



# Introduction to Web Standards and Accessibility

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## **Introduction**

This collection of articles is split into multiple modules. This introduction gives some brief background of the Web and provides some information on why standards are necessary for the web platform; plus common terms.

A brief history of the main markup languages used.

How to code webpages according to the latest standards. Essentially markup such as XML and HTML provide the document structure only and Cascade Stylesheets provide the layout and presentation (visual and audio).

Plus information on the OASIS OpenDocument for Office Applications format.

Web Browsers And Packages provide information on the main programs that use or should support Web Standards such as Mozilla Firefox, Opera and Microsoft's Internet Explorer. Plus The Web Content Object Model categorise browsers based on practical web content support.

## **The Web**

The World Wide Web or The Web is made up of loads of web server computers connected to each other like a global network or Internet. Originally the Internet was developed for military remote communication and multiple location research and academic information distribution. It expanded into the public domain for personal websites, brochures and Electronic-commerce or eCommerce websites.

Boundaries of access continue to spread with the help of Web Standards including Accessibility to allow people with visual, audio, cognitive and motor disabilities to access what would have been proprietary, clumsy and Old-skool coding. It is also useful when in situations like accessing information with a voice and text-to-speech device while for instance driving: such as Satellite Navigation or a voice activated wireless internet for that last minute check on plane, train or hotel info on your way to the airport or station. Plus accessing information on embedded kiosk terminals or wireless tablets including mobile phones and Personal Digital Assistants (PDAs). For business', these could make your Business Information Structure more interoperable with partners, other departments and consumers.

In addition to desktops, workstations and mobile devices, Web Standards and Accessibility could allow for future devices such as Microwaves, Fridges, Oven Cookers to access the World Wide Web. Just think, download a recipe that would not only be presented as a human readable form on a cooker or microwave on-screen but also have appropriate data to let the cooker or microwave self configure the settings for what you are about to cook.

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The same principle can be applied to almost any machinery: ATM Systems, Corporate Forms, etc.

People wonder why they should change their website to follow the best practices of web standards and accessibility when their website seems to work fine now. Well, that's like saying why not have builders, car manufacturers, food processor plants just use any old hammer, nail and box to do their job and hope it stays intact.

You want them to use the best tools for the job and also observe safety protocols.

Using the proper markup languages such as HTML, XML or XHTML *for document structure* and Cascade Stylesheets *for styling*, including laying out the information on that document, are a couple of the right tools for building webpages and web applications.

Most older webpage coding (and some current ones too) are clumsy and messy which forced web browsers to bloat with extra code just to fix all the messy errors in the copies of webpages that it receives from web servers.

This is also a two way thing: not only are website, document and web application authors advised to follow web standards but application developers are advised to support web standards and accessibility in their applications that render webpages or that will be used by anyone.

They can by all means add their own application specific features on top of the web standards as long as the specifics do not break the web standards features.

Implementing best practices of web standards increases your web presence to almost all devices, software and people. Business' could extend their customer base by at least 20%. Governments are also embracing Web Standards and Accessibility.

### ***Terms And Conventions***

Web-enabled products are not just limited to Web Browsers, they could be an editor that downloads a webpage into itself, an application or operating system component that uses web technologies to present the information or to render its own appearance and functionality. Also it could be a text-to-speech or text-to-braille device. Thus *User Agent* is a known term to refer to anything that will render webpages (HTML, XML, XHTML, etc). In the following articles I also refer to User Agents as *environments*.

### ***URIs and IRIs***

All the resources on the World Wide Web are identified by a *URI*: Uniform Resource Identifier. A URI can be one of two types: a *URL* or a *URN*.

A *URL* is a Uniform Resource Locator and is the most familiar of URIs. Such

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URL type URIs are <http://> and <ftp://> addresses.

<http://www.w3.org>  
<http://example.com/folder/filename>

URLs can have a Fragment part at the end represented as a hash or sharp character (#) followed by a unique identifier that usually points to an *ID* type attribute with the same value in markup languages like HTML or XHTML (or the olden day `<a name=""> </a>` element from old HTML):

<http://example.com/folder/page.xhtml#thissection>

Plus URLs can have an optional query string denoted by a question mark and the variable=value pair separated by an ampersand (&):

<http://example.com/folder/page.php?name=me&range=2400&packed=true>

<http://example.com/folder/page.php#thatsection?name=me&range=2400&packed=true>

Although the ampersand would be `&` within markup languages.

The above examples are absolute URIs, but you can use relative URIs that are automatically converted to absolute by whatever environment like a web browser:

[folder/filename](#)  
[../otherfolder/me.html](#)

The web browser would take the relative URI and prefix the URI of the current document, without the document's filename, to create an absolute URI. For referring to things in another folder near the current one you use the `../` for 'up-one-level'. So the last example is referring to 'me.html' in the 'otherfolder' folder that is beside the folder that you are in.

A *URN* is a Uniform Resource Name such as ISBNs for publications and also several organizations use URNs to access built in schemas, etc.

<urn:isbn:0-00-000000-0>  
<urn:schemas-microsoft-com:office:office>

*IRI* stands for Internationalized Resource Identifier and is basically a URI that supports non-Latin characters.

## **MIME Media Types**

Most resources on the Internet are also categorized to a MIME Media Type such as [text/plain](#) for text files (and the default for uncategorised files), [audio/mpeg](#) for mp3 audio, [image/png](#) for Portable Network Graphics (PNG), [text/html](#) for HTML webpages, [text/css](#) for Cascade Stylesheets, [application/xml](#) for XML Documents, [application/xhtml+xml](#) for XHTML webpages and [image/svg+xml](#) for Scalable Vector Graphics (SVG).

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This article and others are available online and in other document formats at:

<http://www.legendscrolls.co.uk/webstandards/>

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