

## Web Standards & Browsers

We closely monitor emerging standards and what seems to be the 'commonly acceptable' standards for web design and usage. To be clear; our view is that there is currently really no single all embracing single 'standard' as such by which websites should be built that will fully cater to all. When a web site or web page is described as complying with web standards, it generally means that the site or page has valid HTML, CSS and JavaScript. The W3C consortium publishes papers on best practice etc. and it is best to think of them as not a fixed set of rules, but a constantly evolving set of technical specifications.

Even when sites are designed strictly to the 'standards' there can be issues. The web-browser is what interprets the website and displays it on your screen. Whilst it is true to say that in many respects web-browsers adhere to most of the common technical standards – they do vary both in terms of how and what they support and they also change over time (see section on 'Versions' below). In practical terms we have to make sure the websites and applications we develop are designed to cater for both clients and/or candidates, many of whom may well not be using the most recent web-browser versions available.

By way of illustration, the authors writing this paper are doing so on Apple Mac's, but one is using Apple's operating system; the version is called 'Mavericks' however the other is using one called 'Yosemite'. Neither of us is actually – yet - using Apple's latest version which is called 'El Capitan'. Please don't ask why Apple comes up with these crazy names and also please don't think too badly of us for being behind in terms of versions. The considered technical advice received for our own circumstances has been to avoid 'El Capitan' till some issues with it have been resolved. It does however illustrate that even with quite technical people like us, not everybody uses the most recent version of software – and often for very good reasons.

Our main business is in the supply of Software-as-a-Service Recruitment systems. So we tend to see quite a few corporate type employers. In the main they still mostly use Microsoft's Internet Explorer (IE). Probably this was because it comes with the desktop rollout of other Microsoft packages. We still often see employers using quite old versions of IE too. Whilst the latest version of IE, version 11 as at the time of writing, is now broadly comparable with other browsers - IE has had in the past a poor reputation for compatibility compared to other browsers.



Even now, IE provides a good illustration of how some web applications don't work quite the same way across the different web browsers. Here are a couple of recent examples that have affected us.

- (1) We were assisting a partner with setting up email accounts for one of their clients using the client's Microsoft Outlook Web Access (OWA). This provides a web version of the popular Outlook email and calendar application. When we tried to do this first on Safari and then on Chrome we found we could not access the button to generate a new email. The browser simply missed it off the screen... However, suspecting this might be an issue – we tried it in IE and Firefox and they both displayed the button. The only difference was the choice of browser used.
- (2) Another recent example was us assisting a partner with setting up their client vacancies on an Australasian jobboard called Seek. Initially when we logged in on our Macs' using Safari, the setup page would not render well and we could not

complete the vacancy setup screen (we also tried Chrome – same issue). When we called Seek’s technical support hotline we were advised it was a known issue and we should ideally use IE. We changed the browser and the form worked fine.

That’s just two examples, coming within the last few weeks alone, of where web applications were simply unusable in one or more of the more popular web browsers (note: neither was on our software and we have never had any such similar issue).

We tend to see a different pattern of browser usage with candidates. There, Chrome is by far the most popular browser and we also see more Safari and Firefox than with employers. Candidates of course are also trending towards using their mobiles to search for jobs and this means they are using the mobile versions of Chrome (Android) or Safari (iPhone/iPad). See section below for a discussion on Mobile web-browsing. In fact, as a general rule we tend to find that most candidates run the latest, or close to, versions of web browsers whereas some employers still run quite old versions, especially for Internet Explorer (IE).

## **Versions**

The main web browsers get continually updated. Like all software they are not perfect and each has its own bugs (or as developers sometimes say “non-documented features...”) and require patches and updates as well as new releases when they launch new features, options and layouts. Typically, each will have a version suitable for each major release of the PC/Mac/phone operating system that you are using, and within this version most can expect to receive updates several times a year. Thus at any point in time, when you add up all the combinations you will likely find that there are a considerable number of browser/version/releases in use across all the users of a web application.

Our aim is to try and ensure that our software will work at an acceptable level for all recent releases of the major browser systems. For us this means: IE, Safari, Chrome, Firefox. Note, Microsoft released its “Edge” browser with Windows 10 earlier this year and it is expected to replace IE. Edge has had more than a few updates already, but we are unaware of any particular issues associated with using it on our applications and we expect to shortly switch our testing support from IE to Edge as things settle down and it gets more usage.

In terms of ensuring workability across all these browser versions, this sometimes means we won’t launch some new features that we think may cause potential problems with older browsers or we may advise its is unsafe to do so. But it does have the upside of ensuring we can provide a more consistent and common support. So that where there are differences in how browsers deal with our applications they are relatively minor and do not affect core functionality.

We also keep a close eye on browser developments so we don’t get caught out by changes. As an example, at the time of writing we recently released a patch for our systems due to differences in how a version of Chrome treats popup windows from that of the other browsers. The difference was actually quite subtle in nature and no client had raised it as a problem. However, by changing how we managed popups we could ensure a more consistent experience across the main browsers including Chrome. It hopefully illustrates that (a) we look to continually evolve as browser versions change, and (b) browsers don’t all adopt changes/new developments at the same time, nor work exactly 100% in the same way.

## **HTML5**

Back in 2011 we did a paper about HTML5 which was, and arguably still is, the main emerging web standard. When we did that paper we expected that all browsers would have achieved close to 100% compatibility by now, as they have with the likes of CSS and

JavaScript. However, as the table below shows with scores for compatibility out of 555 – this is still not the case with HTML5.

Safari 9.0 score 400/555  
Chrome 47 score 521/555  
Firefox 42 score 468/555  
Internet Explorer 11 score 336/555  
Microsoft Edge 13 score 458/555

**Source: [html5test.com](http://html5test.com)**

Back in 2011 when we did our paper, these tests were scored out of 400 and ‘Microsoft Edge’ had not even been launched. Looking back, IE (version 8) achieved a score of only 32/400 back in 2011, not exactly compatible... So things definitely have moved on and improved.

The HTML5 standard has evolved since, and the main browsers are now much closer in supporting common features. As each browser comes out with a new version, we typically see their scores broadly increase. However, as you can see from the table, it also illustrates that they don’t all score the same and, in respect of this one standard at least, there are still differences between them.

## **Plugins and Extensions**

If you look at the Settings – or Preferences – for the browser you use the most, you may be surprised to see that there are plenty of things you can switch on and off, or choices for you to decide how you want your browser to work. As a generalisation, there is now much more choice in terms of settings you can play with than a few years ago. You may also find that your browser has been equipped with “plugins” or “apps” that add functionality and which enable new features, or in simple terms change how things work.

Up to 5 years ago the main concern we had around preferences was to ensure that both employer and candidates’ browsers were set so that they would work with JavaScript. Given JavaScript is now used extensively by almost all highly functional websites, this now no longer a practical concern. However other things have come to the fore. Many users may be unaware of this, but their browsers will likely have plugin and/or extensions installed. Most will likely be fairly benign and add minor additional features. However, a few can alter more serious aspects of behaviour.

By way of a very visual example - a fairly common issue for some Apple Mac users who install Chrome is that they may find that their keyboard buttons suddenly don’t work in some applications. iTunes being the most common and noticeable. The issue here, is that when Chrome is installed on a Mac it can reset the Mac’s function keys so they now operate Google’s software and not Apple’s when both browsers are in use. By the way, if this does happen to you simply go into Chrome preferences and remove the ‘Quick Key’ settings. It’s another fairly visible example of where browsers are increasing their hold over how web applications, and indeed in this case how your computer works. The message here is that sometimes you may find web applications work slightly differently between your web browsers for no other reason than simply having different plugins and extensions installed (see also the section on Chromebooks below).

## **Chromebooks**

We are seeing more employers using Chromebooks and as such they deserve a special mention. At the time of writing this update, Chromebook sales in July 2015 exceeded sales of Windows notebooks for the first time (Source NPD.com), so we expect them to become a very big part of the market within the next couple of years.

If you are not familiar with them a Chromebook is laptop type computer that runs a Google operating system based around the Chrome browser. They are very much designed for using cloud services and surfing the net. In many ways they are perfect for using with our software applications, and despite a few issues we like them a lot.



What is interesting with Chromebooks' is that Google is stretching the Chrome browser and both developing apps for it and encouraging others to do so too. Whilst it sounds similar to what Apple does with the iPad, or even what Google does with Android, the main difference is that a Chromebook is very Chrome-browser centric, with less standalone apps. It is also very much designed to work with Google's products, especially Chrome, and to work online and in the cloud.

In terms of usability, what it means is that you should expect the Chrome browser within a Chromebook to exert even more control over how your web applications display and behave (including ours). You will likely be able to do things on Chrome – if you add items or apps – that you cannot currently do on other browsers. To be clear we test our software on Chrome and it works fine, however Chrome has a lot of scope to have extra items added that can change aspects of behaviour and this may result in subtle changes to your web applications – including ours. So don't panic and please don't be out off considering Chromebooks, many of these subtle changes add to, rather than subtract from the user experience.

## **Mobile**

This was all the rage a few years ago. Every web application had to have a mobile app etc. The view that people would use their mobile for everything has thankfully calmed down considerably and common sense is reasserting itself.

Most modern smartphones – and these days that is pretty much all phones - can all render the websites we produce very effectively. We generally use "Responsive" web technologies and practices (see separate paper on Responsive Technology) to dynamically render sites to display on different devices. We know 'Mobile' very well and we produce very effective mobile-centric websites. However, it is simply a fact of life that particular web designs and inclusion of some web facilities do not lend themselves to the small screens (and to a lesser degree processing power) used by mobiles. In addition, some phones such as the iPhone do not have a File Manager. This means within a recruitment context (our bread and butter), that candidates trying to apply online using an iPhone wont be able to attach their CV whilst using the inbuilt Mobile Safari browser. In practical terms there is no separate filing place to store it on either the iPhone or iPad and website file upload buttons (e.g. for uploading a CV) are greyed-out within Mobile Safari. Note that whilst this can be quite a limitation on use we have a variety of solutions that can help with addressing such issues.

However, it is an illustration of where the Mobile version of Safari on e.g. an iPhone does provide an important different in experience to the likes of Safari on a Mac desktop or laptop. At a cosmetic level there are other differences too. Mobile Safari will generally try and size fonts and override some styling elements so as to render the screen to fit everything in the small screen space. Buttons and links can also be affected. Google's Chrome does a similar

thing on Android phones and tablets, though at least it has a File Manager that allows file (and CV) uploads. Clients should thus be prepared to see some subtle visual changes when they view sites on a mobile phone or even a tablet.

### **Implications for using our products**

As hopefully is coming across; both web-standards and web-browser technology is essentially a moving target. Most websites will render reasonably well across all the main desktop browsers, especially if they don't use some of the more recent technical innovations. In practical terms rendering well on mobiles is by no means as common and sites rendering well on both are even less common. You will also find your own examples like the ones we have illustrated here where web applications do have serious problems in one or more of the web-browsers.

By way of reassurance, we have designed our systems so that the effect of browser differences should be mostly cosmetic and minor in nature for typical users who have not played around with browser configurations or added many plugins or extensions. You will see from time to time differences between browser behaviour/display differences however they will likely prove quite minor and non-critical. Where users are finding particular differences, please do investigate what browser versions and releases they are using, and encourage your users to stick with reasonably current and stable versions. This fixes most of the few issues we hear about. Note also, all the main browsers are generally available free of charge so this should not be a cost issue.

Hopefully this paper has given you an appreciation of the issues involved with web standards, web-browsers and their usage in general as well as to how they apply to our own applications. We hope it may also assist partners in providing guidance to their clients if and when queries are raised in this area.

P.S – as we were finalising this paper we had another security update issued by Apple for the Safari browser. Another timely illustration of another browser change.

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