



Accessibility : Evaluation Tools and Assistive Technology

Donna Haugh

Overview

- Accessibility - WHY?
- Assistive Technology – What is it?
 - Mobility issues – Key Strokes
 - Visual impairment - Screen Readers
- Evaluation Tools
 - Dreamweaver
 - Visual impairment - Wave
 - Colour blindness – Visccheck
 - Accessibility Check – Cynthia Says
- Simulations – What do users experience?
- 20 Tips to a useable and accessible website.

Why is Accessibility Important?

- **Accessibility is the right thing to do**
 - *Independence for individuals with disabilities*
- **Accessibility is the law**
 - *Legal requirement for HEI since Sept 2002*
- **Accessibility offers benefits for all users**
 - *Benefits all users – easier to read, navigate and download*
- **Accessibility uses innovative technology**
 - *The end product can be used on a variety of devices and browsers*
- **Accessibility creates market opportunity**
 - *Reach new customers and markets*



Sept 2002, 2 Amendments SENDA

"...responsible bodies will be required by law to make reasonable adjustments to ensure that a disabled student is not placed at a 'substantial disadvantage'"



This Session....

- Assistive Technology
 - Technology that enables users to access online content.
- Evaluation Tools
 - Enables designers to ensure their online content is accessibility.



Assistive Technologies

“Any item, piece of equipment, or system, whether acquired commercially, modified, or customized, that is commonly used to increase, maintain, or improve functional capabilities of individuals with disabilities.”



Mobility Issues

- Rely on the keyboard instead of the mouse
- Other Examples: touch screens & head pointers
- Problems occur with Rollovers, drop-down lists, and interactive simulations
- Ensure site tested using key strokes

Arrow Keys – IE6

- Move forward through the items on a Web page, the Address bar, and the Links bar - **TAB**
- Go to your Home page - **ALT+HOME**
- Go to the next page - **ALT+RIGHT ARROW**
- Go to the previous page - **ALT+LEFT ARROW** or **BACKSPACE**
- Display a shortcut menu for a link - **SHIFT+F10**
- Scroll toward the beginning of a document - **UP ARROW**
- Scroll toward the end of a document - **DOWN ARROW**
- Scroll toward the beginning of a document in larger increments - **PAGE UP**
- Scroll toward the end of a document in larger increments - **PAGE DOWN**
- Move to the beginning of a document - **HOME**
- Move to the end of a document - **END**
- Find on this page - **CTRL+F**
- Go to a new location - **CTRL+O** or **CTRL+L**
- Activate a selected link - **ENTER**
- Open the Search bar - **CTRL+E**

Visual Impairment

- Blind users - Screen readers e.g. Jaws
- Free-trial screen readers - pwWebSpeak
<http://www.soundlinks.com/pwgen.htm>
- Screen readers read the text
 - Problems with images and animations
 - Need for assigned text descriptions - ALT tag
- ``

Windows Magnifier

- Display utility that makes the screen more readable for users who have low vision.
- Creates a separate window that displays a magnified portion of your screen.
- Intended to provide a minimum level of functionality for users with slight visual impairments
- **Start > Programs > Accessories > Accessibility > Magnifier**

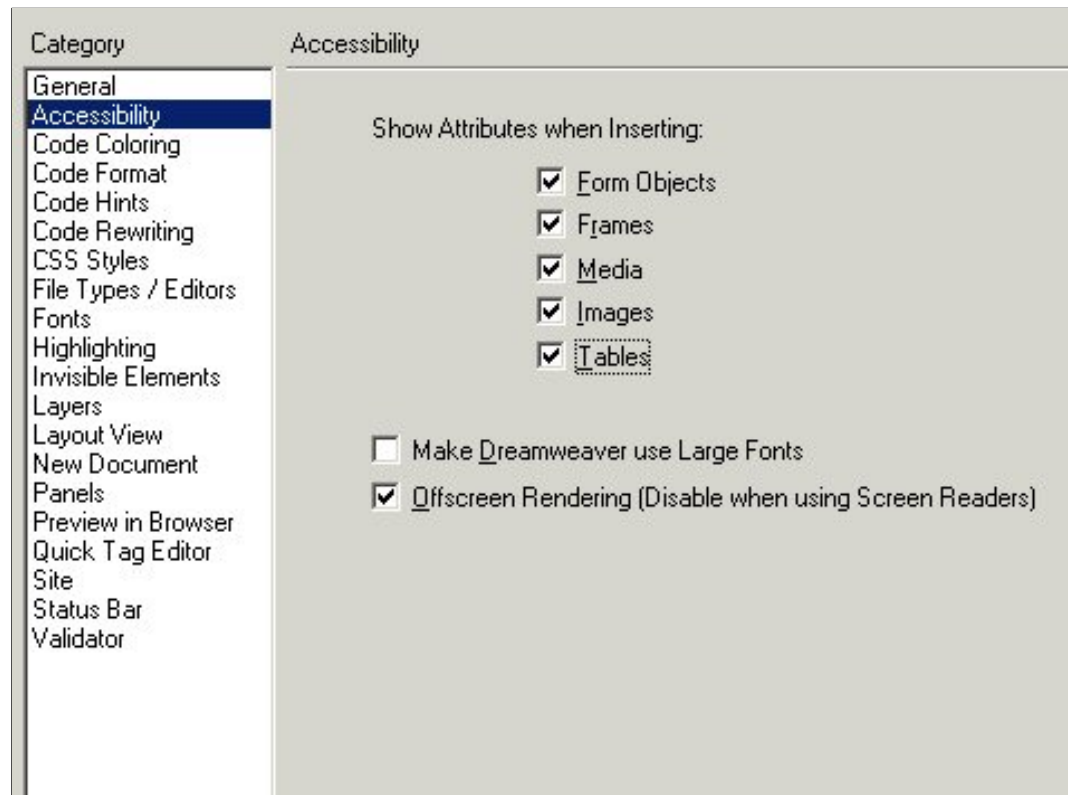


Evaluation Tools

- Provide help with producing accessible content.
- Provide standardised checks against current legislation.
- Available free of charge – certain restrictions [page by page]

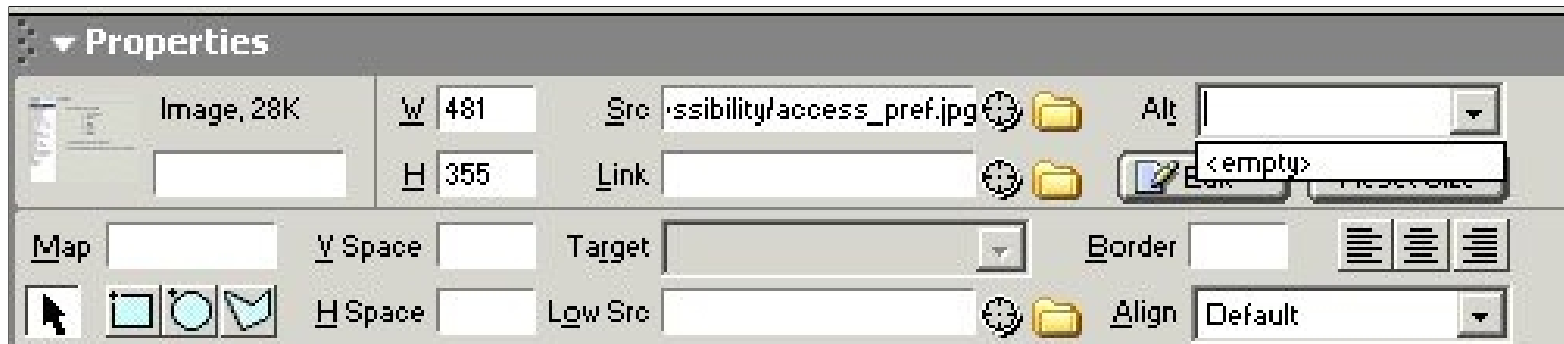
Dreamweaver

- Accessibility Options – Edit > Preferences



ALT Tags

- All images require a ALT tag.
- Logos and Spacer – Empty Tag.



Wave

- Visual representation of how a speech browser will navigate through your site.
- A tool that helps people perform those tasks that require human judgment
 - "Is this ALT text a functional equivalent for this image?".
 - "Does this reading order make sense?".
- <http://www.wave.webaim.org/index.j>



Colour Blindness

- Roughly 1 in 20 people have a colour deficiency
- 1 in 12 men have color perception problems. Red and Green most common.



Colour blindness

- 3 major forms of colour blindness.
- **Deuteranope** (a form of red/green colour deficit)
- **Protanope** (another form of red/green colour deficit)
- **Tritanope** (a blue/yellow deficit-very rare)



Vischeck

- Vischeck is a way of showing you what things look like to someone who is **colour blind**.
- **Online** - your own image files or run on a web page.
- **Download** - run it on your own computer.
- Both versions are free.

www.vischeck.com

Try Vischeck on a Webpage

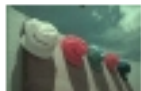
Select the type of color vision to simulate:



Deuteranope (a form of red/green color deficit)



Protanope (another form of red/green color deficit)



Tritanope (a blue/yellow deficit- very rare)

Enter the URL of any webpage- eg. www.google.com.

URL:

Run Vischeck!

Vischeck - Images

Try Vischeck on Your Image Files

Select



Image

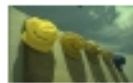
Try Vischeck on Your Image Files

Your Results:

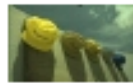
Original Image Deuteranope Simulation



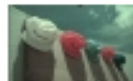
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Cynthia Says

- Web content accessibility validation tool
- Identify errors in design with regard to WC3 guidelines
- This online test only validates one page at a time
- <http://www.cynthiasays.com/>



Web Based Simulations

- Collection of computer based artifacts that simulate aspects of disability
 - Autism
 - Dyslexia
 - Hearing impairment
 - Visual impairment
- <http://members.aol.com/srousell/sim-dis/i>

Does your website.....

- **Require scripts?**
 - Do not rely on scripts alone – assistive tech users often turn it off.
- **Need a mouse?**
 - See earlier difficulties
- **Abuse the header tags?**
 - <http://www.abc2.org/> [good example]
- **Make you fight for the content?**
 - Content needs to be clearly labelled and easy to find.
- **Require your users to have a degree in astro-navigation to work out where they are?**
 - <http://www.rbs.org.au> [good example]



Does your website.....

- **Confuse the user?**

- Consistency – menu in same place or home pages that change.

- **Have useless titles?**

- Change the titles to reflect the page content.

- **Have unnavigable forms?**

- Bad form – not distinguish between home and delivery address

- **Use confusing tables?**

- Include summary tag and take care with data tables

- **Have untagged images?**

- Tag all images - especially if the image is used as a navigation button.

Does your website.....

- **Have bad contrast?**
 - White background and black text.
- **Rely on colours?**
 - Do not convey information using colour i.e click on the red button.
- **Have fixed colours?**
 - Prohibits users changing their colour i.e. dyslexic students sometimes prefer a yellow background colour.
- **Have fixed font-sizes?**
 - Prohibits users chnging the font size – use ems.
- **Require a large footprint?**
 - Remember users still use 800 by 600 screen resolution.



Does your website.....

- **Have annoying scrollbars?**
 - Causes problems with ZoomText – magnifies text
- **Have confusing tables?**
 - Causes problems with screen reader
- **Require a good eye and a steady hand?**
 - Some menus can cause problems – tricky to use.
- **Have confusing navigation?**
 - Menus all over the place, changes to the navigation upon refresh and scroll bars all over the place.
- **Work – Check with the audience!!**



Resources

- UCL Disability website
 - www.ucl.ac.uk/disability
 - <http://www.ucl.ac.uk/disability/resources>
- The Web Content Accessibility Guidelines from WAI from the W3C
 - <http://www.w3c.org/WAI/>



Any Questions?