

WEB DESIGN – ACCESSIBILITY

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WEB ACCESSIBILITY

The ability to use websites by people of varied disabilities and needs, more specifically, to enable users to:
Perceive, Understand, Navigate and Interact with web pages

The FOUR PRINCIPLES underpinning the WCAG 2.1 (set of guidelines published by the World Wide Web Consortium) are:

- Perceivable
- Operable
- Understandable
- Robust

Encompasses all disabilities that might affect web access, including:

- Visual
- Speech
- Neurological
- Cognitive
- Physical
- Auditory

Notice this is far more than just visual and hearing impairment.



WEB ACCESSIBILITY FOR ALL

It is important to note, web accessibility provides benefits to people without disabilities and also supports search engines.

Mobile device use such as mobile phones, smart watches, smart televisions and other small screen devices that will enable all users for ease of input and viewing

Older people can benefit due to ageing issues that are not specifically disabilities

Users with temporary disabilities, such as broken limbs or misplaced spectacles

Sunlight or 'situational limitations' that cause difficulties for many users of websites, possibly even the use of audio on a website and someone is in a very noisy environment unable to hear the audio

Slow internet connection, especially mobile devices and limited broadband areas

Coding will be better and slimmer, making mobile devices run smoother for all users



CONTRAST FOR ACCESSIBILITY

Sufficient contrast between foreground and background, including text on images, background, buttons and other elements. It does not apply to logos. The 'contrast ratio' between foreground and background can be measured and tested using WCAG AA and AAA ratings. The correct terminology is 'luminance contrast ratio' and is to ensure the ratio is sufficient for web users reading text or viewing foreground colours against a background.

Foreground color: #666666 

Background color: #f9f9f9 

Contrast Ratio: 5.45:1

Normal Text

WCAG AA: **Pass**

WCAG AAA: **Fail**

Sample:

COLOUR THOUGHTS

Do not use colour alone when conveying a message or information.

For example, stating “required fields on the form in red must be complete”, instead use “required fields on the form in red and marked with an asterisk * must be completed” to ensure another means to understand meaning other than just colour

Numbers could also be used in combination with colours to explain to a user the message or information, signage uses symbols as well as text to assist the reader to better understand a message. Consider the ease of message understanding by various people with varying degrees of requirements

Colour blindness is only one reason, look up on YouTube as to how people with visual impairments deal with the world around us



INTERACTIVITY AND NAVIGATION

Ensure interactive elements can be identified.

Remember some people only use a mouse to navigate through web pages, also mobile devices have changed the interaction with users nowadays.

Explain, such as “touch or click” and ensure changes to text / image occurs with mouse over, mouse click / touch. Use words that are clear to the user as what is expected to make such an interaction and where.

Provide more than one method and more than one set of menu / navigational links on a web page. Navigation should include a menu, site search or site map or list of links in other places.

Ensure all fields of a form have descriptive labels adjacent to the field. Avoid having too much space between the label and the field. Remember, the orientation of the language and this should guide placement of label.



SEMANTICS

Semantic HTML is the correct usage of html tags / elements for their correct purpose.

For example, if you need to have a button, use the `<button>` element and not `<div>`

The correct html semantic usage of elements assists screen readers that read web pages out aloud. The example provided would be read as a button, allowing the user to identify the element immediately as opposed to not knowing it is a button by design. It also makes the element clickable for modern browsers.

Design and styling is more suitable by default when using semantic HTML such as `<button>` or `<form>` or `<table>` or `<article>` ... it clearly defines the element content within the page being visited by a user with screen reading requirements



LANGUAGE USE

Declaration of language is important to screen readers and search engines.

Example:

```
<!DOCTYPE html>
```

```
<html lang="en">
```

Use clear concise language that is easy understood and try to avoid characters that might cause issues with screen readers. For example:

Sentences should be concise and straight to the point

Avoid dashes and other symbols, instead of writing 1 – 8, write 1 to 8

Avoid abbreviations, instead of Dec, write December



HEADINGS

Users quickly determine their opinion and how long they stay on a website

User with screen readers will use headings more than most and the importance doesn't end there ...

Search engines determine the prominence of a page within their rankings by having bots read headings

Only use headings as headings and not for other formatting purposes, use other formatting for that requirement

H1 through to H6 with `<h1>` being a main heading followed by lesser important headings down to `<h6>`

This is H1 Tag

This is H2 Tag

This is H3 Tag

This is H4 Tag

This is H5 Tag

This is H6 Tag



Most important

Least Important



ALT TAGS

The alt attribute is useful for a number of reasons, especially for accessibility but also for search engine bots to 'read' images and for users to view the alternative text as opposed to viewing all images all the time (important for mobile devices). If a web browser is unable to find an image, it could display the alt attribute to help the user.

The alt attribute allows screen readers to 'read' an image, it should be a good description of the image, for example:

```

```



LINK WORDING

Describe links within the text appearing as the hyperlink

Let the user know exactly where the hyperlink will take them, for example:
Instead of [Click Here](#) or [Read More](#) or even [More ...](#)

Use:

[Find more information about the product by clicking here](#)

Or:

[Read more about our clever gadget](#)



TITLE FOR LINKS

The title attribute provides more information about an element. The information is quite often shown as a tooltip when the user moves their mouse pointer over the element.

For example:

```
<a href="http://www.markgillan.com/" title="Go to Mark online">Visit his website</a>
```

Again, it not only helps with accessibility but helps every user as well as search engines to see what is on a page. It is important to help users and not to forget their needs.



TRANSCRIPTS AND CAPTIONS

Audio only content – such as a podcast, provide a transcript

Audio and visual – such as training videos, also provide captions

We have all seen subtitles and close captioning, it is important to allow all users to download a transcript and to view captions when considering disabilities

A transcript is everything within media detailed onto a document for it to be read by a user or screen reader or other specialist hardware / software

The transcript should include ALL spoken word and actions should be described, for example, audio that is non verbal but is present could be 'cat meows' and video that shows something non verbal could be 'Janey leaves the room'



WRITING A TRANSCRIPT

- 1) Set aside plenty of time, do not wait until the last minute.
- 2) Listen to the recording at least once prior to attempting to transcribe, making notes of non-verbal sounds or actions. Make notes to include into the transcript, including timings.
- 3) Change the speed of the recording, if required, to make it easier to note.
- 4) Format the script into paragraphs with name(s) of anyone speaking or presenting an action. The transcript should not be one big long block of text, it is best to use paragraphs and have it readable.
- 5) If a word is used incorrectly by someone in the recording, note it as being [sic] to denote a grammatical error in the transcript.
For example, if Janey says “I is not ready to use the computer” then write Janey: I is [sic] not ready to use the computer.
- 6) If a word is inaudible then type “(inaudible)”
- 7) Non-verbal communication should be noted, for example, laughter or sighing. Insert the non-verbal communication explanation into the correct placement, such as “my dog is so funny [laughter]” is appropriate.
- 8) Proofread the final transcript prior to publication.



ACCESSIBILITY CHECKING TOOLS

W3C Web Accessibility Initiative provides tools and reporting guides.

WCAG (Website Content Accessibility Guidelines), now known as WCAG2 after being upgraded and updated. A set of standards to help designers and developers ensure they fully consider web accessibility.

[WCAG-evaluation tools hyperlink by clicking here](#)

The WCAG technical documentation is developed by the Accessibility Guidelines Working Group (AGWG) formerly known as the Web Content Accessibility Guidelines Working Group which is part of the World Wide Web Consortium (W3C)

The WCAG 2.0 tools is an approved ISO standard; ISO/IEC 40500:2012

Mobile accessibility is covered in existing W3C WAI accessibility guidelines. There is not separate documentation / standards but takes into consideration the requirements of accessibility for mobile phones and other mobile devices.



ONLINE AND FREE ACCESSIBILITY CHECKS

Please note: the following can assist but should not be regarded as being exact. They only assist in part and more than one might be best. Try and see, compare with the standards / guidelines (**section 508 standards compliance**), ensure you take care to check and have any website checked by others too (they might spot something or identify a fail within code).

Here's the list opposite with hyperlinks anyway:

[Accessibility Valet](#)

[Achecker](#)

[Cynthia Says](#)

[Eval Access 2.0](#)

[Web Accessibility Versatile Evaluator](#)

[University of Stanford SOAP](#)

[PowerMapper](#)

[Bureau of Internet Accessibility](#)



FIRST REVIEW - CHECKS

- ☐ Language declaration
- ☐ Page title used and clearly described
- ☐ Headings
- ☐ Colour contrast and design concepts
- ☐ Ability to input
- ☐ Use of semantic html
- ☐ Avoidance of moving, flashing, blinking text or animated content
- ☐ Multimedia alternatives (e.g. transcript for video or video signage as well as audio)
- ☐ Tag use, html and css use
- ☐ Important use of alt attribute
- ☐ Links used correctly to assist users



HANDY READING

Tips

- ❑ Check website against standards
- ❑ Use alt tags for every image
- ❑ Semantic tags, be precise with tags
- ❑ Clear language, expand abbreviations and avoid symbols
- ❑ Not colours alone
- ❑ Double check website with users reports and ensure everything works
- ❑ HTML and CSS must be correct, not just work but must be correct
- ❑ Provide transcripts for multimedia such as audio and video

Handy links

[Diverse Abilities and Barriers to using the web and web tools, includes user stories.](#)

[Before, the inaccessible website, followed by the AFTER, the more accessible website demonstrated.](#)

[Free guides for website accessibility best practice to improve UX.](#)

[Envato tutorials, providing a beginners guide to web accessibility. Some material is free, others require subscription.](#)

[HTML Dog offers some free information and guides for accessible forms that consider accessibility.](#)

[Creating your own captions tutorial from Michigan State University with a link to YouTube videos.](#)

