



Accessibility Policy and Standards

Not as dull as it sounds. 😊

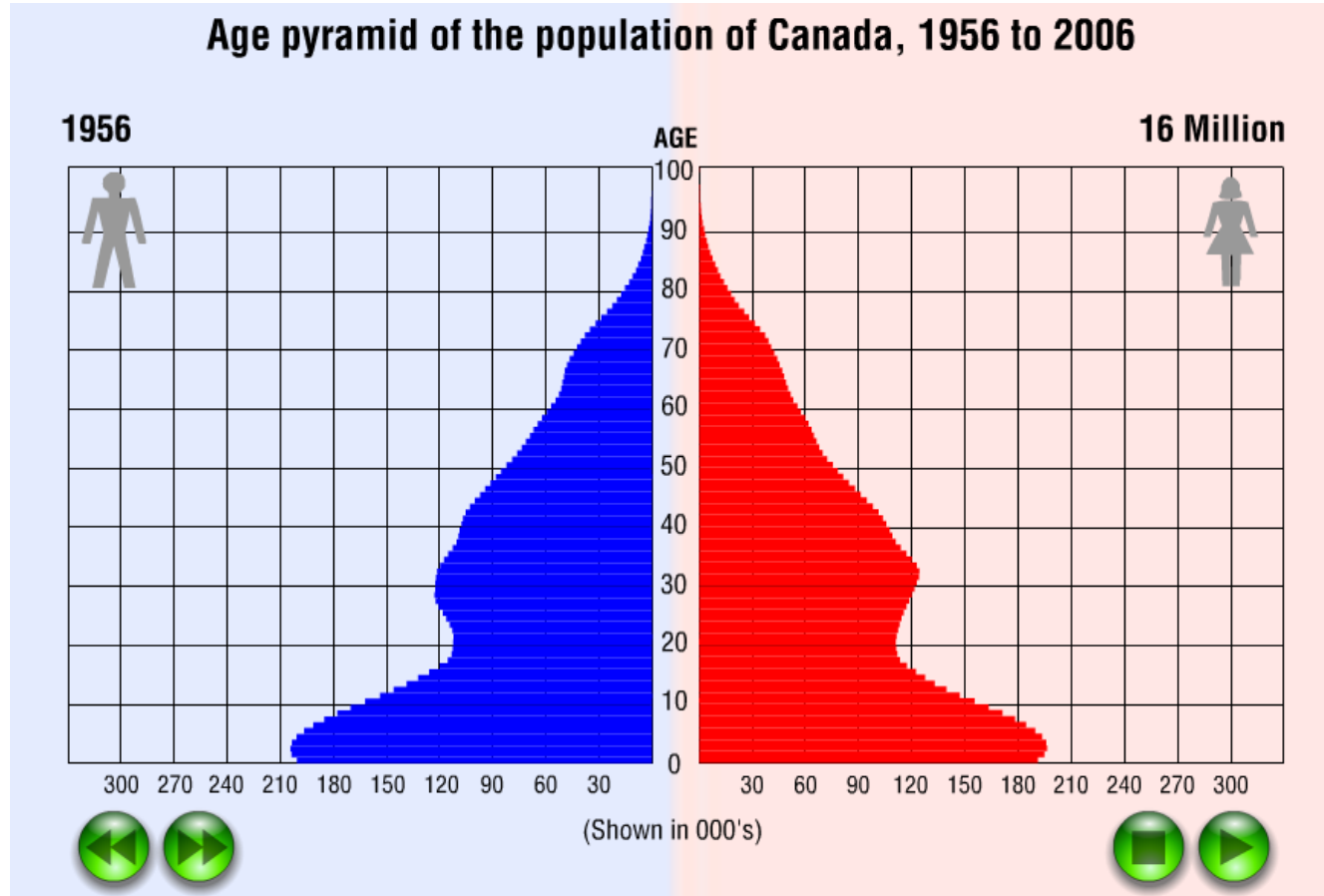


Persons with disabilities are a sizeable minority

- Estimates of percentage of Ontarians with a disability is approximately 17%.
- And rates increase with age, from 7% of children (<14) to ~44% of those aged over 65.
- So as the “Baby Boom” ages, the rate is likely to rise (2020 est.: 20%)



Baby Boom?





But it's a heterogeneous group

The most common disabilities in Ontario related to:

- mobility (64%)
- agility (58%)
- Seeing/vision (16%)
- Hearing (30%),
- Speaking (8%).
- Learning disabilities (33%)
- Mental health conditions (33%)

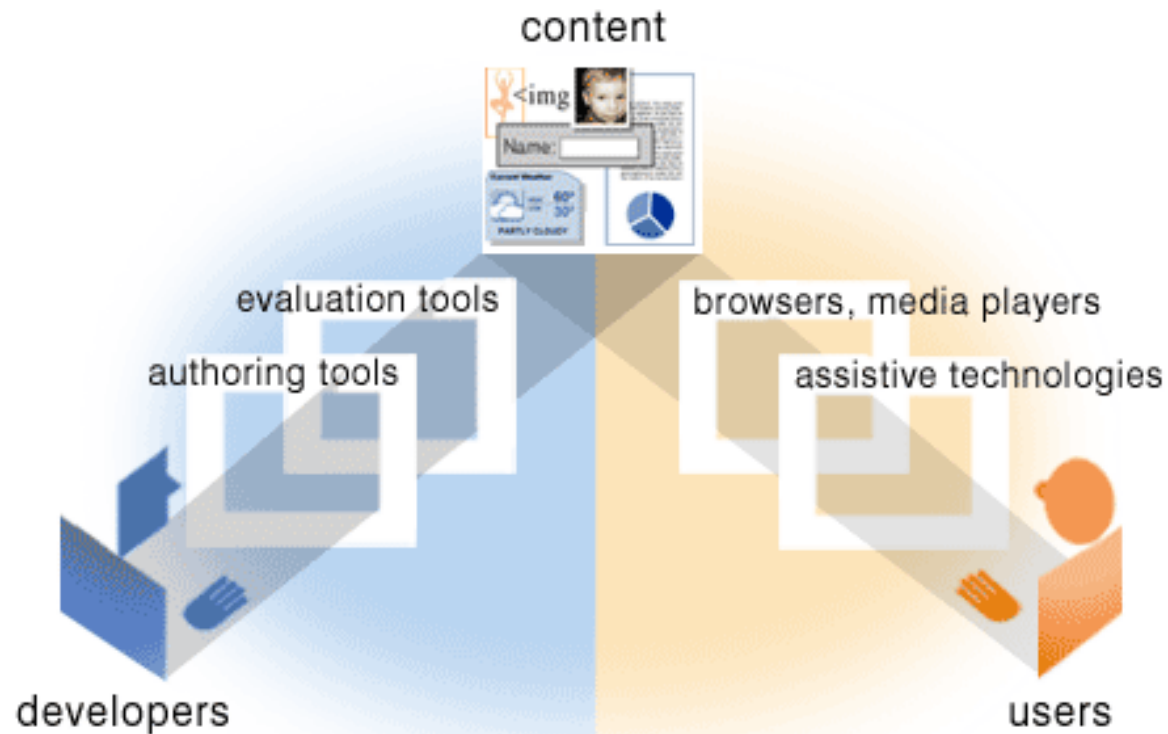
So it's not always easy to find people that cover a representative range of disabilities for the design process and product testing.

Source: Ontario Government Consultation Paper On The Ontario Building Code's Disability Access Provisions http://www.odacommittee.net/ODA_Bill_125_gov1.html



Policies and Standards Help

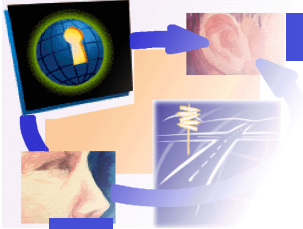
- Policies and standards provide some assurance that, if followed, the product will be interoperable with the free flow of information users with disabilities require.





Policies and Standards Help

- But it should be remembered that accessibility is relative, not absolute.
 - An “Accessible Chat App” is actually a “(More) Accessible Chat App”.
- And...



Setting standards for the future isn't easy.



*Track laying machinery Grand Trunk Pacific Ry
Tub. Assn. of Canada - 1906*





Types of Standards and Policies

- Accessibility-Specific Technology Standards:
 - WAI-ARIA (Accessibility for Rich Internet Applications)
 - Access4All Metadata
 - Accessibility APIs – which most platforms, including mobile now have (MSAA, IAccessible2, ATSPI-Assistive Technology Service Provider Interface, etc.)
- Accessibility Features of Technology Standards:
 - “alt”, “longdesc”, etc. in HTML4 – major issues with HTML5
 - “desc” in SVG
 - Tagged PDF, name/descriptions in Flash
 - Alternative text etc. in ODT, MS Word, etc.
 - DOM features
 - Features in IMS Specifications



Types of Standards and Policies

- Technology-Specific Best Practices:
 - GNOME Accessibility Developers Guide
 - MacOS Accessibility Overview
 - Accessibility Programming Guide for iPhone OS
 - Etc. for all major platforms
 - W3C WCAG Techniques
 - “Accessible Digital Office Documents (ADOD)” IDRC project
- Technology-Independent Guidelines:
 - W3C WCAG
 - W3C ATAG
 - W3C UAAG
 - ISO 9241-171:2008 Ergonomics of human-system interaction - Part 171: Guidance on software accessibility



Types of Standards and Policies

- Canadian Legislation:
 - Canadian Charter of Rights and Freedoms:
 - 15. (1) Every individual is equal before and under the law and has the right to the equal protection and equal benefit of the law without discrimination and, in particular, without discrimination based on race, national or ethnic origin, colour, religion, sex, age or mental or physical disability.
 - Ontario Human Rights Code
 - Equal rights, freedom from discrimination, “duty to accommodate”
 - Accessibility for Ontarians with Disabilities Act (AODA)
 - Under this landmark legislation, the government of Ontario will develop mandatory accessibility standards that will identify, remove and prevent barriers for people with disabilities in key areas of daily living. The standards will apply to private and public sector organizations across Ontario.



Types of Standards and Policies

- Other Legislation:
 - Many other countries are adopting e-accessibility requirements, including US, EU, Japan, Australia, etc.
 - E.g. Section 508 of the US Rehabilitation Act
 - Requires Federal agencies to make their electronic and information technology accessible to people with disabilities
 - Loosely based on WCAG 1.0 but with extensive re-organization and important changes. Currently being “Refreshed” – will likely more closely resemble WCAG 2.0.
- Organizational Policies:
 - Canadian Government’s Common Look and Feel (CLF):
 - “Accessibility” part of CLF is largely based on WCAG 1.0 with a few changes.



Focus: World Wide Web Consortium (W3C)

- The W3C is an international consortium that develops Web standards.
 - Member organizations (400+)
 - Full-time staff
 - Invited experts (Jutta, Joseph, and I are in this category)
- Responsible for specifying several widely used Web technologies such as:
 - HTML, XML, CSS, SVG.



The W3C logo, consisting of the letters 'W3C' in a blue, stylized font, with a registered trademark symbol (®) to the upper right.



WAI Accessibility Recommendations

- Web Content Accessibility Guidelines (WCAG) 2.0 Recommendation:
 - Guidelines for making Web content more accessible.
- Authoring Tools Accessibility Guidelines (ATAG) 2.0 Working Draft (1.0 is Rec):
 - Guidelines for: (1) making authoring tools more accessible to authors and (2) supporting the production of accessible content by all authors.
- UAAG 2.0 Working Draft (1.0 is Rec):
 - Guidelines for making user agents (browsers, media players) more accessible to end users.




WCAG 2.0

- Version 2.0 is a Full Recommendation.
- Applies to:
 - Various web content technologies (HTML, SVG, PDF, etc.)
 - Static pages
 - Web applications
 - Etc.
- Notes:
 - Only Accessibility-Supported Ways of Using Technologies
 - Full Pages/Complete Processes

W3C Recommendation

[\[contents\]](#)



Web Content Accessibility Guidelines (WCAG) 2.0

W3C Recommendation 11 December 2008

This version:
<http://www.w3.org/TR/2008/REC-WCAG20-20081211/>

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Jason White (until June 2005 while at University of Melbourne)

Please refer to the [errata](#) for this document, which may include normative corrections.

See also [translations](#).

This document is also available in non-normative formats, available from [Alternate Versions of Web](#)



WCAG 2.0: Perceivable

- Text alternatives to non-text content depends on purpose of content:
 - **Control or accepts user input:** Describe its purpose.
 - **Time-Based Media:** Provide descriptive identification.
 - **Test or exercise:** Provide descriptive identification.
 - **Sensory experience:** Provide descriptive identification.
 - **CAPTCHA (Completely Automated Public Turing test to tell Computers and Humans Apart):** Note purpose and provide alternative forms of CAPTCHA in another mode (sound).
 - **Decoration, Formatting, Invisible:** Help assistive technology ignore it (i.e. alt="").





WCAG 2.0: Perceivable

- The parts of time-based media can be made accessible by:
 - **Audio**
 - Captions (Prerecorded)
 - Captions (Live)
 - Sign language translation
 - **Video:**
 - Audio Descriptions
 - Extended Audio Descriptions
 - **Interaction:**
 - Text alternatives including interaction



WCAG 2.0: Perceivable

- A very important requirement from the perspective of our work is ensuring that information and relationships can be programmatically determined.
 - Labels for form controls
 - Table headings
 - Roles, states, etc. (ARIA)



WCAG 2.0: Perceivable

- Also make text, graphics and sound more distinguishable. This includes:
 - Sufficient **contrast**
 - **Resizability**
 - Ability to **control audio**
 - Low or no **background audio**

No one appreciates this...

...and this isn't nice either.



WCAG 2.0: Operable

- Every function (besides freehand drawing) must be **accessible from the keyboard**.
- No “**keyboard traps**”.
- Provide enough **time**.
- Avoid flashing content that could cause **seizures**.
- Provide **structure** to help the user navigate (headers, bypass links, tab order, etc.).





WCAG 2.0: Understandable

- Don't shift the user's context just because they move the focus or change the setting of a control.

Sign In

- Keep navigation and control labelling consistent.
- Help the user identify input errors.
- Help prevent mistaken user submissions.



WCAG 2.0: Robust

- Web content must be compatible with a wide range of user agents:
 - Being **parsable**
 - Passing along semantic information such as **name**, **role** and **values**




ATAG 2.0

- Version 1.0 was published in 1999.
- Version 2.0 is nearing completion (in Last Call).
- Applies to:
 - WYSIWYG editors, plain text editors
 - conversion tools (e.g., "Save as HTML")
 - blogging tools, wikis, online forums, emailers
 - multimedia authoring
 - CMS systems,
 - Etc.

W3C Working Draft

[\[Contents\]](#) [\[Implementing\]](#)



Authoring Tool Accessibility Guidelines (ATAG) 2.0

W3C Working Draft 08 July 2010

This version:
<http://www.w3.org/TR/2010/WD-ATAG20-20100708/>

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Abstract

This specification provides guidelines for designing web content authoring tools that are both (1) more accessible to authors with disabilities and (2) designed to enable, support, and promote the production of accessible web content by all authors.



ATAG 2.0: Supports WCAG 2.0

- ATAG 2.0 uses the Web Content Accessibility Guidelines (WCAG) as the determinant of Web content accessibility.
- ATAG 2.0 has special checkpoints related to checking, repair, etc. of content that take their level directly from WCAG.



ATAG 2.0: Accessible Authoring UI

- Part A: Make the authoring tool user interface accessible
 - Principle A.1: Authoring tool user interfaces must follow applicable accessibility guidelines
 - Principle A.2: Editing views must be perceivable
 - Added presentation, Independence of display
 - Principle A.3: Editing views must be operable
 - Keyboard access, edit/nav by structure, previews
 - Principle A.4: Editing views must be understandable
 - Undo, Documentation



ATAG 2.0: Accessible content production

- We shouldn't rely on the average author to implement WCAG on their own because...
 - accessibility requirements can be complex to manage (e.g. keeping navigation consistent),
 - most authors are not (nor do they wish to be) accessibility experts (and WCAG is a technical document, on par with a format recommendation),
 - the delivery of Web content is becoming more complex,
 - and tools are being produced that hide many of the low-level details of the final content.



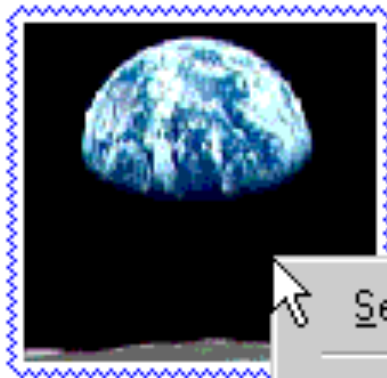
ATAG 2.0: Accessible content production

- Part B: Support the production of accessible content
 - Principle B.1: Production of accessible content must be enabled
 - Enable, preserve, auto-generate
 - Principle B.2: Authors must be supported in the production of accessible content
 - Decision support, checking, repair assistance, templates
 - Principle B.3: Accessibility solutions must be promoted and integrated
 - Prominence of accessible options, active by default, instructions, modelling accessibility



ATAG 2.0: Automating Accessibility

- Authoring tools need to support accessibility in the same way as they support correct syntax and spelling:



Set alt="An earth rise as seen from the surface of the moon"

Enter different alt-text...

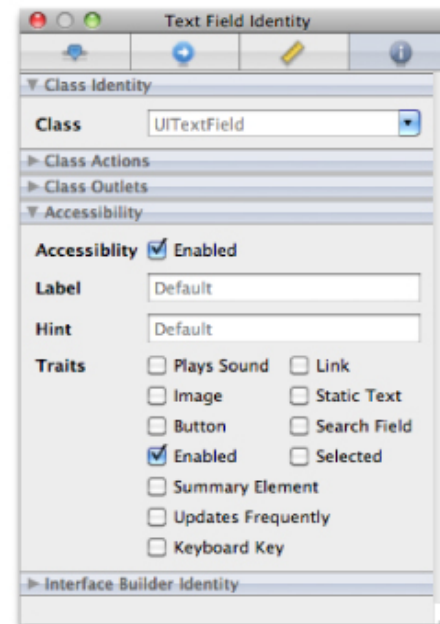
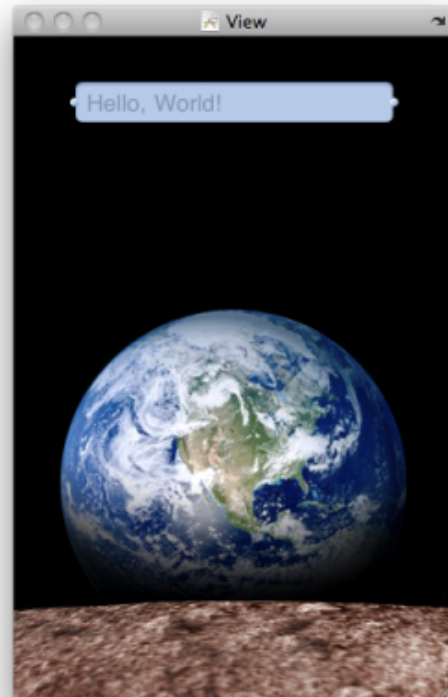
Check Accessibility...

Help...



ATAG 2.0: Automating Accessibility

- In case people think developers aren't paying attention (from the iPhone Accessibility Programming Guide)....





UAAG 2.0

- Version 1.0 was published in 2002.
- Version 2.0 is in progress.
- Appliers to:
 - Browsers
 - Media players
 - Web-based user agents

W3C Working Draft



User Agent Accessibility Guidelines 2.0

W3C Working Draft 12 March 2008

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UAAG 2.0: Supports WCAG

- UAAG 2.0 supports WCAG 2.0 but because it gives guidance to user agents rendering **any** Web content, it **cannot** assume WCAG requirements have been followed.



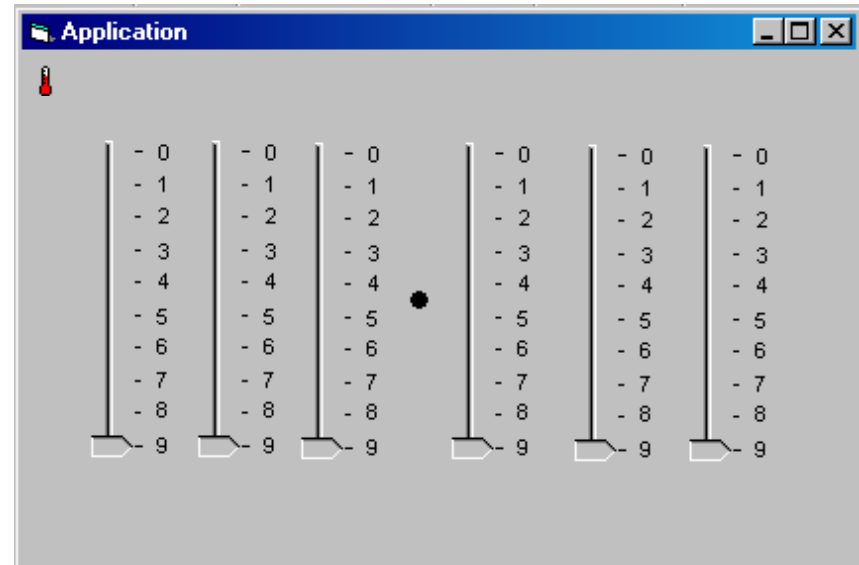
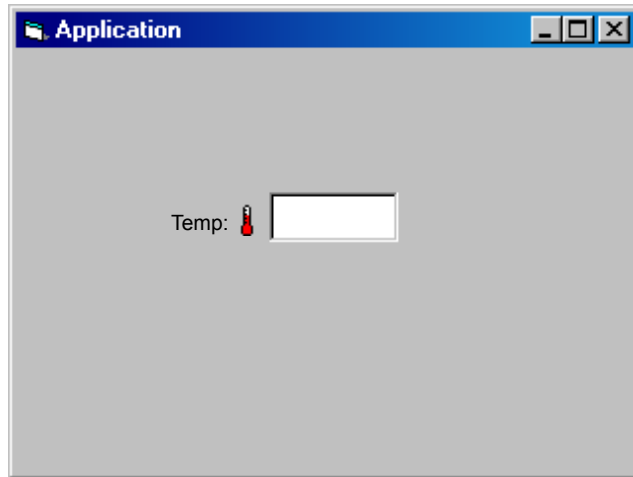
UAAG 2.0: Principles

- PRINCIPLE 1. Comply with applicable specifications and conventions
- PRINCIPLE 2. Facilitate programmatic access
- PRINCIPLE 3: Perceivable - The user interface and rendered content must be presented to users in ways they can perceive
- PRINCIPLE 4. Ensure that the user interface is operable
- PRINCIPLE 5: Ensure that the user interface is understandable

(Follows a similar pattern to WCAG 2.0)



When standards are ignored...





Thanks!

See - not so
dull. 😊