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GENTLEMEN, START YOUR SEARCH ENGINES!

50 web tips

BEN TISDALL HAS 50 WAYS TO ENSURE YOUR WEBSITE BABY HAS THE BEST CHANCE OF SURVIVAL IN AN EXPLODING INTERNET POPULATION

IT'S NOW UNBELIEVABLY CHEAP to register a domain name and even free ISPs offer you tons of web space for nowt, so there's little reason for anyone not to have their own website. The problem is, how do you create a website that will attract and hold the attention of more than just you and your friends?

We've gathered together 50 top tips on how to make your website more professional, covering everything from ease of use to speedier performance over low-bandwidth links. Whether you're a designer or a programmer, a web beginner or a web expert, there should be something here to make you think twice about how you commit your code to page. The first 20 or so tips are general guidelines to what approach you should take to creating and maintaining your site, while the more in-depth technical tips can be found towards the end.

You may notice a speed theme popping up again and again throughout our tips. That's because poor website performance will lose you more visits than any other single factor. That said, the way a website looks and feels must be tailored to its audience. If you're aiming for 16-25 year olds, a site still needs to be fast but mustn't be boring. On the other hand, sites aimed at people over 45 should treat speed and simplicity as the overriding factors that contribute to a positive surfing experience. Those websites targeting senior managers in blue-chip companies, where the visitor is likely to have fast, leased lines straight to their desktops, can afford to use richer multimedia content.

Similarly, how a website is designed is influenced by what it will be used for. If you're buying a car online you won't mind waiting 30 seconds or more for a good quality photograph to download, but if you're buying a book, 10 seconds to download a shot of the cover probably isn't fast enough.

You also need to have a long hard think about why you're creating a website. Lots of websites, from tiny, one-person operations to multi-million dollar super-sites, come unstuck because this has not been fully thought through. Don't create a website just because everyone else has one. For a site to succeed it has to serve the needs of the company or individual who's created it, but it also has to cater for the needs of the people you want to visit it.

Finally, think of the big picture. You can devote enormous efforts to the design and structure of a site and completely overlook factors like customer service or how to update the site after it has been created. And there's no point in creating a super website if no-one knows about. The subject of web marketing is beyond the scope of this article. However, it's something you must consider carefully, whether your marketing campaign consists of simply registering with the main search engines or booking 60-second ads in the middle of *Coronation Street*.

ILLUSTRATION RICHARD MAY

01 Look at best-of-breed websites Look at what the world's leading websites are doing and borrow some of their interface conventions. For example, Amazon.com and eToys.com are two of the slickest and best ecommerce sites in the world, so if you're setting up this kind of site, have a close look at how they do it. Ecommerce sites need to have clear, well-defined paths to making a transaction. Give users an easy and short path to the till.

02 Put a search button on every page Any website with more than a hundred or so pages should be searchable. If people get lost somewhere on your site, instead of just bailing out altogether they'll often use the search facility to move on to where they want to go.

Cnet, among others, has done away with side menus in favour of less space-hungry menus at the top of the screen

03 Speed is paramount You have just seconds to convince a surfer not to use the Back button. Make sure you get something on the screen immediately and make it interesting. Most people will probably wait around 30 seconds for everything on-screen to load but that's an absolute maximum. Be as fast as you can.

04 Think about the menu structure A couple of years ago the convention – that was first started by Cnet – was to have a menu button down the left-hand side of the screen. But over the past year or so most of the big sites have moved away from this approach. Sites such as Amazon and Cnet now use menus along the top of the screen. It's not hard to see why. On a small screen it's a big waste of space to kiss goodbye to 120 pixels or so on every single page. Bear in mind that any changes to your main template and menu bars are going to be very time-consuming to implement. Try and get it right first time.

05 Stick to user-interface conventions For example, with radio buttons, the correct way of using them is to give users a series of radio button options and then invite them to click an OK button. Some dubiously designed websites use radio buttons as action buttons, but this just confuses users. Tick boxes also come in for similar abuse. Although we don't recommend left-hand menu bars it is at least a convention. For heaven's sake don't put a menu bar on the right of the screen.

06 Don't use unnecessary graphics In particular, avoid putting text like headlines or introductions into GIF format. Having to download these additional pictures slows download times and annoys users. Nearly all the leading sites now use text buttons for their menu bars, which shows what you can achieve with simple HTML, CSS and perhaps a bit of JavaScript.

07 Use the space above the fold Most of your users will be looking at a website on a 13-15in screen and the top four vertical inches are all that will definitely be visible on their screen. This section of the screen is known as being 'above the fold' and it's vital that you put your most important and attention-grabbing stuff there.

08 Don't forget design principles In the early days of desktop publishing people delighted in cramming as many different fonts and graphic effects as possible onto their newsletters and publications – simply because they could. The same design flaws afflict many web pages today. Remember that two fonts on a page in a couple of different weights are probably as many as you can get away with.

09 Use image maps If you must have a menu bar that uses graphics – and you should probably avoid this anyway – then try using a single graphic and an image map instead of eight or 10 separate graphics. The overall file size will be lower.

10 Use JavaScript, animations and other fancy stuff sparingly Animations annoy users and are often ignored because people tend to subconsciously filter out anything that looks like an advert. JavaScript is a brilliant tool for adding interactivity to web pages. Images can change when you move your cursor over them, calculations can be made, form elements can interact on-the-fly. However, many websites make the mistake of prettying up their pages with completely unnecessary JavaScript. This slows things down and can lead to incompatibilities and glitches with some browsers.

11 Avoid frames Frames were all the rage a couple of years ago. These days you'll be hard put to find any professional site that still uses them. They tend to make navigation confusing and frustrate anyone trying to print out information from your website, as only the active frame will be sent to the printer. Nevertheless, for small or personal websites they can still be an appropriate way of arranging information.

12 Carry out some usability testing Companies like Microsoft spend millions of dollars on this using one-way mirrors, video cameras and professional ergonomists. Even on a small scale it's worth doing usability testing. Just get some people who are similar to your target audience to try out your website. Watch them using the site and ask them what they think of it.

Designers and programmers can get very blinkered by working too close to a project. In the early days of Microsoft's usability testing its programmers were extremely sceptical about the value of the feedback they were getting. Their attitude was that the usability team had just found 20 stupid people to test out the software. It wasn't until techies attended some sessions themselves and watched people trying to use Word for DOS that they realised how difficult the product was to use.

13 Test on different browsers This might sound obvious, but it is easy to overlook in the rush to get a website up and running. Generally speaking, Internet Explorer is much more tolerant of errors than Netscape Navigator. One little mistake in a table is enough to generate a blank screen in Navigator. Also, get hold of older versions of the browsers and try the site on those too.

14 Keep tables simple Complex tables take a while to render. Cut down on the complexity of tables by splitting information into several smaller tables. In particular, the top table above the fold needs to be simple and appear on screen quickly.

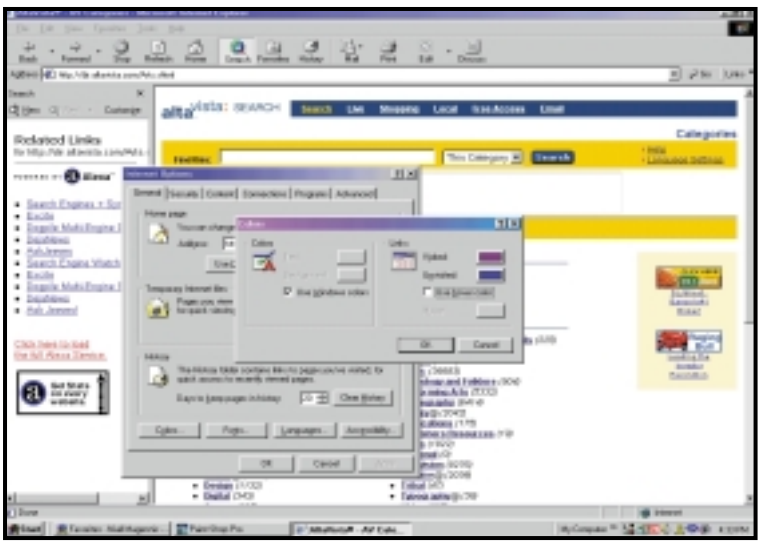
15 Think about screen resolutions Many websites still write for screens of 640 x 480. But increasingly web designers are setting 800 x 600 as the minimum resolution. Make sure you check how your website looks at this resolution. Web designers and programmers usually have big monitors and fast computers. It can be quite an eye-opener to see how little of a website you can see at this resolution with Windows menu bars at the top and bottom of the screen. Some websites actually repeat some of the key elements further down or at the bottom of the screen so that users don't get lost when they scroll down the page.

16 Avoid headlines that are hard to understand In newspapers and magazines it's considered perfectly reasonable to use abstract headlines to introduce a feature. Sub-editors, who write them, are paid to be a bit clever and entertaining to catch the readers' attention. On the web, headlines need to be more literal because they're often taken out of context. For example, 'The moving image' is a good headline for a magazine article about video editing, but taken out of context in a list of search engine results it's meaningless.

17 Think about table widths Using HTML you can set tables at a particular width or let them flow across the screen. Some of the best websites use a mixture of both strategies. If you fix table width right across your site you can end up looking rather silly on a screen set at 1,152 x 864 or above. You're also not making best use of the screen space available. On the other hand if you don't fix table widths at all your website can look like a badly designed mess.

18 Don't mess with link colours The standard colours are blue for links to unvisited sites and purple for links you have already visited. You can change these colours, but it's a bad idea. Design conventions on the web are what make websites easy to use.

19 Think about printing People are likely to want to print out any document longer than a couple of hundred words that appears on a website. Because of this, you should make sure the pages that people are likely to want a hard copy of, print properly. Users will find it extremely annoying if, when they print something from your website, the end of every line disappears off the right margin.



Chameleons not required: Use blue for unvisited links and purple for those already visited

20 Don't use absolute font sizes Your web pages will get viewed on all sorts of computers with all kinds of different sizes of screen. For example, type displayed in Windows looks two to three points larger than the same font viewed on a Macintosh. People also have different personal preferences. It's annoying for surfers if they go to change the text size on their browser and nothing happens.

21 Choose the right fonts Typefaces like Georgia, Geneva and Verdana are designed specifically for legibility on computer monitors. Their x-heights (the height of a lower-case x) are exaggerated and they appear larger compared to more traditional typefaces in

the same point size. However, they don't look good on paper. For long documents that you expect users to print out, consider using fonts like Arial or Times Roman, which have been designed for paper.

22 **Limit line length** A line longer than about 12 words becomes difficult to read. Consider using two columns of text on text-heavy pages as it will make them easier to read. The easiest way to do this is to place your document inside a table with two or more columns. The HTML to do this can be seen below. Setting cell spacing to seven gives you a reasonable amount of space between the two columns.

```
<table border=0 cellspacing=7>
<tr>
<td>Text for first column...
<td><br>
<td>Text for second column...
</table>
```

23 **Use cascading style sheets (CSS)** There are problems with style-sheet compatibility between different browsers. At the time of writing, the two dominant browsers – Netscape and Internet Explorer – still don't render CSS in identical ways. However, CSS does have some big advantages. In the UK, use of Internet Explorer is now well ahead of Netscape Navigator, and IE5 has full support for CSS, so you can be confident that the majority of users will be able to use all the features. CSS has two key advantages for people managing large websites. Firstly, it allows control over how each HTML tag will look and secondly it gives you the ability to control the graphical look and feel of thousands of pages by changing a single master style sheet document.

Make a splash: If it's right for your website use a splash screen

And don't forget, style sheets will also speed up download times, because you don't have to include lengthy font tags in every table cell. Provided you use linked style sheets, only a single style sheet has to be downloaded for your whole site. Also, make sure pages work when style sheets are disabled. To try this just disable style sheets in your browser and reload the page.

24 **Allow individual styles** Although it's best to use style sheets, you will probably have some pages where a different style is appropriate. Just embed local styles in the special pages, but don't go overboard on individual styles, it's best to link to the global style sheet on most pages for the sake of consistency.

25 **Take care with advanced style-sheet features** By all means use style sheets, but steer clear of some of the more advanced features that won't really work properly in Netscape Navigator. It is possible to detect which browser someone is using and serve up a page specifically for that browser – ie have two different versions of a page. This is best avoided, though. Trying to maintain multiple versions of identical pages is asking for trouble.

26 **Try to avoid pop-up windows** Although not always bad, bear in mind that pop-ups can be annoying. People tend to close pop-up windows before they have even finished downloading.

27 **Don't open new windows for links to other websites** There's always a temptation to open links to other websites as a new window by using target=new at the end of the link. Don't do it. As soon as you open a new window you break the back button. And nine times out of 10 it's the back button that people are going to use to return to your website. Naive users on small screens may not even realise a new window has been opened.

28 **Don't break the back button** Opening new windows is just one of several ways of impeding the effect of the back button. Use of tables or using an immediate redirect are two other ways. An immediate redirect means that every time the user clicks back the browser goes back to a page that bounces the user forward to somewhere else.

29 **Think about splash screens** Splash screen is the term for an initial screen that pops up before you get to the main menu page, rather like the front cover of a book. A splash screen on a search engine or a news portal just annoys users and sends them somewhere else. But there are websites where it might be appropriate – like the website for a poet, an artist or perhaps a club or society.

30 **Avoid slow server-response times** Your server or a connection to your back-end database server could be slowing things down for users. Most users don't know or care why your website is slow. They vote with their mice by clicking the back button. Consider increasing the RAM, adding more processor power, using load balancing or arranging to have your server mirrored in another location.

31 Check your bandwidth Bandwidth is another big factor in how fast your site appears to users. At about 60 per cent of bandwidth use you need to start thinking about getting a bigger pipe. At 80 per cent you've already left it too late and users are turning away from your site because they're sick of waiting for it to download.

32 Put your scripts in order Maybe you've got some CGI or JavaScript that you knocked together in a hurry. Tidying it up will bring performance dividends.

33 Include addresses, phone and fax numbers It's amazing how often you can't find these on a website. Not being able to find them is incredibly annoying because sometimes you do want to phone, write to or fax an individual or company responsible for the site you're visiting. Similarly, a website is an obvious place to include a map and details to enable clients, visitors and vendors to your office.

34 Smarten up your error messages There will always be error messages somewhere on your website, in particular the '404 error, file not found'. Take the trouble to create custom error pages. These will be consistent graphically with the rest of your site and suggest alternatives and likely explanations of the error.

35 Avoid moving pages to different URLs There's nothing more annoying for users than to bookmark an interesting article or piece of information and then return to find it's been moved.

36 Optimise your graphics You can use programs such as linkbot (see www.linkbot.com) to wander around your site and make graphics more compact using the correct web-friendly palettes. Linkbot is also a good way of hunting down broken links.

37 Set picture sizes Always set width and height attributes for pictures even if they're just small buttons or icons. Your pictures will still work if you don't, but your pages won't load as quickly.

38 Don't have spelling mistakes Sometimes people seem to think that, because web pages can be changed so easily, they don't have to apply the same rigorous standards that you'd apply to a printed publication. Wrong. Spelling mistakes jar just as much on a website as they do on paper.

39 Don't use anti-aliasing on small type Anti-aliasing is a technique to improve the way text looks. It gives the appearance of smoothing the shapes in graphics and type by inserting pixels of intermediate colours along the edges. Used on type, anti-aliasing removes the jagged edges of large font sizes. Image-editing programs such as Photoshop are used for anti-aliasing.

However, lots of people make the mistake of applying this to small type sizes. Type smaller than 10 point is actually harder to read when it has been anti-aliased.

40 Background colours reduce legibility Black text on a white background is the easiest text to read. Black text on a light grey background is still pretty legible, but other combinations are much harder for users to read. Sites such as www.simplyfood.co.uk achieve the best of both worlds. Its opening screen is very colourful, but longer sections of text that you need to read are styled for legibility

Be discriminating in your use of coloured backgrounds – you want surfers to be able to read what's on the site

41 Use Includes One way of partially getting around the difficulty of changing the main template is to use SSI (Server Side Includes). This is a type of HTML comment that tells the web server to dynamically generate data for the web page whenever it is requested. The basic format is:

```
<!--#command tag="value"...>
```

where #command can be any of various commands supported by the web server. The simplest command is #include, which inserts the contents of another file. Includes are useful for ensuring that standard elements like menus and footers, are the same on all pages throughout a website. To change a standard element, you need only modify the include file, instead of updating every web page individually.

42 Get rid of table borders It's surprising how many websites still include visible borders on tables. This doesn't look very attractive. Get rid of them by setting Border="0" in your TABLE tags. Instead, use spacing, alignment and indents to make tables readable, not big, ugly borders.

43 Don't use unnecessary HTML Part of the secret of keeping HTML lean and mean is to hand-code it. Using a decent editor such as Allaire Homesite (www.allaire.com) makes things much easier. If you must use code generators such as Microsoft Frontpage or Pagemill, at least learn to go through the code they create and clean up some of the redundant code that editors tend to leave in your documents. Even unnecessary single spaces and carriage returns bloat your HTML.

All unnecessary: Don't use HTML that isn't needed – editors such as Allaire Homesite can help cut down the code

44 Keep file names and directories short For example, if you call your invisible spacer GIFs (see tip 48) singlepixel.gif and use 20 of them throughout a page, the repeated name of the image alone will take up 300 bytes in your HTML. But if you name them 'p.gif', it adds up to only 100 bytes – a big saving. Use the same approach to shorten the names of your directories and reduce the number you use. If a reference to an image is SRC="pcw_images/top50webtips/shortdirectories.gif", you're going to save a lot of bytes by using something like SRC="images/shortdir.gif"

45 Comment your HTML Properly commented code is much easier to understand when you go back and trawl through it a year later. <! --Top navbar -- >will do fine, however, <!-Top navigation bar – - > is over-egging the pudding and wasting bytes.

46 Minimise use of quotation marks. According to strict HTML standards, all attributes should appear within quotation marks. In fact, browsers usually don't need them to correctly interpret HTML. So instead of <FONT FACE="Verdana" SIZE="3" COLOR="red"> try <FONT FACE=Verdana SIZE=3 COLOR=red> It works the same and saves a few bytes. There are some places where you do have to use quotation markets. For multiple words (as in ALT="front cover"); on values that begin with a plus sign (as in SIZE="+2"); hexadecimal values (as in COLOR="#cc0033"); and in URLs with slashes such as SRC="images/shortdir.gif".

47 Use the short version of HTML commands There is still quite a lot of redundancy in HTML, which means there's often more than one way to achieve the same effect. Always use the shorter version of any commands. For example : Use <CENTER> instead of <DIV ALIGN=center> to centre something. Use <B> instead of <STRONG> to embolden something. Use <I> instead of <EM> to achieve italic. Use <BIG> instead of <FONT SIZE="+1"> to make text one size larger. Use <SMALL> instead of <FONT SIZE="-1"> to make text one size smaller.

48 Indenting paragraph If you use cascading style sheets you can set the indentation of paragraphs using 'text-indent'. Using plain HTML you can just put a <P> at the end of each paragraph. Much better is to use a line break tag
 followed by a transparent single-pixel GIF (p.gif – see tip 44 for why we've called it p.gif and not singlepixel.gif). This gives you more control over spacing and looks something like this:
 <img src="p.gif" height="1" width="1" vspace="2"?>

49 There's a place for Flash Most users are now comfortable with downloading the Flash plug-in. You can create some great Flash animations and effects from surprisingly small files. But if you are using Flash, make sure you do a plain HTML version too.

50 KISS 'Keep it simple stupid' is well on the way to becoming an SOA (severely overused acronym), but with good reason. An over-abundance of features and clever effects make a website harder to use, and makes visitors more likely to click the back button.