live), and
ii. success criteria 1.2.5 Audio Descriptions (Pre-recorded).

3. By January 1, 2020, all internet and intranet websites and web content must conform with WCAG 2.0 Level AA. O. Reg. 191/11, s. 14 (3).

The **purpose** of the Accessibility for Ontarians with Disabilities Act, 2005 (**AODA**) is to ensure that all Ontarians have fair and equitable access to programs and services.
https://www.ontario.ca/laws/regulation/110191#BK14
Go to Accessibility for Ontarions with Disablities Act > Regulations under this act > Integrated accessibility standards
Part 2, Section 14: Accessible websites and web content

Accessibility for Ontarians with Disabilities Act (AODA)

(4) Designated public sector organizations and large organizations for their internet websites shall meet the requirements of this section in accordance with the following schedule:

1. By January 1, 2014, new internet websites and web content on those sites must conform with WCAG 2.0 Level A.
2. By January 1, 2021, all internet websites and web content must conform with WCAG 2.0 Level AA, other than,
i. success criteria 1.2.4 Captions (Live), and
ii. success criteria 1.2.5 Audio Descriptions (Pre-recorded). O. Reg.191/11, s. 14 (4).

(5) Except where meeting the requirement is not practicable, this section applies,
(a) to websites and web content, including web-based applications, that an organization controls directly or through a contractual relationship that allows for modification of the product; and
(b) to web content published on a website after January 1, 2012. O. Reg. 191/11, s. 14 (5).

(6) In determining whether meeting the requirements of this section is not practicable, organizations referenced in subsections (1) and (2) may consider, among other things,
(a) the availability of commercial software or tools or both; and
(b) significant impact on an implementation timeline that is planned or initiated before January 1, 2012. O. Reg. 191/11, s. 14 (6).

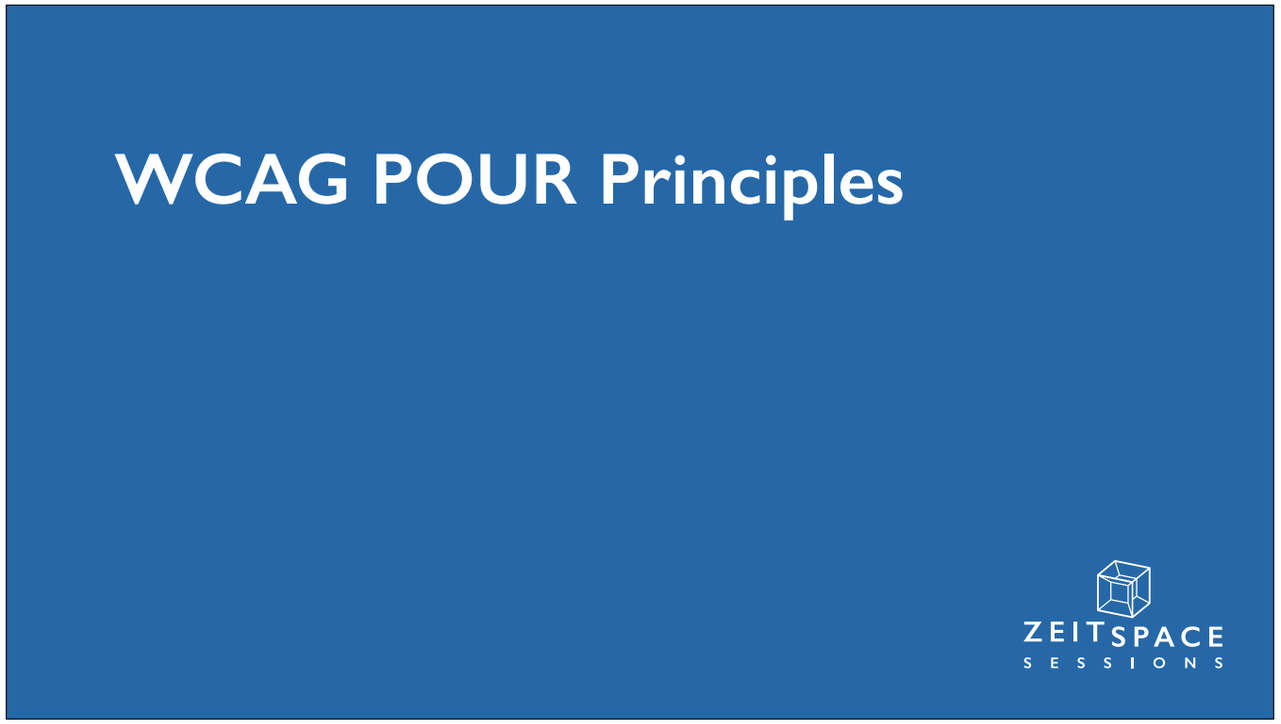
https://www.ontario.ca/page/completing-your-accessibility-compliance-report
https://www.ontario.ca/page/accessibility-rules-businesses-and-non-profits
If your company has more than 50 employees, all new web content since 2014 should already be accessible, and by January 1 2021 (Less than a year from now!) all websites and web content must meet WCAG 2.0 Level AA
If your company has more than 20 employees, you need to submit a Accessibility Compliance Report by the end of this year.
Contains all sorts of accessibility regulations, including web content

Web Content Accessibility Guidelines (WCAG)

A single, shared standard for web content accessibility.

- WCAG 2.0 was published in 2008
- FUN FACT: WCAG 2.0 is approved as an ISO standard (ISO/IEC 40500:2012)
- WCAG 2.0 Level AA is the baseline for both Canada and US.
- There's actually a WCAG 2.1, which was published on 5 June 2018, but is not technically required to meet AODA - but useful to check out the updates!
- On your table is a checklist of the WCAG 2.0 Level A and Level AA Guidelines for you to reference today - created by us as a resources, but it's always better to check the actual Guidelines
- Also a digital copy of these in resources

WCAG POUR Principles



WCAG provides four principles to frame accessibility work. They nicely fit into a mnemonic: POUR.
Let’s take a look at those in order.

P is for perceivable…

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Perceivable web content…

- Provide text alternatives
- Is adaptable; information isn't lost across presentations
- Provides alternatives for time-based media
- Is distinguishable; separate the foreground from the background

The interface and information it contains must be presented to the user in ways they can perceive.

- There should be multiple ways for someone to access the information that you are providing. **Can the page be displayed as plain text and still make sense?**
- Use **image text, subtitles, transcripts** as text alternatives for non-text content.
- If content order is important, can that **order be determined programmatically**?

Distinguishable:

- Colour is not used as the only visual means of conveying information (e.g., underlined links).
- Text and images have a contrast of 4.5:1 (except large text or text that is decorative or part of a logo)

O is for operable…

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Operable web content…

- Is keyboard accessible
- Is sensitive to seizures and physical reactions
- Is navigable
- Supports different input methods
- Gives the user enough time

These are the subsections of the Operable section of WCAG:

- **There should be multiple ways for someone to navigate the page**
- In general, **can the site be navigated with a keyboard-only?**

- All functionality is available from a keyboard, and there is no place where you can get trapped
- Able to bypass blocks of content that are repeated on multiple pages
- Pages have descriptive titles and headings
- Link text is descriptive

U is for understandable…

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Understandable web content…

- Is readable
- Is predictable
- Provides input assistance

Understandable web content suggests themes of consistency and helping the user out in reasonable ways.
These are the subsections of the Understandable section of WCAG:
- Consistency across the entire site with clear messaging
- Are **components used consistently**? Do we know **what the system is doing or going to do?**
- **Navigation is in the same relative order** (across multiple pages).
- Components that have the same functionality are identified consistently
- With input errors, identify the error, describe it to the user, provide a correction if possible
- **Labels or instructions** when content requires user input (e.g., forms).
- **Confirmations** before finalizing submissions

R is for robust…

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Robust web content…

- Is compatible

This is the subsection of the Robust section of WCAG:

- Is this web app/ website built in a way that accessibility tools will work with it?
- In general, did you follow front-end development best practices?
- Accessibility tools expect/ work with these standards - don’t sabotage them
- Ex. Make standard jars rather than “special, accessible” jars

Activity: Landmarks

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- Landmarks are used to help assistive technology and its users to **coarsely and quickly** navigate a web page.
- In this activity we'll look at a few real web pages and **break down the main elements**.
- Try to think about the **big chunks** of a given web page and how you'd **describe them**.
- Your group can **write directly on the pages** using the markers provided.
- If you're looking to ease into the exercise, the **Fluxible site is straightforward**.
- We'll give you **10 minutes**. If you finish one web page, try another and **look for differences and commonalities**.

WCAG	HTML5	Description
banner	header	Often includes a logo and is at the top of the page.
complementary	aside	Supports the main content, yet is separate and meaningful on its own.
contentinfo	footer	Contains information about the parent document (copyright, privacy).
form	form	A collection of form-associated elements.
main	main	Main content in a document. One per page.
navigation	nav	Collection of links used to navigate document.
search	—	The search tool of the document.
application	—	A web application (vs. web page) with dedicated navigation model.

WCAG describes eight different landmarks. Many of these landmarks are represented well by HTML5 elements. During the exercise, feel free to use either to make sense of the web sites.

Activity wrap-up

- Which parts of WCAG came into play?
- What was challenging?
- Are you currently thinking about your web content this way?
- Did anyone mix WCAG roles and HTML elements?

Sections of WCAG: Relates to *operable* (can navigate and bypass sections), *understandable* (consistency of structure, labelled sections), and *robust* (tools can interpret the structure using meta data/landmarks).

How to do this programmatically:

- HTML5 elements (preferred)
- ARIA 1.0/older ‘role’ attributes (in case you need to support older markup or browsers for some reason)

Tools we've found useful

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Tools we've found useful

ARC Toolkit: www.paciellogroup.com/toolkit/
- Automated accessibility evaluation tool (Chrome extension).

aXe plugin: www.deque.com/axe/
- Automated accessibility evaluation tool (Chrome extension).

WAVE: wave.webaim.org/extension/
- Automated accessibility evaluation tool (Chrome, Firefox plugins).

AChecker: achecker.ca
- Automated accessibility evaluation tool (crawler; not a browser plugin).

Stark: getstark.co
- Plugin for Adobe XD, Figma, Sketch to help designers test contrast and colour blindness.

- Automated tools are **not perfect** and they **look for different things**.
- **Use more then one** automated tool.
- Use automated tools as **part of a larger plan for validating accessibility** (with manual testing and usability testing).

Activity: Find and Fix

The goals of this activity are to search for, identify, and explore possible solutions for accessibility issues within a web site and its design.

In the resources from GitHub, under activity 2, you should have:

- Adobe XD document. This contains the design of the web page, including general layout and styling.
- Web page (HTML, images, etc.). Open up “Zeitspace Post.html” from the Activity 2 directory.

In many cases, accessibility issues span design and development work. As a group, using the assets provided:

- identify accessibility issues, and
- decide how to solve them in the design, the implementation, or both.

You have **20 minutes** to complete this activity

18F checklist

Critical	Less critical	Minor
Site is keyboard accessible	Site never loses focus	Frames are named
Site is free of keyboard traps	Tab order is logical	Flashing elements are compliant
All *form* inputs have explicit labels	Form instructions are associated with inputs	Language is set for page
All relevant images use an *img* tag	Site doesn't time out unexpectedly	CSS is not required to use the page
All images have *alt* attributes	Tables are coded properly	Links are unique and contextual
Multimedia is tagged	Headings are nested properly	Page titles are descriptive
Text has sufficient colour contrast		Links to required plugins on page

Adapted from https://accessibility.18f.gov/checklist/

- This is a checklist provided by 18F, the digital design arm of the US government (like our CDS/Canadian Digital Service).
- More practical than trying to read and apply the WCAG 2.0 text.
- Link on the bottom of the page will allow you to drill down to get more information for each checklist item.
- Feel free to refer to the WCAG guideline printouts on your tables.

Activity wrap-up

- Which problems did you choose to solve?
- Which sections of WCAG might they relate to?
- How did you identify the problem?
- What solutions did you come up with?

Within the **Improvement** directory, there is an improved web page.
The **CHANGES.md** file describes some of the issues that were identified and addressed.

Activity wrap-up, continued

- What was challenging about this activity?
- Where there aspects of the website that were compromised for accessibility?
- Which roles have the most influence over accessibility in your product? In which ways?

Accessible content is better for everyone!

- **Keyboard operable.** Good for screen-readers or limited mobility, or super-users filling in something like a form!
- **Text Alternatives.** Useful for screen readers, or people who have slow internet that can’t load media
- **Errors.** Good error messaging is better for everyone!

How can we test accessibility?

- Usability testing
- Use the tools people are using

Usability Testing tips

- For someone with low vision, be explicit about things that you might assume someone notices (e.g., ask if you can record, or mention that you'll be taking notes)
- Remind them that you can stop at any time
- Consider going to them to test, rather than asking participants to travel to you
- Consider letting them use their own familiar devices with their own tools installed
- Ask the dumb (not ignorant) questions, this is your chance to learn!
- Be polite, friendly and treat your participants the way you would treat any other participant.
- Don't be awkward!

Summary

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Summary

Designing for accessibility

- How can we **consider accessibility earlier** in the product development process?
- Think about how your page will be developed with accessibility in mind, from **architectural considerations down to individual elements**.
- Better usability usually means better accessibility: **clear labels, not relying solely on colour for meaning**, etc.
- Rethink accessible design as something other than a design constraint.

Summary

Designing for accessibility

Developing for accessibility

- Reworking existing properties to be more accessible/meet regulatory guidelines.
- Baking accessibility into your team's definition of done.
- Automating accessibility testing.
- Working with third party libraries and tools; do they help or hinder accessible development?
- Leaning heavily on standard HTML5 elements; will get you far.

Summary

Designing for accessibility

Developing for accessibility

Testing for accessibility

- Don’t rely on one approach (which is good advice for any product development work).
- Automated tools.
- Manual testing with representative tools.
- Usability testing.

Summary

Designing for accessibility

Developing for accessibility

Testing for accessibility

Compliance

- Meeting deadlines for AODA (based on organization size).
- Filing compliance paperwork.
- Working with clients to educate and learn from them, and help ensure their products are accessible.

Where to learn more

We have linked to documents, tools, and web sites that have helped us in the README.md file on:

github.com/zeitspace/web-accessibility-session

Next Zeitspace Session

Scaling your agility means scaling your leadership
with Dave Dame

Tuesday, March 24, 2020
6–8 pm
At Zeitspace (here!)

Visit meetup.com/Zeitspace

There are many different frameworks and practices about scaling your agility. Regardless of which framework or practices you are using, they will only be as successful as how you scale your leadership. This means having clear and transparent vision, goals, and autonomy that informed decisions can be made.

In this talk, Dave Dame will share how he has helped scale this in numerous organizations. He will share his tools that he has used to enable bottom-up engagement and rapid decision making that enables responsiveness.

Dave is VP, Global Head of Agile for Scotiabank, an agile evangelist, and a certified trainer. To learn more see http://www.davedame.com/about-me

Thank you!

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