Get caught up in the Web

One of the most recent, probably the fastest growing, and without doubt the most powerful and exciting resource that the Internet can offer is the World Wide Web. WWW, as it is known to its regular users, is a hypertext-based link to the various resources and applications found on the Internet, all wrapped up in an easy to use and aesthetically pleasing package. Ideally suited to business use, the audio and visual aspects make for wonderfully attractive online brochures, and as a result the Web is set to cause an explosion of corporate marketing, advertising and selling on the Internet.

WWW was developed at the European Laboratory for Particle Physics (known as CERN) and started life in 1990. Originally a tool to help High Energy Physics (HEP) researchers exchange information, the power of WWW soon attracted a large number of non-HEP followers.

The Web operates using a client server model, and there are a number of different options available for connecting to it; you can use a client installed at your site (such as Mosaic), a client installed at a service provider's site (such as those provided by Cix or Delphi), or you can Telnet to a public-accessible WWW client (such as info.cern.ch).

Using a client installed at your site is by far the best option as this lets you use one of the graphical clients, or browsers, to get the very best interface. A graphical browser such as Mosaic releases the full audio-visual power of the Web. A degree of attention to detail is required when setting up such a client, and you have to have a full TCP/IP Internet connection to be able to use one, but the rewards are well worth it.

Making use of a service provider's client provides you with a ready-installed, no-hassle ticket to the WWW. However, these clients are all character-based, which means that you get none of the graphics and sound that make the resource so attractive in the first place. However, you do still get the power of a hypertext-linked information tool, and the fact that there are no images to download speeds up your cyber-travelling by an incredible factor. Also, the browser doesn't eat so much of your precious hard disk or Ram. Online services such as Cix and Delphi provide excellent character-based clients, and help is always close at hand on these systems if you should find yourself having difficulties.

If you have no other choice then the final option is to connect to a public client using Telnet. Although the character-based browsers you will find are generally no different to those mentioned above, the speed factor can be diminished incredibly. Telnet connections can be effected by many different factors, and if the Web client you have connected to is already under a heavy load, you will find yourself travelling through the Web very slowly.

GRAPHICAL BROWSERS

At the moment you face a choice of two graphical browsers: Cello and Mosaic. Cello is a Windows-based client, and although it is a useful piece of software, it provides neither the range of features nor the number of users that its competitor can boast. Mosaic has got the WWW client market just about covered, with versions available for all the major platforms including Windows, Macintosh, Amiga and Unix.

It would be fair to say that it is largely because of the Mosaic browser that the Web has seen such an explosion in growth and use. This is even more amazing when you consider that Mosaic is currently only available in unstable alpha and beta versions, but the first full versions should be available very soon. However, Mosaic works sufficiently well for you to get to grips with the Web. If you want to exploit the power that exists in this resource fully then you really do have to use Mosaic. Indeed, it is no secret that many large firms are making Mosaic an integral part of their Internet access software.

Mosaic effectively gives you the ability to create an online version of your sales brochure which is just as glossy and just as attractive to your customers, but with the advantage that they can just click on an item they like and automatically get product information, then click on another button and order the item there and then.

World Wide why? How it works

The World Wide Web comprises documents written using something called HyperText Markup Language (HTML). Hypertext links are embedded into these documents allowing the user to jump seamlessly from link to link, travelling around the Internet, and making use of resources such as FTP, Gopher, News Servers and Telnet as you go.

In effect this means that what you see can be compared to pages of a glossy magazine, complete with colourful graphics. If you are reading a document about finance and you see that 'stock market quotes' is highlighted, you can select that word with the mouse and jump to a page that gives you up-to-date stock market information. If there was a picture of the Bank of England you might be able to click on this and find yourself on a graphical tour of the premises, and you may even find video and sound as well. WWW provides you with what is, in effect, the world's largest CD-Rom.

In order for a Web client to know where to jump to for any given link within a document, a standard system of resource site addressing is necessary. The solution comes in the shape of Universal Resource Locators (URL). A URL tells a WWW browser exactly where to find the information that the user is asking for when they select a hypertext link. In fact, URLs work so well and are so logical in design that they are fast becoming the accepted standard for Internet resource addressing generally, and are no longer restricted just to WWW use.

URLs are easy to understand once you know that they come in two basic parts. The 'descriptor' comes before the :// separator and gives the necessary information regarding resource type, and the 'resource address' which follows it gives the exact location of the resource within the Internet. Descriptors include ftp, http (refers to World Wide Web), gopher, mailto (refers to E-mail) and telnet.

So what makes Mosaic so great? Well, it has a simple, intuitive, mouse-driven interface for a start, and Hypermedia links to Archie, FTP, Gopher, HTTP, Telnet, NNTP and WAIS servers are supported, as is the ability to associate file types to external viewers. On the design front, Mosaic offers text formatting, a variety of fonts, numbered and bullet-pointed lists, justified margins and columns, and embedded inline graphics displayed using the compressed GIF format. Document annotation lets you add your own notes to WWW documents locally, and there is a consistent interface across a range of computer platforms. It also lets you cache recently viewed pages to speed up browsing of documents, and hotlist features enable the quick locating of previously visited Web pages. And these are just a few of Mosaic's many features.

Installing Mosaic is just a question of unpacking the archive to your chosen directory. Check with the documentation that comes with the Mosaic archive to see if the version you have requires the Win32s software. Later versions are 32bit applications so you will need this extra software, which is freely available from most FTP sites, to run on a 16bit Windows system.
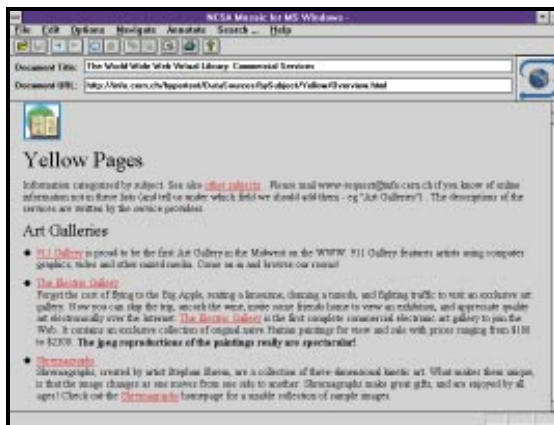
Setting it up can be a bit tricky as there are a number of options you can choose in order to customise Mosaic to match your needs. Read the documentation fully before you go any further, because a few minutes spent now could save many hours of frustration later. Make sure that the MOSAIC.INI file is placed in your Windows directory and, using any text editor, take a look at some of the entries which you may wish to amend.

The first thing you should do is edit the E-mail entry in the [Main] section so that your full Internet E-mail address is shown, like this:

`E-mail="your full E-mail address"`

When you start Mosaic it will automatically load a home page if the following field is set to 'yes': `Autoload home Page=yes`

The default Home Page is the one at the birthplace of NCSA Mosaic, which can be very busy, leading to a failure to connect at

Let Mosaic do the walking: turn the leaves of the WWW Yellow Pages

Realise the potential of the Web as a corporate advertising resource by paying a visit to Apollo Advertising's informative ftp site

all. It is therefore advisable to change the default to a Home Page of your choice, or to change the 'yes' field to read 'no' so that a Home Page isn't automatically loaded. You can change the default by replacing everything that appears after the = sign with a universal resource locator (URL; see *World Wide why? How it works*, opposite) of your own choosing, like this:

`Home Page=http://www.ncsa.uiuc.edu/ SDG/software/Mosaic/NCSAMosaic Home.html`

Although the display of graphics within a document is one of the things that makes Mosaic and WWW so attractive, this process of automatically transferring inline images can slow things down. If you have a

very slow connection then you should turn this feature off by ensuring the following line reads:

`Display Inline Images=no`

If you want a toolbar at the top of the Mosaic window and a status bar at the bottom which displays the URLs, then ensure these lines read:

`Toolbar=yes`
`Status bar=yes`
`Show URLs=yes`

One of the most important things to do is to ensure the [Viewers] section of the MOSAIC.INI file is pointing to the external viewing programs you wish to utilise. The following four lines are examples of the type of thing you should expect in this section:

`video/msvideo=`
`        "mplayer %ls"`
`audio/wav="mplayer %ls"`
`application/x-rtf=`
`        "write %ls"`
`application/zip=`
`        "pkunzip %ls"`

As we've mentioned, Mosaic is a highly customisable program. You can only get the best from it by reading the documentation and then actually using it, so see what options suit your needs best and change them as you go along.

Once Mosaic is installed, how does it all work? The answer should be easily, because, apart from typing in an initial URL so that Mosaic knows where to connect to, you should only have to point and click with the mouse from now on. Think of the Mosaic screen as having two parts: the main window through which you view the World Wide Web documents, and the control aspects of the interface which surround it. You can travel around a document, use the embedded links to jump to another document, view an image, or listen to a sound by using the mouse within the window section of the screen. You can also ▶

type the URL of the site you want to visit into the URL field, which can save time if you know exactly where you want to go. Mosaic keeps a history file which lets you leap backwards and forwards through document links using the relevant buttons.

The easiest method of navigation is by using the 'hotlist' feature, which acts much like a bookmark. If you find a document that you really like, you can save the location to the hotlist file, from where you can go directly to that resource just by selecting the entry from the hotlist menu.

If you get stuck in a slow document, or find that clicking on a small logo has initiated a 3Mb image download, you can easily abort any page load that is in process by clicking on the animated globe logo.

Perhaps one of the biggest steps forward for Mosaic and WWW, as far as business use is concerned, would have to be the introduction of online forms. Although these may sound as interesting as your last tax return, they actually open up a whole new avenue of approach for anyone who wants to offer an interactive online service.

Online forms will allow you to provide links to your product database and make sales via online order forms, and you can even conduct customer research and collect the feedback online. Companies have started to take advantage of this, and these services will be joined by even more as the benefits of such a resource become accepted. In parts of America, for example, you can order a pizza for home delivery through the World Wide Web.

WEB WOES

We have painted a pretty rosy picture so far but surely the WWW can't be all roses? Actually, there are quite a few things wrong

with the World Wide Web which you should be aware of. Firstly, it is slow, and on occasions dreadfully so. The problem is that as more people realise just how versatile a resource WWW is, so more pressure is put on that resource. The sheer volume of people using bandwidth-intensive graphical browsers such as Mosaic means that there is a constant danger of an information bottleneck, and at times the information superhighway can seem like a virtual M25. A fast modem is a must, and anything slower than a 14,400bps model is really not suitable for exploring the Web. Even better would be an ISDN link or a fast direct connection to the Internet. It is possible to speed up access to the WWW, but this is at the expense of the graphical front-end that makes the whole thing so exciting.

Next is the problem of Mosaic itself which, as we have already mentioned, isn't quite the most stable program to reach our desktops. But constant development of Mosaic has seen a great improvement in stability lately.

There are a few problems which are quite common when installing Mosaic, and fortunately these are quite easy to solve when you know how. If you try to run Mosaic, assuming you are using the Windows version, and are told 'cannot find WINSOCK.DLL' then you should ensure that the WINSOCK.DLL file is in your Windows system directory or its location specified in the `path=` statement of your AUTOEXEC.BAT file. The message 'unable to load TCP' is usually caused by a wrongly installed winsock, so check the winsock installation for missing files or directories.

But one of the most common problems is the inability to connect to a WWW site followed by the error message 'failed DNS lookup'. This is usually caused by the wrong IP number being specified for your Service Providers Domain Name Server. This is the server that resolves alpha-numeric domain names like our pcdirect@cix.compulink.co.uk address into numerical IP addresses: when Mosaic asks to connect to a resource by name this needs to be converted to a number in order to be able to progress any further with your request. A DNS lookup failure can also be caused by entering a URL that doesn't exist, and it is very easy to make an error when typing some of the long URLs that exist. The Domain Name Server at your Service Provider could even be out of action for some reason.

The sheer size of the WWW can make locating resources appear a daunting prospect. To help you find a starting point, or maybe go straight to the site you have been looking for, *PC Direct* has put together a small guide to interesting Web sites (see *Useful World Wide Web addresses*, left). All of these are in the form of a URL, which provides a simple way of pointing your WWW browser in the right direction.