The AODA in Action:
What You Need to Know

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The power of the Web is in its universality. Access by everyone regardless of disability is an essential aspect.

Tim Berners-Lee, W3C Director and inventor of the World Wide Web

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What will be reviewed:

1. What is **web accessibility**?
2. What is the Accessibility for Ontarians with Disabilities Act **(AODA)**?
3. Look at a summary of the Web Content Accessibility Guidelines **(WCAG) 2.0**.
4. Review some **tools** for assessing web accessibility.

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What is Web Accessibility?

According to the World Wide Web Consortium (**W3C**) Web Accessibility Initiative (**WAI**), "web accessibility means that people with disabilities can perceive, understand, navigate, and interact with the web, and that they can contribute to the web."

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The WAI develops **strategies**, **guidelines** and **resources** to help make the web accessible to people with disabilities. One of the guidelines created by the WAI is the **Web Content Accessibility Guidelines** (**WCAG**), which explains how to make web content more accessible.

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The **WCAG 2.0** (December 2008) is the current version.

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Web accessibility addresses the following needs:

- **Visual:** Visual impairments including blindness, low vision and colour blindness.
- **Mobility/Motor Skills/Physical:** Physical impairments such as difficulty or inability to use the hands, loss of muscle control or tremors, due to conditions such as cerebral palsy, Parkinson's disease and brain injuries.

Source: Wikipedia
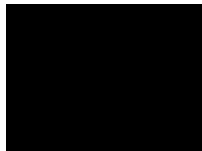
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- **Auditory:** Hearing impairments or deafness.
- **Cognitive/Intellectual:** Cognitive (affecting memory or attention), developmental and learning (such as dyslexia) disabilities.
- **Seizures/Neurological:** Diseases or conditions that may result in photo epileptic seizures in the presence of a flashing effect or visual strobe.

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Some users may require **Assistive Technology (AT)**, which enables people to perform tasks that they were formerly unable to accomplish or had difficulty accomplishing.
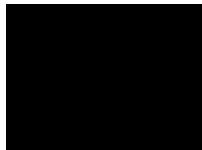
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Examples of Assistive Technologies:

- Screen reading software, e.g., JAWS
- Screen magnification software, e.g., ZoomText
- Braille translator
- Adaptive keyboard
- Mouth stick
- Text-to-speech software, e.g., Kurzweil

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JAWS (screen reader demo)

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JAWS (screen reader demo 2)

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What is the Accessibility for Ontarians with Disabilities Act (AODA)?

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The Accessibility for Ontarians with Disabilities Act, 2005 (**AODA**) became law on June 13, 2005.

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Under this legislation, the government of Ontario has developed mandatory accessibility standards that **identify, remove and prevent barriers for people with disabilities** in key areas of daily living.

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Accessible websites and web content fall within the **Integrated Accessibility Standards of the AODA**, 2005, under the **Information and Communications Standards** section.

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As of June 3, 2011, the Integrated Accessibility Standards became Ontario regulation:

http://www.e-laws.gov.on.ca/html/source/regs/english/2011/elaws_src_regs_r11191_e.htm

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Designated public sector and large organizations must 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.

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1. New internet websites and web content must conform with **WCAG 2.0 Level A** by **January 1, 2014**.
2. All internet websites and web content must conform with **WCAG 2.0 Level AA** by **January 1, 2021**.

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Success Criteria and Levels of Conformance

For each guideline, there are testable success criteria. There are three levels of success criteria: **A**, **AA**, and **AAA**. These are known as the **Levels of Conformance**.

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Level **A**: <u>Minimum</u> level of accessibility
Level **AA**: <u>Enhanced</u> level of accessibility
Level **AAA**: <u>Additional</u> accessibility enhancements

Each level builds upon the previous level. E.g., Level AA must satisfy all the Level A and Level AA success criteria.

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Vision Simulation (colour deficiencies)

http://www.webexhibits.org/causesofcolor/2.html

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Examples of success criteria and level of conformance:

Guideline 1.4.1 Use of Colour: Colour is not used as the only visual means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.
(Level **A**)

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Guideline 1.4.3 Contrast (Minimum): Text and images of text have a **contrast ratio** of at least 4.5:1. Large text (over 18 point or 14 point bold) has a contrast ratio of at least 3:1. (Level **AA**)

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Guideline 1.4.6 Contrast (Enhanced):
Text and images of text have a **contrast ratio** of at least 7:1. Large text (over 18 point or 14 point bold) has a contrast ratio of at least 4.5:1. (Level **AAA**)

Summary of WCAG 2.0

The **WCAG 2.0** has **12 guidelines** that are organized under these four principles:

1. **P**erceivable
2. **O**perable
3. **U**nderstandable
4. **R**obust

Also known as **POUR**.

Principle 1: Perceivable

Information and user interface components must be presentable to users in ways they can perceive.

To perceive is to become aware of through the senses:
- sight
- hearing
- touch

Perceivable (Guidelines)

1. **Text Alternatives:** Provide text alternatives for non-text content so that it can be changed into other forms people need, such as large print, braille, speech, symbols or simpler language. **(1.1)**
2. **Time-based Media:** Provide **captions or other alternatives** for multimedia. **(1.2)**
3. **Adaptable:** Create content that can be **presented in different ways**, including by assistive technologies, without losing meaning. **(1.3)**
4. **Distinguishable:** Make it easier for users to **see and hear content** (including separating foreground from background). **(1.4)**

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Non-AODA compliant application: Placement of Help button and form field alignment

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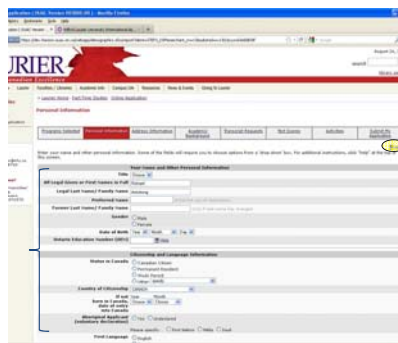
Left-aligned the Help button and all form elements

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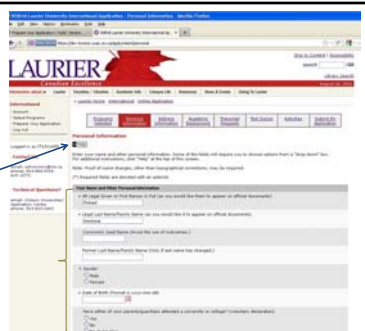
Principle 2: Operable

User interface components and navigation must be operable.

5. **Keyboard Accessible:** Make all functionality available from a keyboard. **(2.1)**
6. **Enough Time:** Provide users enough time to read and use content. **(2.2)**
7. **Seizures:** Do not design content in a way that is known to cause seizures. **(2.3)**
8. **Navigable:** Provide ways to help users navigate, find content and determine where they are. **(2.4)**

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"Skip to Content" link added

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Non-AODA compliant application:
Placement of page headings and important links

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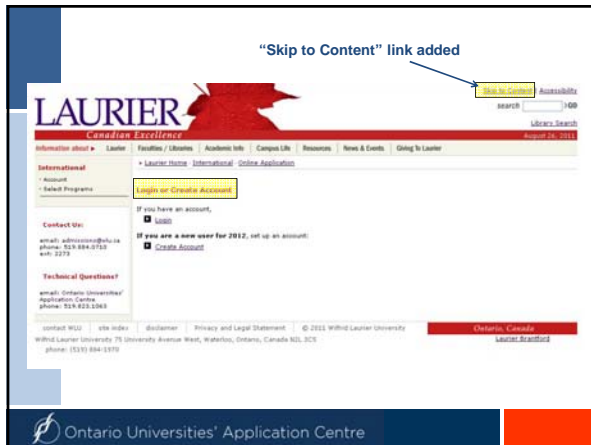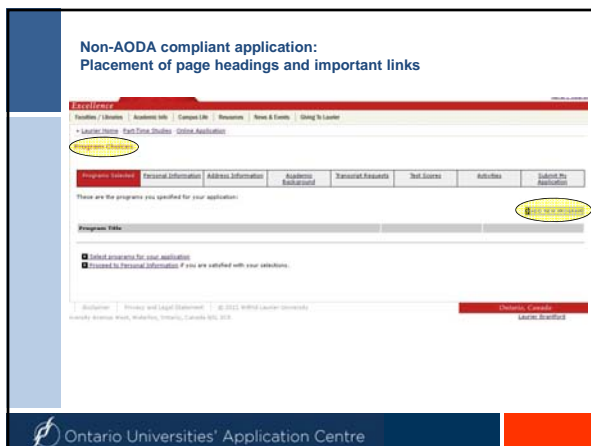
Moved page heading below the navigation and left-aligned "Add Program" button
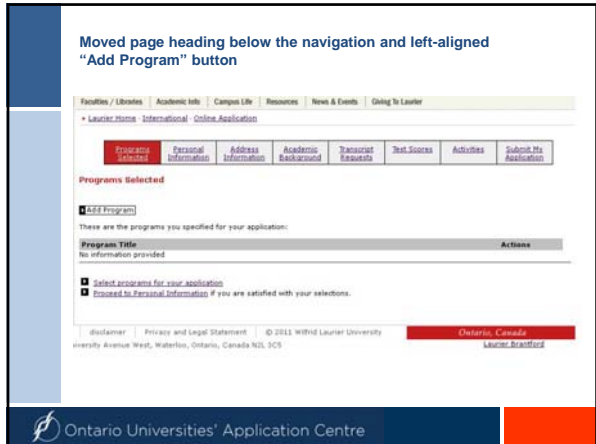
User can extend their session
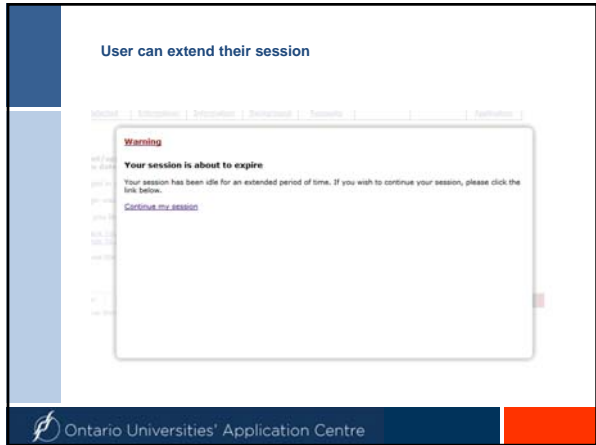
Principle 3: Understandable

Information and the operation of user interface must be understandable.

9. **Readable:** Make text readable and understandable. **(3.1)**
10. **Predictable:** Make web pages appear and operate in predictable ways. **(3.2)**
11. **Input Assistance:** Help users avoid and correct mistakes. **(3.3)**

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Non-AODA compliant application: Programs listing

Description is now a link

Non-AODA compliant application: Error handling

This is a Firefox 4 alert box and it requires JavaScript.

Once a user saves or submits a form, errors are now displayed on the same page. No JavaScript is required.

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Non-AODA compliant application: Error display

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Same format for all errors

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Principle 4: Robust

Content must be robust enough that it can be interpreted reliably by a wide variety of user agents, including assistive technologies.

12. **Compatible:** Maximize compatibility with current and future user tools (assistive technologies). **(4.1)**

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Tools for Assessing Web Accessibility

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WebAIM is a non-profit organization within the Center for Persons with Disabilities at Utah State University. They are leading providers of web accessibility expertise internationally.

View of WebAIM's web accessibility evaluation toolbar (plugin for Firefox):

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Current online application:
Colour contrast issues (colour contrast analyzers)

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Background and foreground colours should have sufficient contrast. The WCAG 2.0 (AA) states that the visual presentation of text and images of text should have a contrast ratio of at least 4.5:1. Higher contrast is now used.

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A user's desktop colour theme can affect the colour contrast on a website.

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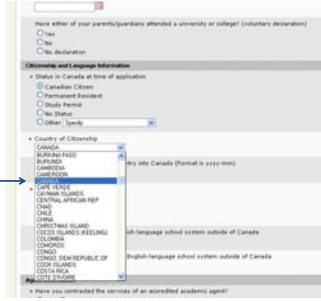
An example of zooming at 200% in on Firefox (built in the browser):

required to provide in order to prove yc
characters or greater. Your desired pass
letters, lower case letters, numbers, an

(*) Required fields are denoted with an

* First Name

* Last Name

* Email Address

* Confirm Email Address

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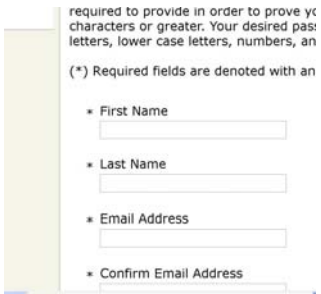
Built in zoom for Internet Explorer 8 (up to 1000%):

* First Name

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Fangs screen reader emulator:

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What we must do to provide accessible websites:

- Ensure sites **function under screen magnification**
- Provide **sufficient contrast** for users with colour blindness or low vision
- **Support the use of assistive technology** (AT), such as screen readers
- Create **sites that are keyboard-accessible** (for users without a mouse)
- Follow **web programming standards and best practices for overall usability and future compatibility** (W3C)

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Web Accessibility for Designers

Great web accessibility starts in the design. (Source: WebAIM)

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Make Sure Links are Recognizable
Differentiate links in the body of the page with underlines or something other than color alone.

Design Link Focus Indicators
Ensure keyboard users can visually identify a focused link. Use the standard dotted line or other non-color designators.

Design a "Skip to Main Content" Link
A link for keyboard users to skip navigation should be at the top of the page. It can be hidden, but should be visible when it receives keyboard focus.

Ensure Link Text Makes Sense on Its Own
Avoid "Click Here" in link text. Other ambiguous links, such as "More" or "Continue", can also be confusing.

Use Animation, Video, and Audio Carefully
If used, provide a play/pause button. Avoid flashing or strobing content it can cause seizures.

Don't Rely on Color Alone
Because users often can't distinguish or may override page colors, color cannot be the only way information is conveyed.

Design Accessible Form Controls
Ensure form controls have descriptive labels and instructions. Pay close attention to form validation errors and recovery mechanisms.

An alternative text version is also available:
http://webaim.org/resources/designers

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Web Accessibility Resources

These resources are available on the Universities' site:
http://admissions.ouac.on.ca/standards/web_accessibility.shtml

Here's a great place to start if web accessibility is new to you!
- World Wide Web Consortium (W3C) Web Accessibility Initiative (WAI): http://www.w3.org/WAI/gettingstarted/Overview.html

Checklists and Testing:
- WebAIM (Quick Reference for Testing Web Content for Accessibility): http://webaim.org/resources/evalquickref/
- WAVE (WebAIM's online web accessibility evaluation tool): http://wave.webaim.org/
- WAVE Toolbar (Firefox toolbar/plugin): http://wave.webaim.org/toolbar
- Web Accessibility for Designers (infographic and text version): http://webaim.org/resources/designers/
- JAWS 12 (screen reading software): http://www.freedomscientific.com/products/fs/jaws-product-page.asp
- Fangs Screen Reader Emulator 1.0.8 (Firefox plugin): https://addons.mozilla.org/en-US/firefox/addon/fangs-screen-reader-emulator/
- WCAG Contrast Checker 1.1.02: https://addons.mozilla.org/en-US/firefox/addon/wcag-contrast-checker/
- Web Developer (Firefox plugin): https://addons.mozilla.org/en-US/firefox/addon/web-developer/
- Integrated Accessibility Standards (AODA): http://www.e-laws.gov.on.ca/html/source/regs/english/2011/elaws_src_regs_r11191_e.htm
- Vision Simulator website: http://www.webexhibits.org/causesofcolor/2.html

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Questions?

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