

Accessibility

Content Management

Topic overview

- National guidelines and recommendations
- W3C guidelines and testing
- Assistive technologies
- Good practice: Coding
- WAI-ARIA landmark roles
- Good practice: Visual design and Video
- Alternate style sheets (Firefox & IE8)
- Navigation techniques
 - Skipnav
 - Keyboard navigation (access keys)
- Accessibility statements and support

Who is accessibility for?

- Accessibility is for all, not just for those with obvious disabilities.
- The principle of website accessibility is that content should be available/understandable to all, irrespective of circumstances.

What can web designers do?

- Sometimes, alternative versions of content must be provided like the `alt` attribute for image descriptions and video captioning.
- Our sites must be coded in such a way as to allow assistive technologies to convey content to users easily.
- Visual designs (typeface, contrast, colour combinations) should be carefully chosen.
- Content should be written in a way that makes it easily understandable.

Special considerations

- Complete blindness
- Visual impairments
 - Low vision
 - Colour blindness
- Audio impairments
 - Profound deafness
 - Partial deafness
- Physical disabilities
 - Slow, shaky or no motor functions
- Cognitive disabilities
 - Dyslexia
 - ADD and ADHD

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NATIONAL GUIDELINES

National guidelines & recommendations

- Most countries now have or are developing guidelines. E.g. [Section 508](#) in the USA.
- The EU has created the [Web Accessibility Benchmarking Cluster](#). This is a methodology for testing websites against the W3C WCAG 1.0 and 2.0 recommendations.
- In the UK, the Equality Act (2010) applies and website content must therefore be accessible to all.

Recommendations in the UK

- The Government Cabinet Office have initiated a number of guidance projects.
- For the public sector: [Delivering Inclusive Websites](#). A guide for public sector website owners when procuring websites.
- For the private sector: [Guide to good practice in commissioning accessible websites](#) by BSi. This is a publicly available specification (PAS 78:2006).
- Unfortunately, the guidance is short on detail and focuses on outcome rather than practice.

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W3C GUIDELINES

Accessibility for web designers

- The W3C [Web Accessibility Initiative](#) (WAI).
- [Web Content Accessibility Guidelines](#) version 2 (WCAG 2.0) were finalised on 11th December 2008.
- These are the guidelines we should use when building websites.
- W3C have provided the very useful “[How to Meet WCAG 2.0](#)”.
- There are 3 success criteria levels: A, AA and AAA.
- Most websites should achieve at least A and aim for AA.
- The WCAG guidelines have now been widely adopted by many organisations and jurisdictions.

WCAG in action

The screenshot shows the Australian Government Web Guide page for Accessibility. The page has a dark blue header with the Australian Government logo and the text "Web Guide". In the top right corner, there are links for "Skip to content", "About", and "Contact". A search bar with the text "Search..." and a "Go" button is also present. The main content area is white and features a left-hand navigation menu with a list of links: Home, Types of Websites, Initial Requirements, Required Information, Information Access, Accessibility & Usability, Accessibility (highlighted), 1.1. Agency Website Stocktake, 1.2. Accessibility Conformance, Testing, 1.3. Website Infrastructure Assessment, 1.4. Capability Assessment, PDF Accessibility, Usability testing, User needs analysis, Finding Content, Managing Content, Recordkeeping, Types of Content, Web 2.0, and Mandatory Requirements. The main content area is titled "Accessibility" and contains a red box with a warning icon and the text "This is a Mandatory Requirement. View all Mandatory Requirements...". Below this, there are three paragraphs of text: the first paragraph states that the Australian Government has endorsed WCAG 2.0 for all government websites; the second paragraph provides advice on how to meet the new standard; the third paragraph mentions the endorsement by the previous Minister for Finance and Deregulation, the Hon. Lindsay Tanner, and the previous Parliamentary Secretary for Disabilities and Children's Services, the Hon. Bill Shorten, MP, on 23 February 2010.

[Skip to content](#)

About Contact

Australian Government

Web Guide

Search... **Go**

Accessibility

This is a Mandatory Requirement. [View all Mandatory Requirements...](#)

The Australian Government has endorsed the Web Content Accessibility Guidelines (WCAG) version 2.0 for all government websites. This requirement supersedes the previous mandate for compliance with WCAG 1.0.

Advice on how to meet the new standard, including the full scope of the upgrade, is detailed in the Web Accessibility National Transition Strategy (NTS), published on the Department of Finance and Deregulation (Finance) website.

The previous Minister for Finance and Deregulation, the Hon. Lindsay Tanner, with the previous Parliamentary Secretary for Disabilities and Children's Services, the Hon. Bill Shorten, MP, detailed endorsement of the new guidelines in a [media release on 23 February 2010](#), and announced the [release of the NTS on 30 June 2010](#).

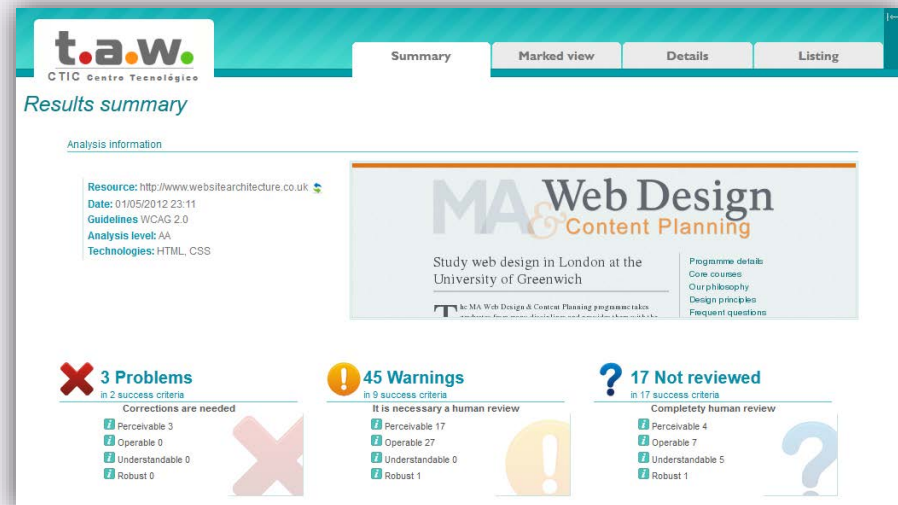
Why must I?

Accessibility requirements for websites are mandated under government policy, legislation, and through whole-of-government commitments.

In November 2009, the Online and Communications Council (OCC) endorsed WCAG 2.0, requiring

Testing for accessibility

- Testing for accessibility is not as easy as testing for code validation because there are no strict rules, only guidelines.
- There are some useful online tools that can help. [Wave](#) is particularly good and gives a visual map of your page.
- [TAW](#) is excellent and gives a great level of feedback on your coding.



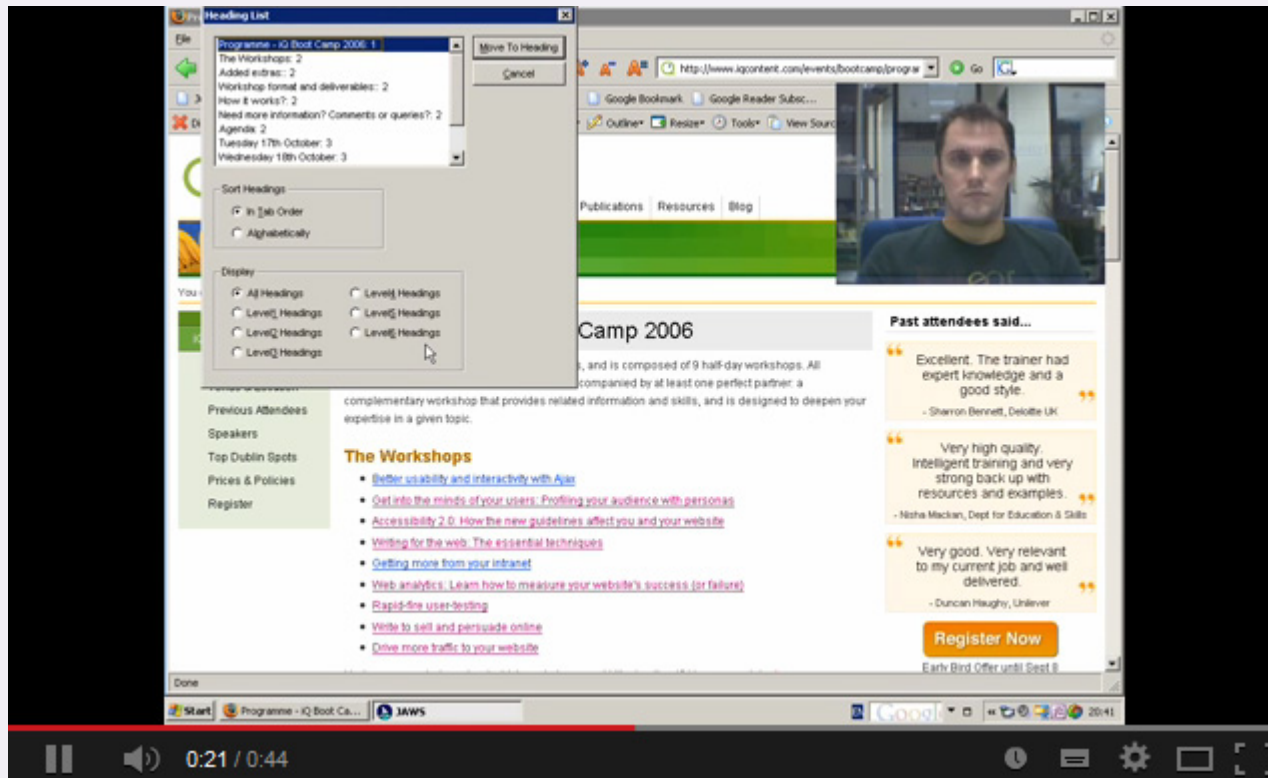
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ASSISTIVE TECHNOLOGIES

Assistive technologies

- Assistive Technologies is a general term to describe those technologies/devices/software that allow people with disabilities to operate a computer.
- Probably the most common aid for web surfing is the screen reader. This is a software application that reads website text and vocalises it. This enables blind and partially-sighted users to navigate a website and read its content.
- The most common screen reader ([around 70% of the market](#)) is [JAWS](#).
- Although screen readers like JAWS are very good at deciphering web pages, they can only work effectively if the designer has used correct, semantic markup and has implemented some additional accessibility tools such as “skip-nav” links.

JAWS in action



JAWS alternatives

- JAWS is quite expensive (over \$1,000) and there are some free alternatives.
- [BrowseAloud](#) is a UK browser reader, used by many public organisations. Websites must sign up for the service, which is not free.
- [NVDA Screen Reader](#) is an open source project and is entirely free to install and use. It also comes in a “portable” version and can be stored on a USB drive.
- [Thunder](#) is a free screen reader also with a portable version and developed in the UK.

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GOOD PRACTICE: CODING

Semantic coding

- Semantic coding is important for accessibility because it gives meaning to content that might only be obvious visually.
- For example:

```
<p class="big">Title</p>
```

may look the same as...

```
<h1>Title</h1>
```

...but it has an entirely different meaning if the user cannot see the rendered result.

Alt text for images

- All images must have a text alternative, except for purely decorative images where a null alt attribute:

An image with a descriptive text alternative...

```

```

An image with a null alt attribute...

```

```

...the `longdesc` attribute is rarely used because of poor support but it can be used to link to another document with a longer description of the image.

BBC accessibility standards and guidelines

How the BBC ensures best practice for accessibility online



Content order

- Screen readers begin reading from the top of the HTML document and therefore, the order of the content in the document should reflect the order on the rendered page.
- This is sometimes difficult to achieve but a logical use of floating `<div>`s can usually be employed successfully.

Dealing with tables

- Tables are often difficult for screen readers to navigate so the addition of a summary attribute and a <caption> can be very useful.

```
<table class="diary" summary="This table shows the teaching schedule for the Website Planning course">
```

```
<caption>2009-10 Session Schedule</caption>
```

```
<tr><th>Date</th><th>Room</th><th>Title</th></tr>
```

```
<tr class="row2"><td>25th November 2009</td><td>Tower Lab C</td><td>Web hosting and domain names.</td></tr>
```

Note: the *summary* attribute is currently deprecated in HTML5.

2009-10 Session Schedule		
Date	Room	Title
25th November 2009	Tower Lab C	Web hosting and domain names.

Dealing with tables

- Table *scoping* is another useful coding technique that helps a screen reader understand the order of content in a data table by defining whether the data is ordered by column or by row.

```
<table class="diary" summary="This table shows the teaching schedule for the Website Planning course">
```

```
<caption>2009-10 Session Schedule</caption>
```

```
<tr>
```

```
    <th scope="col">Date</th>
```

```
    <th scope="col">Room</th>
```

```
    <th scope="col">Title</th>
```

```
</tr>
```

```
<tr class="row2"><td>25th November 2009</td><td>Tower Lab C</td><td>Web hosting and domain names.</td></tr>
```

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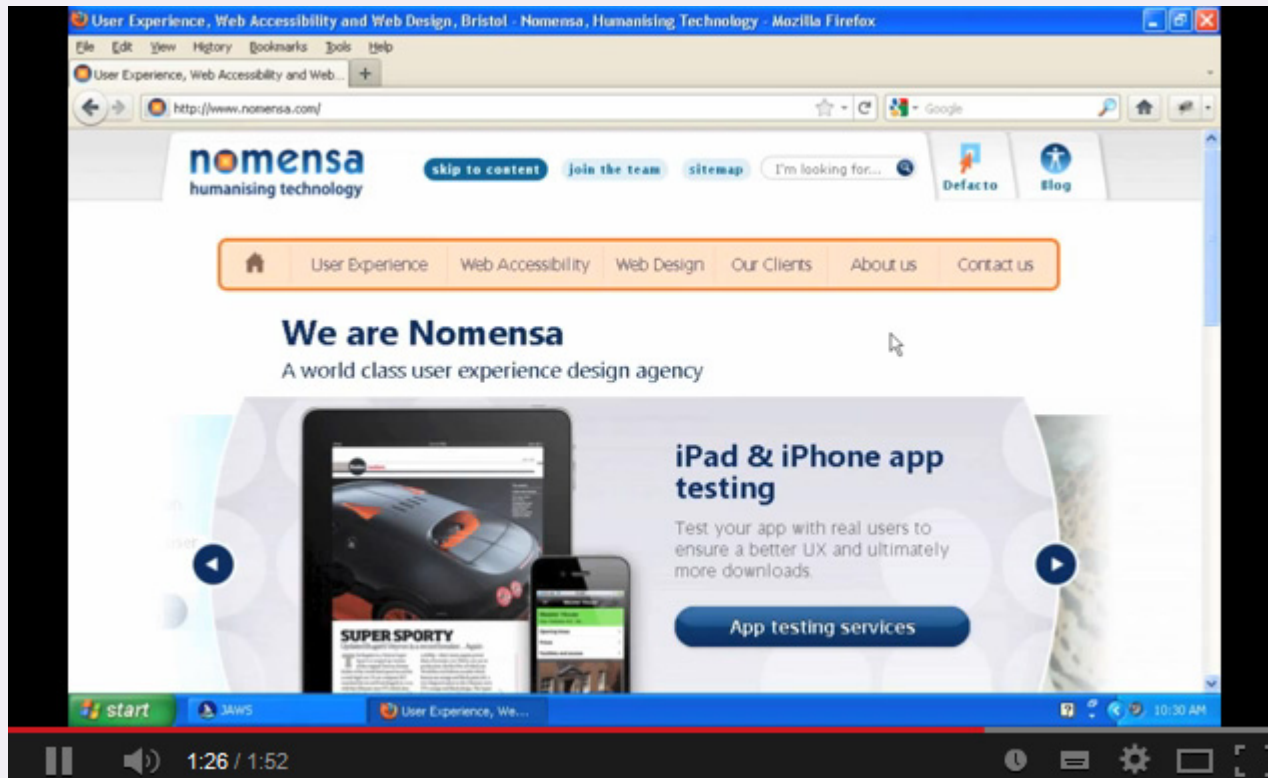
LANDMARK ROLES

WAI – ARIA landmark roles

- The Web Accessibility Initiative's *Accessible Rich Internet Applications* was created to address the semantic shortfall in markup.
- WAI-ARIA is an extension to HTML that allows developers to explicitly specify structural page elements by adding element attributes known as *landmark roles*.

```
<footer role="contentinfo">content</footer>
```

Landmarks in action



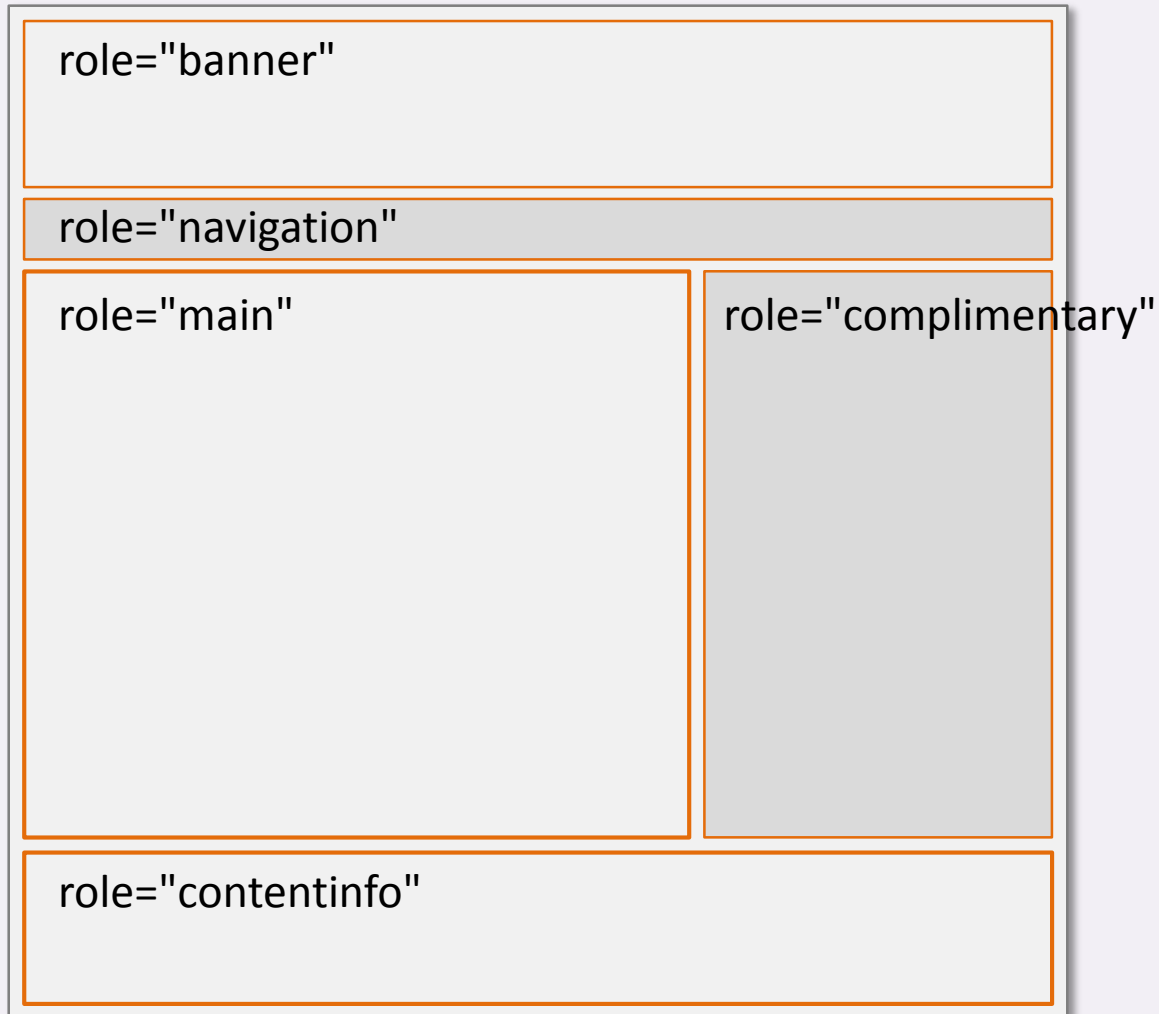
[How ARIA landmark roles help screen reader users](#) (video) – Léonie Watson

Just 8 to remember

- The W3C specification defines over 70 roles but just 8 *landmark* roles:
- **application** – an area of a page that is an app.
- **banner** – analogous to `<header>`.
- **complimentary** – analogous to `<aside>` (side-bar).
- **contentinfo** – analogous to `<footer>`.
- **form** – a form area.
- **main** – the main content, analogous to `<main>`*.
- **navigation** – any navigation, bar, list etc.
- **search** – a form used specifically for search.

* Introduced in June 2013

Landmark role mapping



CSS selectors

If you use the `role` attribute for an element, there is no need to add additional *id* or *class* attributes to target that element.

You can use the *Exact Attribute Value Selector* like this:

```
div[role='main'] {background-color: red;}
```

This selector type will work in all modern browsers, so adding roles to your markup does not necessarily mean more bloat.

Using document landmark roles

The validation issue – Leonie Watson says:

“The great thing is that you can use WAI-ARIA document landmark roles right now. Just add the role attribute to a container element and give it the most relevant value. For example:

```
<div id="header" role="banner">...</div>
```

There is one drawback to using document landmarks within your existing code. WAI-ARIA isn't part of the formal specification for either HTML 4.01 or XHTML. **If you apply it to a page, it's going to break the code validation.**

Code validation plays an important role in web accessibility, but WAI-ARIA represents an enormous benefit to the user. In my book, user benefit trumps code validation, so go ahead.... Use a little WAI-ARIA in your code.”

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GOOD PRACTICE: VISUAL DESIGN

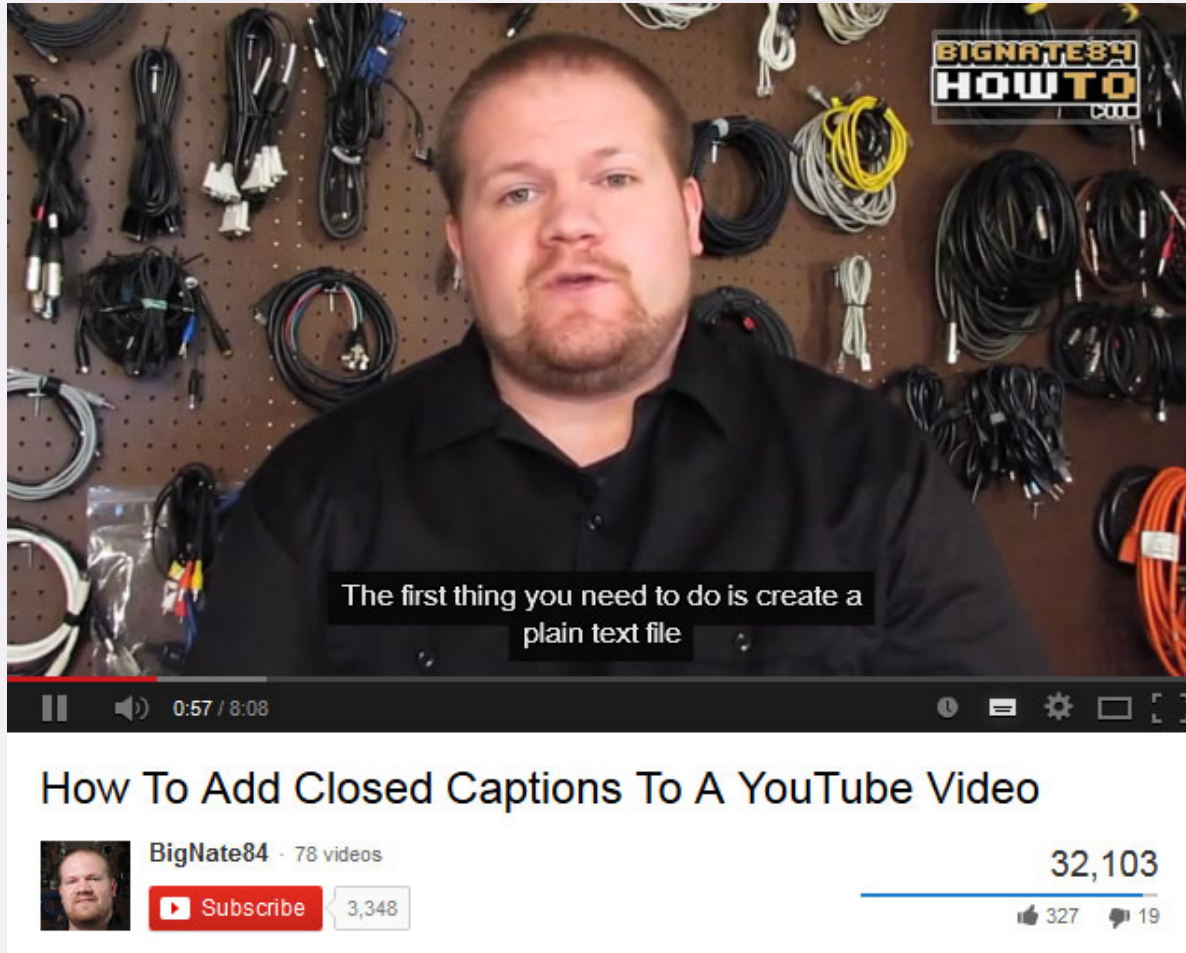
Colour, contrast & font size

- Make sure that websites are still readable by those with colour blindness.
- There are a number of useful checking tools such as the [Colorblind Web Page Filter](#).
- Contrast between foreground and background should be a minimum of 70% (as a general rule)
- Text should be large enough to be easily readable by those with less-than-perfect eyesight.
- To some extent, scaling browsers have improved this situation.

Font face and readability

- Those with dyslexia may find sans serif fonts easier to read because the letter forms are simpler.
- High contrast (black on white) is not ideal, off-black on off-white is better.
- Avoid long sentences and keep paragraphs relatively short (chunking information).

Closed captioning



The first thing you need to do is create a plain text file

0:57 / 8:08

How To Add Closed Captions To A YouTube Video

BigNate84 · 78 videos

32,103

Subscribe 3,348

327 19

The image shows a YouTube video player interface. At the top, a man with a beard and a black shirt is speaking. A black caption box with white text is overlaid on the video, reading "The first thing you need to do is create a plain text file". The video player controls are visible at the bottom, showing a play button, a progress bar at 0:57 / 8:08, and various icons for volume, settings, and full screen. Below the video player, the video title "How To Add Closed Captions To A YouTube Video" is displayed. The channel name "BigNate84" and "78 videos" are shown on the left. On the right, the view count "32,103" is displayed. Below the channel name, there is a red "Subscribe" button with "3,348" subscribers. At the bottom right, there are icons for likes (327) and comments (19).

[Good general advice on captioning](#)

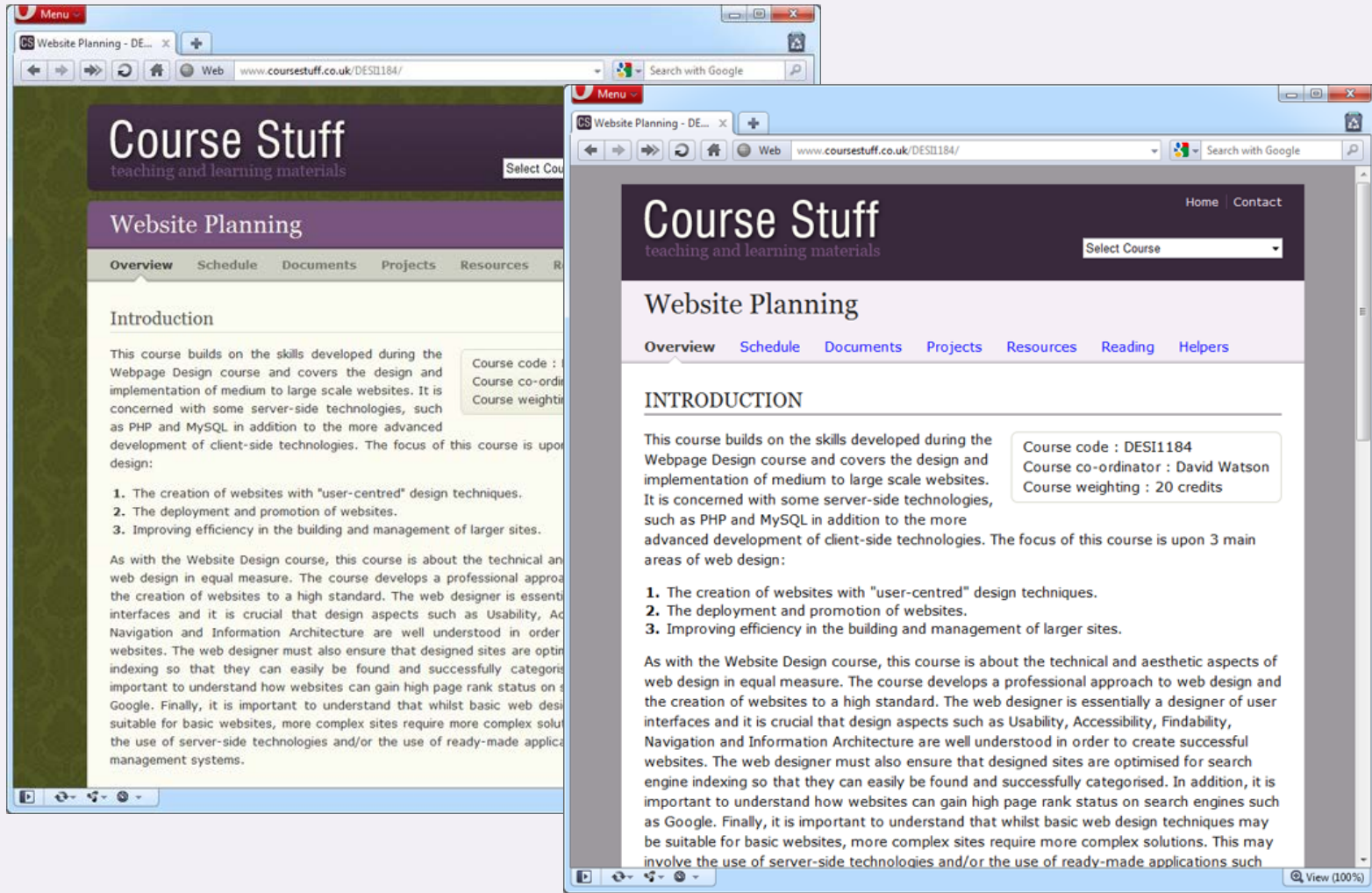
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ALTERNATE STYLESHEETS

Alternate ways of viewing

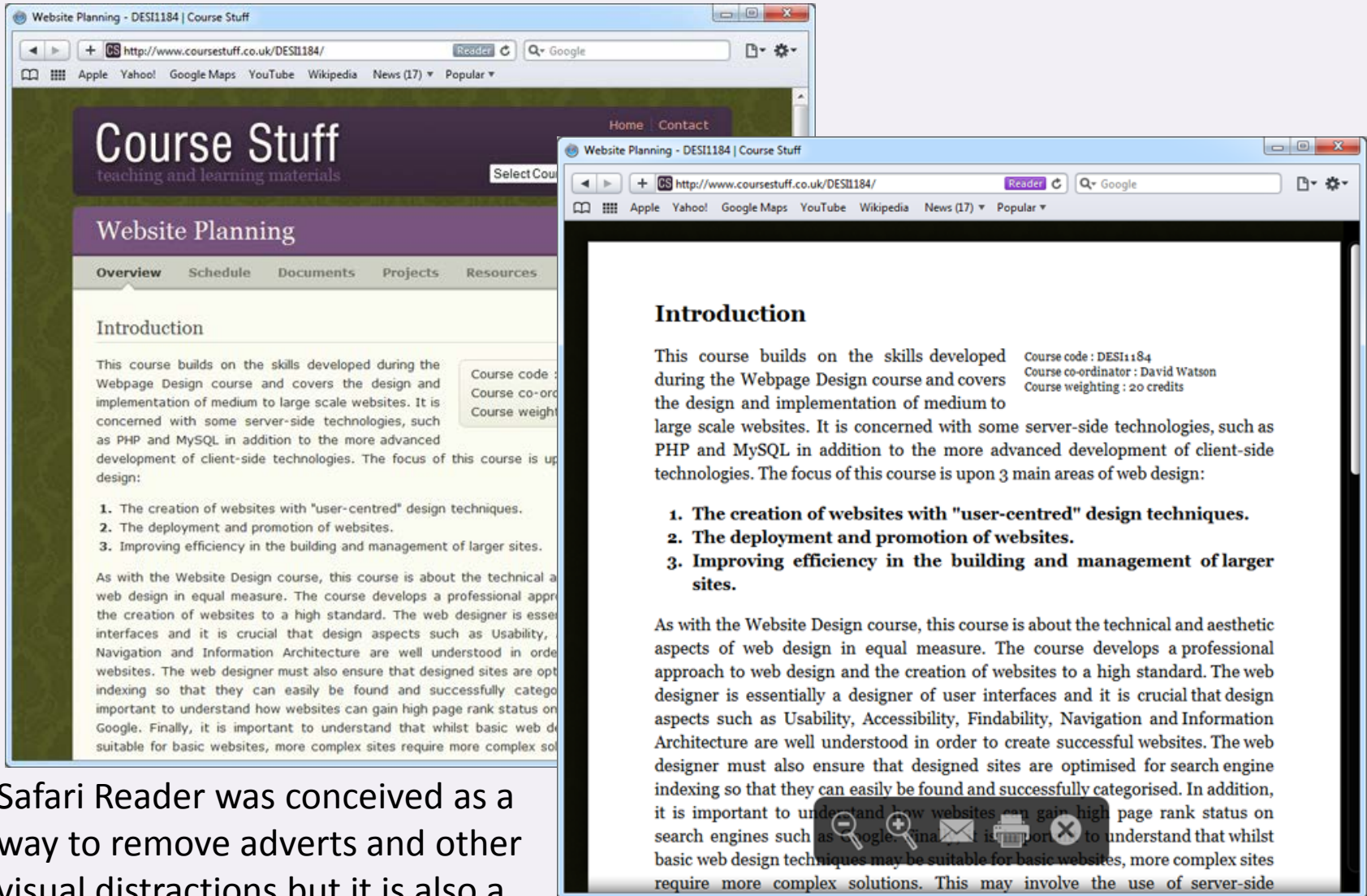
- Alternate stylesheets can be created to provide higher contrast or larger text versions of a page.
- Some browsers (Opera, Firefox, IE8+) provide the ability to switch stylesheets. However, the style is only applied to the current page.
- It is possible to use JavaScript to build a style switcher into the web page. There are lots of online tutorials: [example](#).

Alternate stylesheets



```
<link rel="alternate stylesheet" type="text/css" title="High Contrast" href="high-contrast.css" />
```

Safari Reader



Safari Reader was conceived as a way to remove adverts and other visual distractions but it is also a good accessibility feature.

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NAVIGATION TECHNIQUES

Skipnav

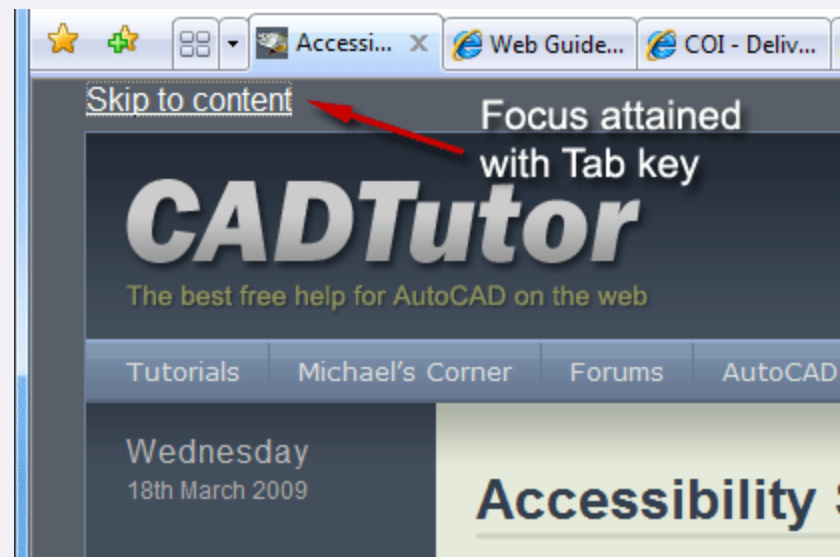
- Skipnav is the technique of allowing users using screen readers to skip the navigation and go straight to the page content.

Markup:

```
<a class="skip" href="#content" accesskey="2">Skip to content</a>
```

CSS:

```
.skip {  
  position:absolute; top:0; left:-9999px;  
}  
.skip:focus,.skip:active {  
  position:absolute; top:7px; left:26px;  
  background:#585F69; color:#FFF;  
}
```



Keyboard navigation

- Site navigation by keyboard (rather than clicking on links) may be implemented using the **accesskey** attribute in anchor tags.

This markup allows the user to navigate to the site homepage by using a number key on the keyboard:

```
<a href="/index.php" accesskey="1">Home</a>
```

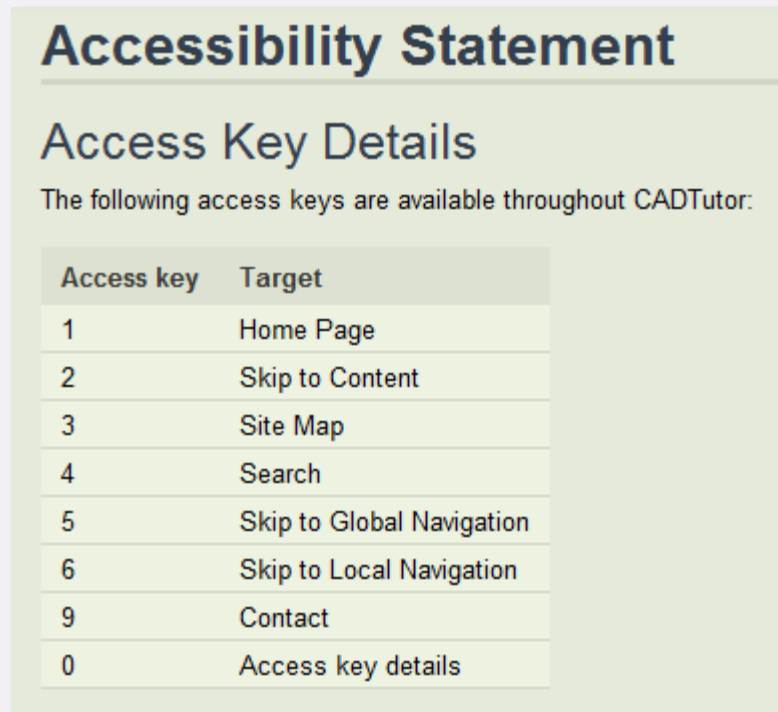
The link is invoked using Alt+1 then Enter in IE.
Or using Shift+Alt+1 in Firefox

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STATEMENTS AND SUPPORT

Accessibility statements

- Where a site provides accessibility features, an accessibility statement should be used in order to describe what is available and how it can be used.
- This can also be a statement of compliance.



Accessibility Statement

Access Key Details

The following access keys are available throughout CADTutor:

Access key	Target
1	Home Page
2	Skip to Content
3	Site Map
4	Search
5	Skip to Global Navigation
6	Skip to Local Navigation
9	Contact
0	Access key details

Accessibility support

Best Practice

As with many things, the BBC is leading the way in support for those with web access difficulties. Their new "My web my way" mini site recently came out of beta.

www.bbc.co.uk/accessibility

The screenshot shows the BBC 'My web my way' website. At the top is the BBC logo and navigation links for News, Sport, Weather, iPlayer, TV, Radio, and More... A search bar is on the right. Below the navigation is a blue header with the text 'My web my way - Making the web easier to use' and options for text size and colour. A secondary navigation bar includes 'My web home', 'How to guides', 'Disability on BBC Online', 'Best practice', and 'FAQ / Contact'. A breadcrumb trail shows 'You are on: My web my way home' with a share button and a 'View sitemap' link.

The main content area is divided into several sections:

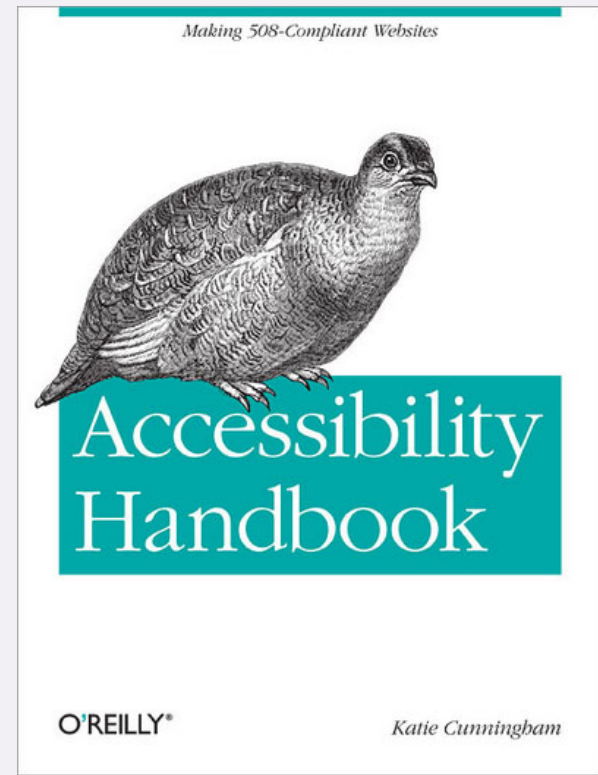
- How to guides:** A section titled 'Choose a topic you would like help with' containing six buttons: 'I can't see very well', 'I am blind', 'I can't hear very well', 'I find words difficult', 'I find a keyboard or mouse hard to use', and 'Browse all guides'.
- What is My web my way?:** A section explaining the site's purpose: 'This site provides accessibility help, enabling computer users to make the most of the internet whatever their ability or disability.' It includes links for 'Read more about My web my way' and 'Comment on My web my way's new look'.
- BBC accessibility news:** A section with the link 'News Connected Studio' and 'Read more news updates'.
- Disability on BBC Online:** A section titled 'The best of BBC Online for users with disabilities' with links for 'Ouch! The online disability magazine', 'You and Yours', 'Games for switch devices', and 'BBC Online access services'.
- Best practice:** A section titled 'Resources for making the web a more accessible place' with links for 'What is accessibility?', 'About My web my way', 'Useful web links', 'Contact us', 'Case studies', 'BBC accessibility policy', and 'Standards and guidelines'.

The footer contains the BBC logo, 'Mobile site' link, and links for 'Terms of Use', 'Privacy', 'Cookies', 'Parental Guidance', 'About the BBC', 'BBC Help', 'Accessibility Help', and 'Contact Us'. A copyright notice states: 'BBC © 2013 The BBC is not responsible for the content of external sites. Read more.'

Reading



Published in 2006



Published in 2012

Online resources



services articles resources co

Search WebAIM

Introduction to Web Accessibility

WebAIM Training

We have web accessibility in mind

Our mission is to empower organizations to make their web content accessible to people with disabilities.

[Accessibility Training](#)

Whether here in Utah or on-site at your organization, WebAIM can provide comprehensive training to fit your needs.

[Accessible Site Certification](#)

As a respected third party accessibility expert, WebAIM can evaluate and certify your site to established web accessibility guidelines.

[Technical Assistance](#)

Need assistance implementing accessibility? WebAIM's expert staff can provide the assistance you need.

[Evaluation and Reporting](#)

We can provide reports to help you know how accessible your site is and how to make it better.

[WebAIM](#)

The screenshot shows the 'humanising technology blog' website. At the top, there is a navigation bar with the site name, a search bar, and social media icons for Defacto and Nomensa. The main content area features a post titled 'Web Accessibility' with a sub-header 'Design for accessibility workshop'. The post includes a date (15th April 2013), an author (Alastair Campbell), and a category (Web Accessibility). The text of the post describes a workshop experience. To the right of the post, there are sidebars for 'Categories' (listing Web Accessibility, User Experience, Web Design, Nomensa thinks, Simon says, and a link to show more categories) and 'Authors' (listing Léonie Watson, Nomensa, Simon Norris, Tim Blass, Emily Coward, and a link to show more authors). Below the post, there are 'Tags' for Accessibility, Design, Insight, screen reader, User Experience, and another User Experience tag.

[humanising technology blog](#)

Skip to End