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## Waving the flag for web standards

Standards can be a bad thing.

Official standards often hinder progress by inflating the cost of development through increased administration costs, penalties, licences, and not to mention all the bureaucracy adversely affecting employee morale.

Then why are web standards being adopted at an increasing pace by companies and web designers alike?

I'm going to tell you how web standards reduce your running costs (often considerably for busy sites), reduce your site's downtime, widen your audience and increase your revenue.

Hopefully, I can convince you that standards are a 'Good Thing' when it comes to the web.

## What are web standards?

Web standards cover a whole range of technologies, guidelines and protocols covering everything from representing foreign language characters to the structure of messages used when applications are required to talk to each other through the internet.

The standards we are interested in deal with the construction of web pages - XHTML (eXtensible Hyper Text Markup Language) and CSS (Cascading Style Sheets).

- XHTML is the flesh and bones of each page on a site - it tells your web browser how the elements on the page are grouped together and defines the content of each element.
- CSS is a group of instructions telling your web browser how each element on the screen should appear in terms of size, color, position etc.

These standards came about as a side-effect of the infamous 'browser wars' of the nineteen nineties. At that time companies that produced browsers, such as Microsoft and Netscape, developed proprietary standards to make their browsers more functional than their competition. You have to remember that early browsers had very limited functionality, and initially could only display text in black and white!

This period brought about a lot of innovation and produced many of the technologies we take for granted today, such as Flash, Java applets, Dynamic HTML etc. However the problem was that each browser had a different way of doing the same thing.

Web developers were faced with two choices

1. avoid using the new technologies and produce boring web sites that no-one would pay them for
2. Use the new technologies and gain kudos (and cash)

Using the new technologies meant that developers would often have to produce two or three

different version of their sites so that they would work on any of the most popular browsers, or even different versions of browsers from the same company.

Those were crazy times.

Eventually sanity prevailed and web standards were adopted as the guiding principle for browser development, by most companies. Of course Microsoft is painted quite rightly as the villain in this drama, they did play their part in the creation of the web standards, only to ignore them and more frustratingly, largely misinterpret them, essentially implementing more proprietary standards.

It is now possible to create a single, simple source for a web page that should display correctly in all the most popular browsers in use today. Everyone wins.

## The advantages of using web standards

Using web standards for your web site design will bring the following benefits:

- reduced maintenance costs
- reduced running costs
- higher search engine ranking
- greater accessibility and portability

### Reduced maintenance costs

Simply put, this is due to the fact that designing with web standards produces web pages that are far easier for other web designers to understand and as a result are far easier and faster to update.

When a site is designed using web standards it uses a centrally located file, known as a 'style sheet', that defines how each element on the web pages should appear. Because this file is centrally located, changes affect all the page of the site at the same time.

### Reduced running costs

When you rent a web server from a hosting provider you are buying not only the server and all that goes with that, you are also purchasing a certain bandwidth allowance per month. Your bandwidth allowance is essentially how many pages visitors to you site can view every month. If you go over your allowance you have to pay a hefty sum for each MegaByte (MB) you exceed your allowance. This can quickly add up to a lot of money.

Sites designed using web standards result in pages that can be up to 60% smaller or more in terms of bandwidth usage (rather than size they appear on your computer screen).

This is due in large part to the simplicity of the web standard code that makes your page. Additionally the 'style sheet' for your site is cached (saved on the computer) so that it need only be loaded the first time a browser views a page on your site. The browser will only have to load the HTML code for each subsequent page viewed on the site, making the site load more quickly and again helping reduce your bandwidth costs.

**Note:** Often bandwidth costs are only a problem for popular sites that receive many hundreds or thousands of visitors per day. Most sites will never exceed their bandwidth allowance, however, your site will still benefit by being faster loading.

### Higher search engine ranking

Search engines index the words and phrases that appear on web pages. When you type in a search term, the search engine checks its index and returns a list of web pages that contain the search term you supplied. In reality, the search engines also weight the importance of individual web pages and sites based on a number of factors such as popularity of the site, the number of times the search phrase appears on the target page etc.

Search engines periodically 'visit' web sites using software called 'spiders' or search bots. The spider will visit your site either through a reference from another site or the ubiquitous 'add a url' link that appears on most search engines.

The style sheet (CSS) for your site is completely ignored as is most of the XHTML except for certain parts like the page title, the text in links, the alternate description of images etc. Search engines also use the 'tags' that make up the XHTML of your web page as clues to the importance of the content.

There are four things that are vital to make your web site play nicely with search engines

- reducing the ratio of XHTML to actual content on each page
- reducing the file size of each page
- providing clues as to the relative importance of each element on the page
- include relevant keywords and phrases on each page

XHTML automatically takes care of the first three of these requirements.

The final requirement will be the subject for a later article.

### **Greater portability and accessibility**

Portability refers to the ease with which a web site can be displayed using a range of web browsers being run on different operating systems. A site designed according to web standards is by definition portable - that is the whole reason for the standards in the first place.

Some browsers have very different requirements than those that most people run, such as those running on hand-held devices, mobile phones etc. Some browsers are designed to be used by people with various disabilities, blindness, motor function disorders, and memory problems.

It is already a requirement that UK sites be accessible to everyone whether able-bodied or not. This will be an issue in Ireland and worldwide before too long, as it should be. Web standards eases your business' implementation of accessibility requirements, in many cases already fulfilling criteria.

It is possible to write a style sheet for each of these browsers that takes the same XHTML and displays it in a different way that suits the browser in question, whether the site is being read out, magnified or read with the fingertips.

### **A panacea for all ills?**

Web standards have done a lot to make life easier for web developers and their clients (that's you). It has helped to reduce costs, improve quality and made sites easier to find and then navigate when you visit them.

The future is only opening up for web standards, they are not perfect by any means but their popularity is growing daily and they have even managed to turn the tide against the giant Microsoft.

With Microsoft's continuing problems with security issues, a tiny free and open source browser Firefox has been gaining huge popularity, sometimes doubling every fortnight. People who start using Firefox never revert to Internet Explorer, the difference is enormous in terms of speed, and ease of use and pop-up windows and security issues are a thing of the past.

The more people using browsers that support and encourage web standards, the more that web standards will be adopted. It's an avalanche effect and it is already underway. Web standards are here to stay.

## Some related links

- Firefox browser download page - <http://www.mozilla.org/products/firefox/>
- Zeldman on web standards - <http://www.zeldman.com/daily/0704e.shtml>
- Web Accessibility and UK Law - <http://www.alistapart.com/articles/accessuk/>
- Slide show explaining Web Accessibility - <http://www.w3.org/Talks/WAI-Intro/slide3-0.html>
- W3C on Web Accessibility - <http://www.w3.org/1999/05/WCAG-RECPressRelease>